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–: પરિપત્ર :–

હોમીયોપેથી વિદ્યાશાખા હેઠળની સંલગ્ન કોલેજોના આચાર્યશ્રીઓને જણાવવાનું કે, શૈક્ષણિક વર્ષ ૨૦૨૨–૨૩ થી અમલમાં આવનાર Compentency Based Dynamic Curriculum (CBDC) For First Year BHMS Professional Course હોમિયોપેથી ફેકલ્ટીના ડીનશ્રીએ ફેકલ્ટી વતી મંજૂર કરી એકેડેમિક કાઉન્સિલને કરેલ ભલામણ એકેડેમિક કાઉન્સિલ તા.૧૭/૦૨/૨૦૨૩ની સભાનાં ઠરાવ ક્રમાંકઃ ૩૮ અન્વયે સ્વીકારી મંજૂર કરેલ છે. જેની આથી જાણ કરવામાં આવે છે. તદ્ઉપરાંત તેનો અમલ કરવો.

એકેડેમિક કાઉન્સિલની તા.૧૭/૦૨/૨૦૨૩ની સભાનાં ઠરાવ ક્રમાંકઃ ૩૮

:: આથી ઠરાવવામાં આવે છે કે, શૈક્ષણિક વર્ષ ૨૦૨૨–૨૩ થી અમલમાં આવનાર હોમિયોપેથી ફેકલ્ટીના Compentency Based Dynamic Curriculum (CBDC) For First Year BHMS Professional Course હોમિયોપેથીના ફેકલ્ટીના ડીનશ્રીએ ફેકલ્ટી વતી મંજૂર કરી એકેડેમિક કાઉન્સિલને કરેલ ભલામણ સ્વીકારી મંજૂર કરવામાં આવે છે.

ક્રમાંકઃએસ/પરિપત્ર/૪૪૩૨/૨૦૨૩
તા.૨૨/૦૨/૨૦૨૩

કુલસચિવ

પ્રતિ,
૧) હોમિયોપેથીક વિદ્યાશાખા હેઠળની તમામ સંલગ્ન કોલેજોનાં આચાર્યશ્રીઓ.
..... આપશ્રીની કોલેજ/ડિપાર્ટમેન્ટના સંબંધિત શિક્ષકોને જાણ કરી અમલ કરવા સારૂ.
૨) અધ્યક્ષશ્રી, હોમિયોપેથીક વિદ્યાશાખા.
૩) પરીક્ષા નિયામકશ્રી, પરીક્ષા વિભાગ, વી.ન.દ.ગુ.યુનિ. સુરત.
.....જાણ તેમજ અમલ સારૂ.

राष्ट्रीय होम्योपैथी आयोग
NationalCommissionfor Homoeopathy
HOMOEOPATHY EDUCATION BOARD
होम्योपैथीशिक्षाबोर्ड
Jawahar Lal Nehru Bhartiya Chikitsa Avum Homoeopathy Anusandhan Bhavan
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Azadi Ka Amrit Mahotsav

F. No-3-90/2022/NCH/HEB/HEB Notice-Circular/ 13099-13107 Dated: 14 FEB 2023

NOTIFICATION

To,

એકેડેમિક કાઉન્સિલ તા. 17/2-2023
બાબત.....3.8.....બિડાણ/પરિશિષ્ટ.....27.....

1. The Secretaries/Directors (Health/Medical Education & H/I.S.M/Homoeopathy) of all States/U.T. Governments.
2. The Registrars of all the Universities (including Deemed Universities), having Homoeopathic Faculties (or Departments/Boards)
3. The Registrars of all States & U.T. Homoeopathic Boards/Councils.
4. The Principals/Deans/Directors of all Homoeopathic Medical Colleges (including N.I.H.)

Sub: Implementation of Competency Based Dynamic Curriculum for first B.H.M.S. from the academic year 2022-23-reg.

Ref:- F. No-3-90/2022/NCH/HEB/HEB Notice-Circular/12944 Dated: 10.02.2023

Sir/Madam,

With reference to the subject & in continuation to the notification cited above, I am hereby directed to inform all the concerned that Homoeopathy Education Board, National Commission for Homoeopathy has devised Competency Based Dynamic Curriculum (CBDC) for 1st B.H.M.S. course in consultation with experts from field of education. This Curriculum shall be applicable from academic year 2022-23. It is uploaded on www.nch.org.in and copy is enclosed for necessary action at your end.

You are requested to make it convenient to look into this curriculum document and make necessary arrangements as required.

Commission has also scheduled zone-wise training programmes for 1st B.H.M.S. faculty to facilitate the understanding of CBDC through our core and subject experts.

Yours faithfully,

14/2/23

(Dr. Mangesh Jatkar)
Member, Homoeopathy Education Board

Encl: A/a

Copy to:-

1. The Secretary, Ministry of Ayush, "Ayush Bhawan", 'B'- Block, GPO Complex, INA, New Delhi-110023
2. Chairperson, National Commission for Homoeopathy, New-Delhi- 110058.
3. Secretary NCH
4. All Board President, NCH
5. Guard file.

COMPETENCY BASED DYNAMIC CURRICULUM FOR

FIRST BHMS PROFESSIONAL COURSE

(Applicable from Batch 2022-2023 onwards for 5 years or until further notification by National Commission for Homoeopathy whichever is earlier)

HOMOEOPATHY EDUCATION BOARD

NATIONAL COMMISSION FOR HOMOEOPATHY

MINISTRY OF AYUSH, GOVERNMENT OF INDIA

JAWAHAR LAL NEHRU BHARTIYA CHIKITSA AVUM HOMOEOPATHY ANUSANDHAN BHAVAN

No.61-65, Institutional Area, opp. 'D' block, Janak Puri, New Delhi-110 058

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FOREWORD

New Education Policy 2020 has a focus on developing and shaping the education system with focus on pedagogical approach. It mentions that with the quickly changing employment landscape and global ecosystem, it is becoming increasingly critical that children not only learn, but more importantly learn how to learn. Education thus, must move towards less content, and more towards learning about how to think critically and solve problems, how to be creative and multidisciplinary, and how to innovate, adapt, and absorb new material in novel and changing fields. Pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centered, discussion-based, flexible, and, of course, enjoyable.

In aligning with the NEP 2020, prime objective of National Commission for Homoeopathy is to provide a medical education system that improves access to quality and affordable medical education, ensures availability of adequate and high quality homoeopathic medical professionals in all parts of the country. We are amidst the shift from the traditional approaches of training to a focus on the application of learning through assessing competency acquired by the learner. The curriculum driven instructional model has been the standard method of teaching for more than century, but it is consistently failing to produce well educated citizens and lifelong learners. Medical sciences being high professional courses, there has to be a much greater emphasis on preventive healthcare and community medicine in all forms of healthcare education.

To achieve the prime objective, it's a pleasure and privilege to introduce transformation in curriculum of homoeopathy education which is competency based dynamic.

This curriculum guide can serve a number of purposes. The principal uses are,

- Foundation program in the very beginning after admissions will help students adapting the needs and for their preparedness for the whole course.
- Provide trainers with guidance and resources for conducting or supporting learning activities
- Provide learners with a resource that will support an 'instructor led' delivery and will be a useful reference for future application of the learning
- Providing learners and assessors with resources for understanding and completing assessments
- Serve as guide or resource for 'self-directed' learning

Each chapter is explicit and easy to digest, provides strategies to inspire conversation and action.

I hope teachers, administrators; leaders will find this guide as helpful for reworking our current educational system into a new, dynamic model of teaching & learning in all facets of Homoeopathy.

Dr. Anil Khurana,
Chairperson

ACKNOWLEDGEMENT

The task of formulating the Competency based Dynamic Curriculum (CBDC) in Homoeopathy has been a stupendous effort which would not have been possible without the vision, direction, and unstinting support of a number of eminent persons.

We can start with none other than the Honourable Prime Minister, Shri Narendra Modiji, who has envisioned the future of the youth through the formulation of the National Education Policy 2020 which has helped to bring about a paradigm shift from knowledge centric to competency-based education.

Honourable Minister of AYUSH, Shri Sarbananda Sonowalji and Minister of State for AYUSH, Dr Munjpara Mahendrabhai Kalubhai have taken effective steps for implementing the National Education Policy in the AYUSH sector. Secretary AYUSH, Vaidya Shri Rajesh Kotechaji has consistently emphasized the urgency, given the direction, and provided resources for structuring and implementing the changeover to Competency based Curriculum.

Chairperson of the National Commission of Homoeopathy (NCH), Dr Anil Khuranaji has been personally monitoring and encouraging us for taking orderly steps and planning for the formulation and implementation of the CBDC. All the esteem members of NCH have given their valuable suggestion while making the final draft of CBDC. Advisory Council of the National Commission for Homoeopathy has always supported the progressive changes which the NCH has been bringing about.

Dr Mangesh Jatkar, Member, Homoeopathy Education Board has kept a vigilant eye over the functioning of various committees constituted for formulating CBDC for First BHMS course. Dr. Rupali Bhalerao, for technical & editorial assistance to revamp this document and homoeopathy education board team including Dr. Kanika Malhotra for tirelessly working to meet every timeline of CBDC work.

Subject experts and convener for syllabus/curriculum designing, Dr K M Dhawale for formulating the syllabus and content which formed the base for this competency based dynamic curriculum.

Members of the core CBDC committee, Dr Munir Ahmed R, Dr Payal Bansal and Convener Dr. Bipin Jain for setting the framework and spending countless hours selflessly guiding this process. All the experts took out time and got trained in medical education technology and formulated the curriculum of their respective subject in record time. Team from D.Y. Patil Homoeopathic Medical College, Pune for contributing in the final shaping of this document.

Dr. Tarkeshwar Jain,

President, Homoeopathy Education Board

PREAMBLE TO THE COMPETENCY BASED DYNAMIC CURRICULUM

The National Commission for Homoeopathy (NCH) has undertaken major revisions in the educational regulations in the last year and has devised a new Syllabus to ensure that the student who completes the homoeopathic undergraduate course grows into a homoeopathic physician who is informed and capable of performing as a professional with competency to deliver services as required for addressing the health needs of the person and society at large. It is based on the premise that a correct adherence to homoeopathic principles and knowledge imparted will enable the physician to deliver results in all aspects of health, viz. preventive promotive, curative and rehabilitative.

There is a significant change in the approach and contents in the newly designed curriculum, with the intention of making it more coherent for the present and future needs of society. The designing of curriculum is based on the sound theories of educational methodology as applicable for the health professionals' education, and therefore, the outcomes are quite transparent and achievable.

The Homoeopathic Educational Board (HEB) is obliged by the NCH Act 26 (b) to "develop a competency based dynamic curriculum for Homoeopathy at all levels in accordance with the regulations made under this Act, in such manner that it develops appropriate skill, knowledge, attitude, values and ethics among the graduates, postgraduate and super-speciality students and enables them to provide healthcare, to impart medical education and to conduct medical research".

Competency based medical education (CBME) has been around in the medical world for more than three decades. It has undergone several revisions and adaptations through this period which has placed the NCH in an advantageous position to learn from the varied experiences of curriculum formulation, implementation and assessment.

It should be emphasized that the switch over to CBME involves a sea change in the understanding of the processes and outcomes for which all stakeholders need to be adequately sensitized and the teachers trained to minimize the difficulties inevitable in any transition. The following four pillars need a special mention to grasp the nature of the change being brought about (Frank Jason R, et al 2010).

1. The focus is on ensuring that the end user of the health care services is benefited. Hence it is important that the outcomes of the training are defined in clear terms so that the teacher, the student and the community are aware of what can be expected from the training.
2. The second logical focus is on bringing the abilities of the physician to the level when the outcomes defined above are realized. This involves the definition of the competencies required in the discharge of various functions of the physician. This would involve certain generic competencies such as problem solving or effective communication and certain specific ones related to the subject of study like. Anatomy, Materia Medica or others. This coupling of the outcome and abilities leads automatically to the third pillar.

3. We have been used to consider all training as time bound as the BHMS course is 5 1/2 years duration. But when we realize that the rate of mastering different abilities would vary from student to student, we should de-emphasize the fixed period of training and instead look at how the student can be helped to master the specific competency.

4. The fourth pillar becomes the student herself/himself. The entire education and training become learner centred and hence the teacher takes a great effort in defining the outcomes, competencies, teaching and learning methods and most important of all, assessment which is predominantly formative and hence intends to shape the evolving capacities of the learner.

While formulating the competency based dynamic curriculum (CBDC) for the homoeopathy undergraduate, we must bear in mind the central role that homoeopathy philosophy and the principle of holistic care plays in the therapeutic actions of the homoeopathic interventions. This is a distinctive aspect which has hardly received the attention it deserves despite Hahnemann's clear recommendations in the first six Aphorisms of the Organon. The revised syllabus has brought this change and the formulation of the competency-based curriculum provides an opportunity to incorporate this approach at all levels of teaching and training. The implications lie in bringing about a sensitive and effective integration (horizontal/vertical/spiral) of all aspects of the syllabus throughout the five and half years of the undergraduate course.

There are five compelling factors that form the fulcrum to drive the change (Harris Peter, et al, 2010):

1. Design of curriculum: This needs careful attention due to its novelty. Homoeopathy, as a holistic discipline resting on the foundations of philosophy, needs a holistic approach from the first year itself. Several novel situations will need to be envisaged and catered to. And yet, a number of issues will remain. This is the dynamic nature of the enterprise, and we must be prepared to accept the well-known adage: Change, the only constant!
2. Teacher training: Our teachers have discharged the role of information providers and the teaching-learning process calls for a transformation in the role of the teacher (Sidhu Navdeep S. et al 2022). The future will need them to wear multiple hats and hence they will need to develop competencies viz. planner, facilitator, assessor, education manager, role model, etc, to be effective for these roles.
3. Assessment: Assessment practices must be based on a robust platform of validity, reliability, and objectivity, so that the tools of assessment blend fluidly with the academic flow. In this background, the focus is to shift the assessment approach from the monopoly of summative assessment to a significant allowance for formative assessment, which are supportive for learning and correction on-the-go.
4. Student issues: Along with the parents and the community, a significant re-orientation is called for while changing it from that of a 'last-minute' sprinter to a long range 'racer'! All stakeholders should be on the same page so that the processes can operate in a well-oiled manner. Glitches are to be expected when a largely 'rights' based social mind set has to shift gears to adopt a competency oriented one. Understanding that change needs patience and good will go a long way to make the latter orientation a way of life.

5. Systems: All educational systems from the colleges to universities need to incorporate the multiple changes within their systems. We are used to consider results as 'pass' and 'fail' with the latter carrying the stigma. While there is an expressed need to wish to cater to all categories of learners – fast, normal, slow – the need to bring about changes in the systems is not so readily accepted. The institutions need to develop as 'learning organisations' that spur the 'growth mind-set' of its members – the teachers, students, and all those who are in the loop of curricular or co-curricular management.

The HEB considers the CBDC as a work in progress. Considerable thoughts and efforts are invested into the design and planning of the curriculum. But as has been mentioned above, this is a pioneering work and would always benefit from suggestions that spring from critical thinking and reflection subsequent to sincere attempts in implementation.

The next sections provide details of operational clarity to implement the program. Training of teachers is the key component which will make all the difference. The NCH is committed to make it happen and the cooperation of all stakeholders is earnestly solicited.

References

1. Frank Jason R, et al (2010) Competency-based medical education: theory to practice, *Medical Teacher,* 32:8, 638-645, DOI: 10.3109/0142159X.2010.501190
2. Harris Peter, Linda Snell, Martin Talbot, Ronald M. Harden & for the International CBME Collaborators (2010) Competency-based medical education: implications for undergraduate programs, *Medical Teacher*, 32:8, 646-650, DOI: 10.3109/0142159X.2010.500703
3. Sidhu Navdeep S. et al (2022): Competency domains of educators in medical, nursing, and health sciences education: An integrative review, *Medical Teacher*, DOI: 10.1080/0142159X.2022.2126758

I - STEPS TAKEN TO FORMULATE HOMOEOPATHY CBDC MANUAL

In this section we will detail the process undertaken in the formulation of this manual. The account will be of use to the users viz. the academicians, teachers and students to better grasp the significance of the effort and the role that each would have to play. The subsequent section will outline the correct use of the manual in order to derive the maximum benefit.

I - Defining National and Institutional Goals and Programme Outcomes

The process of identifying competency is a complex one. Defining the outcome clearly helps in defining the relevant competency thus enabling a person acquiring it with

relative ease. In case of the medical graduate, the outcome or goal is determined by the health care needs of the community as perceived by the statutory authorities and the ability of the particular health care system to respond to this need. India has a pluralistic health tradition and the community accesses the several health care systems to fulfil their multiple health needs. Scientific evidence is generally relied upon to determine and differentiate the role of each system in providing health care. This, however, may not always be forthcoming to the required degree of precision.

Considering the above, the NCH has formulated broad national goals which a Homoeopathic graduate would be expected to be able to achieve.

NATIONAL GOALS:

At the end of undergraduate program, the medical student should be able to:

a. Recognize the strength of homoeopathy, its applicability and limitations in health care of society and the individual.
b. Learn the integration of medical services for effective delivery of health care.
c. Recognize the purpose of the National Health Policy and "Health for all" as a national goal and health right of all citizens and undergo training to achieve the realization of this social responsibility
d. Achieve competence in the practice of homoeopathy with holistic approach, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases.
e. Develop a scientific temper, acquire educational experience for proficiency in profession and promote healthy living based on the tenets of homoeopathy.
f. Become an exemplary citizen by observing medical ethics and fulfilling social and professional obligations so as to respond to national aspirations.
g. Develop skills to perpetuate homoeopathy & practice it with zeal so that it stands parallel to other scientific healing methods.

In order to realize these goals, Homoeopathic institutions will need to prepare themselves with suitable infrastructure and processes so that the graduate is able to deliver on the National goals. The NCH has laid down the following goals for homoeopathic institutions.

INSTITUTIONAL GOALS:

In consonance with the national goals, each homoeopathic medical institution should evolve institutional goals to define the kind of trained homoeopathic professionals they intend to produce. The undergraduate students coming out of a homoeopathic medical institute should:

a. Be competent in clinical diagnosis and homoeopathic management of the health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.

b. Be competent to use homoeopathic medicines scientifically for health problems in preventive, promotive, curative palliative and rehabilitative mode.

c. Appreciatethe rationale for the use of different therapeutic modalities &engage in cross-referral when required in the interest of the patient.

d. Be able to appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop a humane attitude towards patients in discharging professional responsibilities.

e. Be able to identify community health problems and learn to work to resolve these by understanding, designing, instituting corrective steps as per homoeopathic principles and evaluating outcome of such measures.

f. Develop sensitivity to environmental sustainability and engage in community work towards achieving it with responsibility and commitment.

g. Be trained in critical thinking, evidence-based practice and possess research aptitude and documentation skills necessary in professional work.

h. Possess the attitude for lifelong learning and be ready to develop competencies as and when conditions of practice demand it.

i. Be familiar with the basic factors which are essential for the implementation and integration of the National Health Programmes with homoeopathy including practical aspects of the following: (i) Family Welfare and Mother and Child Health (MCH) (ii) Sanitation and water supply (iii) Prevention and control of communicable and non-communicable diseases (iv) Immunization (v) Health Education.

j. Acquire basic management skills in the area of human resources, materials and resource management related to homoeopathy in health care delivery, general and hospital management, principal inventory skills and counseling.

k. Be able to work as an active and responsible partner in health care teams and acquire proficiency in communication skills with colleagues, patients and the community at large.

l. Be competent to work in a variety of health care settings.

m. Develop personal characteristics and attitudes required for professional life such as personal integrity, sense of responsibility and dependability and ability to relate to or show concern for other individuals.

When we look at the translation of these set of goals to the individual learner, we will be able to define these as follows:

GOALS OF THE LEARNER

Towards attaining the goals of this program, the homoeopathic graduate must be able to function in the following roles appropriately and effectively:

a. Clinician who understands and provides holistic preventive, promotive, curative, palliative and rehabilitative care with compassion.
b. Leader and member of the health care team and system with capabilities to collect, analyse, synthesize and communicate health data.
c. Communicator with patients, families, colleagues and community.
d. Lifelong learner committed to continuous improvement of skills and knowledge.
e. Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community and profession.

The above goals, though desirable, are broad. To realize them, the student entering into the undergraduate homoeopathic programme needs to be equipped with a set of competencies which would fall in the domains of knowledge, skills and attitudes. The broad goals need to be defined in specific actionable terms which will form the Programme outcomes. These will enable all the stakeholders to be clear of the nature of functioning expected from the homoeopathic physician at the end of the training. Accordingly, the team of resource persons worked together to formulate Programme Outcomes

PROGRAMME OUTCOMES:

At the end of the course of the undergraduate studies, the homoeopathic physician must

1) Develop the knowledge, skills, abilities and confidence as a primary care homoeopathic practitioner to attend to the health needs of the community in a holistic manner
2) Correctly assess and clinically diagnose common clinical conditions prevalent in the community from time to time
3) Identify and incorporate the socio-demographic, psychological, cultural, environmental & economic factors affecting health and disease in clinical work
4) Recognize the scope and limitation of homoeopathy in order to apply Homoeopathic principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community
5) Be willing and able to practice homoeopathy as per medical ethics and professionalism.
6) Discern the scope and relevance of other systems of medical practice for rational use of cross referrals and role of life saving measures to address clinical emergencies
7) Develop the capacity for critical thinking, self reflection and a research orientation as required for developing evidence based homoeopathic practice.
8) Develop an aptitude for lifelong learning to be able to meet the changing demands of clinical practice

9) Develop the necessary communication skills and enabling attitudes to work as a responsible team member in various healthcare settings and contribute towards the larger goals of national health policies such as school health, community health and environmental conservation.

Defining the Programme outcomes is a crucial step since this allows us to derive the competencies the homoeopathic graduate should possess at the end of the period of training. Care is taken to ensure that the National goals and Institutional goals are covered as much as possible by the various aspects of the Programme Outcomes. Further, the Outcomes for each academic year and of the period of internship will be formulated separately based on the Courses studied and the nature of clinical or community activities undertaken each year. Accordingly, the corresponding competencies for the respective years have been defined.

II - Deriving Competencies of the Homoeopathic Medical Graduate

Seven broad dimensions of practice were identified in which all actions of the homoeopathic physician in the context of our health care system could be classified (Englander, et al, 2013). The definition of these terms in our medical and social context are as follows:

Table 1: Dimensions of Practice of the Homoeopathic Physician

	Dimensions of Practice of the Homoeopathy Physician	**Definition**
1.	Knowledge for Homoeopathy Practice	Demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care using homoeopathy as a means of intervention.
2.	Patient Care	Provides patient-centered, individualized care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.
3.	Interpersonal and Communication Skills	Demonstrates interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, families, and health professionals.

4.	Professionalism	Demonstrates a commitment to carrying out professional responsibilities and an adherence to ethical principles.
5.	Practice based learning and Improvement	Demonstrate the ability to investigate and evaluate one's care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.
6.	Health care systems	Demonstrate an awareness of and responsiveness to the larger context and system of health care in the country, as well as the ability to call effectively on other resources in the system to provide optimal health care.
7.	Scholarship	Demonstrate the qualities required to sustain lifelong personal and professional growth.

We now needed to draw up a list of generic competencies relevant for the training of the homoeopathic physician. These would subsequently be mapped on to the Programme Outcomes for each year. The list of generic competencies drawn up were subsumed under the 4 relevant areas of the functioning of the physician viz. cognitive, personal, interpersonal and in the community after referring to Kallioinen (2010), General Medical Council (2017) and Arora (2020).

Table 2: Generic competencies relevant to the functioning of the physician

Areas	**Cognitive**	**Personal**	**Interpersonal**	**Community**
	Analytical	Self-reflection	Empathetic	Ethical awareness
	Synthetic	Self-Awareness	Leadership	Community awareness
	Objective	Safety compliance	Team work	Safety awareness
	Organizing and Planning	Lifelong learning	Collaboration	
	Problem Solving	Compassion	Respect for Privacy and autonomy	
	Information gathering	Personal integrity	Communication skills - oral and written	

	Documentation	Healthy coping mechanisms	Executive ability	
	Information management	Flexibility		
	Creative thinking	Dealing with uncertainty		
	Holistic approach			
	System based thinking			

This now equips us to chart the generic competencies against the expanded functions of the physician in each of the areas mentioned in Table 1. The components of each of the areas has been expanded to include all actions which the trained physician would be expected to undertake. This also helps us to zero down on the tasks which the physician would need to be trained to perform. The series of seven tables below expands each of the areas, identifies the generic competencies and the component tasks.

Table 3: Charting of Generic Competencies and Tasks against the areas of functioning

	Areas of action	**Generic Competencies**	**Component tasks**
1	**Knowledge (K) for Homoeopathy practice**		
k-1	Describe the basic scientific principles underlying normal development, structure and function of genes, cells, organs and the body as a whole throughout the life cycle and correlate with concept of man as per Dr Hahnemann and other Homoeopathic masters	Integration of information	Information gathering Information management Synthesis of data Holistic approach

k-2	Describe the aetiology and pathophysiology of major diseases and disorders, and their clinical, laboratory, radiographic and pathologic manifestations and correlate with Homoeopathic concept of disease	Integration of information Problem integration	Information gathering Information management System based thinking Analysis synthesis
k-3	Describe the epidemiology of disorders in populations and approaches designed to screen, detect, prevent, and treat disease in populations. - problem formulation- planning of intervention, treatment, evaluation- interpretation, integration and correlate with Homoeopathic concept of preservation of health and clinical management	Integration of information problem integration communication problem solving leadership skill team work communication	Information gathering Information management System based thinking Analysis Synthesis Organising and planning Implementation evaluation
k-4	Describe the spectrum of therapies for common physical and mental disorders and recognize the	Problem solving	Information gathering Information management System based thinking Analysis

	relative efficacies and common adverse effects of these and their variations among different patients and populations and relate with different expression of chronic disease		Synthesis

		Generic competencies	**Component tasks**
2	**Patient care (PC)**		
Pc1	Perform both a focused and comprehensive history and physical examination, develop diagnostic hypotheses, order and evaluate diagnostic tests, and formulate an appropriate plan of care using Homoeopathic concept of case taking with individualisation and Management	Problem solving	Information gathering Problem Integration Documentation Information management System based thinking Organising and planning Analysis and evaluation Holistic approach
Pc2	Perform core technical procedures, as would be expected of a beginning intern, and describe their indications, contraindications, and potential complications.	Problem solving independent study	Information gathering Problem integration Problem formulation Implementation of plan and evaluation

Pc3	Recognize acute, life-threatening conditions and perform measures to stabilize the patient.	Problem solving	Information gathering Problem integration Problem formulation Implementation of plan and evaluation Dealing with uncertainty

		Generic competencies	**Component tasks**
3	**Interpersonal and Communication Skills (ICS)**		
Cs1	Communicate with patients and their families, counsel them in an effective, caring, and culturally competent manner as per the guidance of Hahnemann and different masters and current advances	Communication Objectivity Flexibility of thought	Information gathering Organising and planning Compassion Empathy Personal integrity Dealing with uncertainty Respect for privacy and autonomy
Cs2	Communicate, consult, collaborate, and work effectively as a member or leader of healthcare teams.	Communication Team member Leadership skills	Organising planning System based thinking Objectivity Communication - written and oral Collaboration

			Executive ability

		Competency generic	Component tasks
4	**Professionalism (P)**		
P1	Maintain a professional demeanour, while demonstrating responsibility, integrity, empathy, reliability, and attention to personal wellness as per the direction from Organon of medicine and homoeopathic masters	Problem solving	Ethical awareness Self-awareness Empathy Integrity Reliability
P2	Demonstrate ethical principles that govern the doctor-patient relationship, medical decision-making, and healthcare delivery.	Problem solving	Ethical awareness Respect for privacy and autonomy
P3	Provide compassionate, unbiased care to patients from diverse backgrounds	Problem solving	Compassion Objectivity Flexibility in thinking

		Generic competency	Component tasks
5	**Practice-Based Learning and Improvement (PBLI)**		
Pbl1	Utilize appropriate information technology for scientific and clinical problem-solving and decision-making	Problem solving Independent study	Information gathering Information management Documentation Creative thinking
Pbl2	Analyze and critically appraise the relevant medical literature	Information management	Analysis, Evaluation Critical thinking Creative thinking

Pbl3	Apply principles of evidence-based medicine, medical ethics, and cost-effectiveness to diagnosis, prognosis, and therapeutics.	Problem solving Objectivity Integration of information Problem integration	Analysis Evaluation Critical thinking Plan for implementation evaluation
Pbl4	Demonstrate the ability for lifelong self-directed learning.	Problem solving Objectivity Integration of information Problem integration Learning ability	Analysis Evaluation Critical thinking Plan for implementation Evaluation Lifelong learner

		Generic competency	**Component tasks**
6	**Healthcare Systems (HCS)**		
HCS1	Discuss the organization, financing, and delivery of healthcare services with particular awareness of healthcare disparities, the needs of the underserved, and the medical consequences of common societal problems.	Problem solving objectivity	Empathy Compassion Community awareness Analysis evaluation of information information management
HCS2	Define the core principles of healthcare quality, patient safety, and interprofessionalism	Problem solving objectivity	Problem definition Critical thinking

			Information management
HCS3	Participate in national programmes	Problem solving	Team work Communication Empathy Compassion

		Generic competency	**Component tasks**
7	**Scholarship (S)**		
S1	Define the scientific and ethical principles of biomedical research, including basic, translational, clinical, and population studies.	Integration of information Problem integration objectivity	Information management Critical thinking
S2	Identify a scholarly area of interest, formulate an investigative question, develop and implement methods to assess it, and communicate the results.	Problem solving objectivity Independent study	Analytical Evaluation Documentation Information management Critical thinking Personal integrity Ethical awareness Communication skill

With this background, we should be able to approach the Manual which is being issued in four parts for each year, the last manual also covering the period of internship. It will be noted that the Generic competencies and the Component tasks as in the Table 3 will be aligned with the specific competencies for each item of learning.

Considerable fresh thought has gone into the framing of this document of CBDC for the Homoeopathic graduate. The existing templates were unable to satisfy the very foundations on which homoeopathic practice rests and which have been extensively

elaborated in the Preamble to the new Syllabus introduced in 2022. The two features which may be emphasized here are:

1. Close adherence to homoeopathic philosophy and principles at every stage of education and training

2. This is turn demands a rare amount of integration at horizontal, vertical and spiral forms

The next section will deal with how the Competency table was formulated and how it should be used.

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II - UNDERSTANDING THE COMPETENCIES TABLE

The Competency Table has been designed keeping in mind the Generic and specific competencies required by the learner to attain the overall Program Outcomes (PO) as well as Course Outcomes (CO) of all courses.

A. Methodology in preparation of the Competency Table

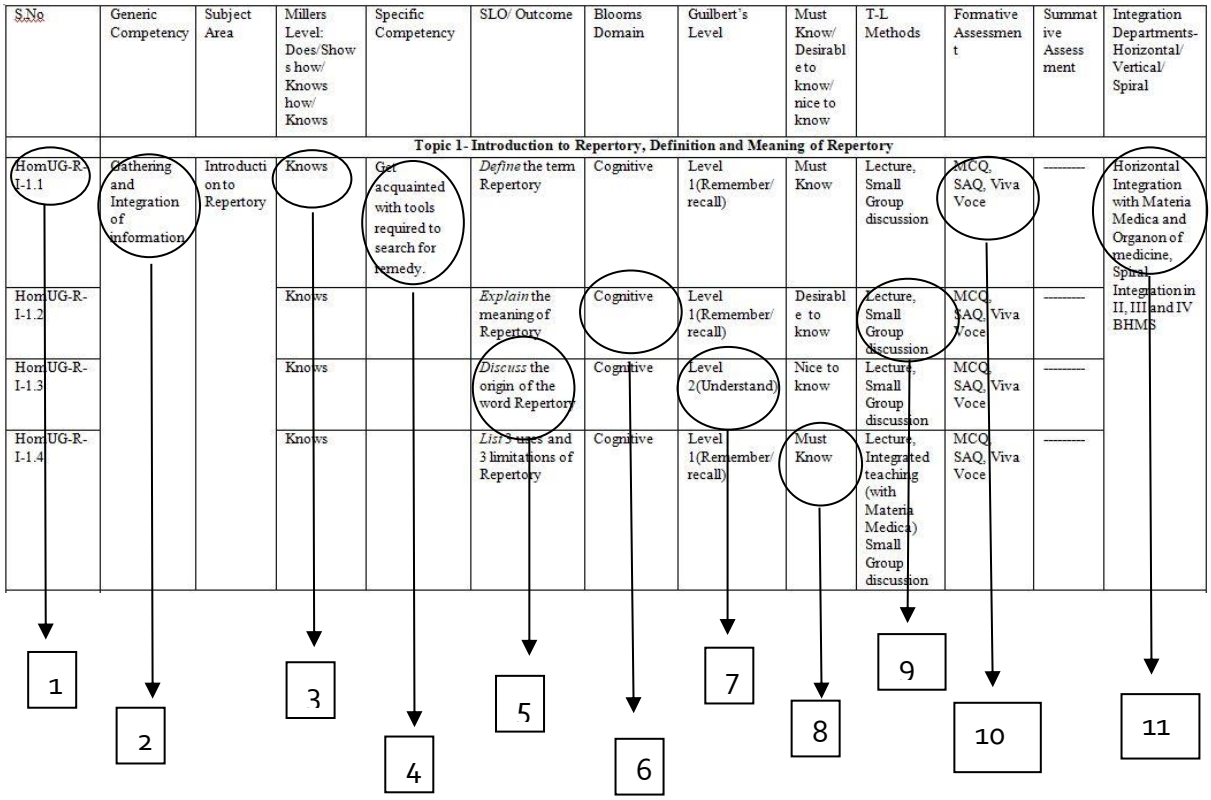
The following methodology was adopted in preparing the Competencies table for each course (or subject) of the BHMS program once the National and Institutional Goals, Programme Outcomes, Generic Competencies and component tasks were identified:

- Course Outcomes (CO) were identified for each course (or subject) that were in alignment with the National and Institutional Goals, Programme Outcomes (PO)

- Finalizing the syllabus or the list of topics which will help to achieve not only the Course Outcomes (CO) but also the overall Program Outcomes (PO)
- Identifying the Learning Objectives and Specific Learning Outcome (SLO) for each topic
- Aligning the Specific Learning Outcome (SLO) to the Generic and Specific Competencies that are to be achieved
- Identifying the level of Miller's Pyramid for each Specific Learning Objectives/ Outcome (SLO)
- Classifying each Specific Learning Outcome (SLO) as per Bloom's Taxonomy and Guibert's Level
- Distinguishing the Specific Learning Outcome (SLO) into 'Must know' or 'Desirable to know' or 'Nice to know' categories
- Choosing the appropriate Teaching Learning method/s and the assessment method/s required for achieving each objective or outcome
- Identifying the Horizontal, Vertical and Spiral Integration with other courses (or subjects) required for holistic understanding of the topic

We will now illustrate how the Competency table is to be read with respect to the Repertory Course (subject)

Illustrative Diagrammatic Representation of Competencies Table with example of the Repertory Course



S.No	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
	Topic 1- Introduction to Repertory, Definition and Meaning of Repertory											
HomUG-R-I-1.1	Gathering and Integration of information	Introduction to Repertory	Knows	Get acquainted with tools required to search for remedy.	*Define* the term Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	---------	Horizontal Integration with Materia Medica and Organon of medicine, Spiral Integration in II, III and IV BHMS
HomUG-R-I-1.2			Knows		*Explain* the meaning of Repertory	Cognitive	Level 1(Remember/ recall)	Desirable to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	---------	
HomUG-R-I-1.3			Knows		*Discuss* the origin of the word Repertory	Cognitive	Level 2(Understand)	Nice to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	---------	
HomUG-R-I-1.4			Knows		*List* 3 uses and 3 limitations of Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Integrated teaching (with Materia Medica) Small Group discussion	MCQ, SAQ, Viva Voce	---------	

Table 4: Description of the Competencies table

S.No	Description
1	Unique number of the competency /outcome (Hom-UG-R-I-1.1) Hom-UG-R-I: Course Code 1.1: Topic number followed by serial number of the Specific Learning Objectives/ Outcome (SLO)
2	Generic Competency to be achieved from the topic
3	Mapping of the Level of Specific Learning Outcome (SLO) to Miller's Pyramid- Knows/ Knows How/ Shows How/ Does
4	Specific Competency to be acquired from the topic
5	Description of Specific Learning Outcome (SLO) for the topic

6	The Blooms Domain addressed by the Specific Learning Outcome (SLO)- Cognitive or Affective or Psychomotor Domain
7	Mapping of the Specific Learning Outcome (SLO) to Guibert's Level of Learning in the Cognitive or Affective or Psychomotor Domain
8	Classifying the Specific Learning Outcome (SLO) into Must know or desirable to know or nice to know areas
9	Teaching Learning methods
10	Assessment methods
11	Subjects that can be vertically or horizontally integrated to improve understanding. If the subject is taught for more than 1 year, it must be integrated spirally in all the years.

B.USING THE COMPETENCIES TABLE

A Competency Based Dynamic Curriculum necessitates that each topic in a course (or subject) be elaborated in terms of the outcomes that are to be achieved by the learner at the end of the paticular topic. This in turn will help the learner to achieve the competencies at the course and overall at the program level.

1. Linking the Specific learning Objective/ Outcome (SLO) to the Generic Competency, Specific Competency and Miller's Level

S.No	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
	Topic 1- Introduction to Repertory, Definition and Meaning of Repertory											
HomUG-R-I-1.1	Gathering and Integration of information	Introduction to Repertory	Knows	Get acquainted with tools required to search for remedy.	*Define* the term Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	----------	Horizontal Integration with Materia Medica and Organon of medicine, Spiral Integration in II, III and IV BHMS
HomUG-R-I-1.2			Knows		*Explain* the meaning of Repertory	Cognitive	Level 1(Remember/ recall)	Desirable to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	----------	
HomUG-R-I-1.3			Knows		*Discuss* the origin of the word Repertory	Cognitive	Level 2(Understand)	Nice to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	----------	
HomUG-R-I-1.4			Knows		*List* 3 uses and 3 limitations of Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Integrated teaching (with Materia Medica) Small Group discussion	MCQ, SAQ, Viva Voce	----------	

Each Specific learning Objective/ Outcome (SLO) will help the learner to acquire Generic competencies (abilities that a basic homoeopathic doctor would be trusted to have acquired as a consequence of his / her learning) and Specific competencies (abilities that the student is expected to acquire in a focused area of expertise)

In the above table Introduction to a subject will help the learner to acquire a generic competency of gathering and Integrating knowledge & a specific competency of getting acquainted with the tools required to search for a Homoeopathic remedy.

The Specific learning Objective/ Outcome (SLO) also indicates at what level the competency is defined in the Miller's Pyramid which in the above example is at the level of 'Knows' – the ability to recall facts and ideas.

2. Specific learning Objective/ Outcome (SLO) for each topic

S.No	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
	Topic 1- Introduction to Repertory, Definition and Meaning of Repertory											
HomUG-R-I-1.1	Gathering and Integration of information	Introduction to Repertory	Knows	Get acquainted with tools required to search for remedy.	*Define* the term Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	--------	Horizontal Integration with Materia Medica and Organon of medicine, Spiral Integration in II, III and IV BHMS
HomUG-R-I-1.2			Knows		*Explain* the meaning of Repertory	Cognitive	Level 1(Remember/ recall)	Desirable to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	--------	
HomUG-R-I-1.3			Knows		*Discuss* the origin of the word Repertory	Cognitive	Level 2(Understand)	Nice to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	--------	
HomUG-R-I-1.4			Knows		*List* 3 uses and 3 limitations of Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Integrated teaching (with Materia Medica) Small Group discussion	MCQ, SAQ, Viva Voce	--------	

Specific Learning Objectives / Outcomes (SLOs) start with the "Action Verb" as per the Domain and describe what students should know or be able to do at the end of a learning session. The SLOs are written as per the Blooms Domain (Cognitive or Affective or Psychomotor) under which they are categorized.

In the above example four Specific Learning Objectives / Outcomes (SLOs) have been described that belong to the Cognitive domain.

3. Teaching Learning methods for each topic

S.No	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
	Topic 1- Introduction to Repertory, Definition and Meaning of Repertory											
HomUG-R-I-1.1	Gathering and Integration of information	Introduction to Repertory	Knows	Get acquainted with tools required to search for remedy.	*Define* the term Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	----------	Horizontal Integration with Materia Medica and Organon of medicine, Spiral Integration in II, III and IV BHMS
HomUG-R-I-1.2			Knows		*Explain* the meaning of Repertory	Cognitive	Level 1(Remember/ recall)	Desirable to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	----------	
HomUG-R-I-1.3			Knows		*Discuss* the origin of the word Repertory	Cognitive	Level 2(Understand)	Nice to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	----------	
HomUG-R-I-1.4			Knows		*List* 3 uses and 3 limitations of Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Integrated teaching (with Materia Medica) Small Group discussion	MCQ, SAQ, Viva Voce	----------	

The Teaching- Learning methods have been identified that are most suitable to the Specific Learning Objectives / Outcomes (SLOs) formed for each topic and as per the Domain of each of the Specific Learning Objectives / Outcomes (SLOs).

In the above example, Lectures, Integrated teaching and Small Group Discussion are the Teaching- Learning methods to be adopted for achieving the SLO.

The Teaching Learning Methods will vary as per the Specific Learning Objectives / Outcomes (SLO) and the Domains they cover.

4. Assessment methods for each topic

S.No	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
	Topic 1- Introduction to Repertory, Definition and Meaning of Repertory											
HomUG-R-I-1.1	Gathering and Integration of information	Introduction to Repertory	Knows	Get acquainted with tools required to search for remedy.	*Define* the term Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	---------	Horizontal Integration with Materia Medica and Organon of medicine, Spiral Integration in II, III and IV BHMS
HomUG-R-I-1.2			Knows		*Explain* the meaning of Repertory	Cognitive	Level 1(Remember/ recall)	Desirable to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	---------	
HomUG-R-I-1.3			Knows		*Discuss* the origin of the word Repertory	Cognitive	Level 2(Understand)	Nice to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	---------	
HomUG-R-I-1.4			Knows		*List* 3 uses and 3 limitations of Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Integrated teaching (with Materia Medica) Small Group discussion	MCQ, SAQ, Viva Voce	---------	

The Assessment methods have been identified that are most suitable to the Specific Learning Objectives / Outcomes (SLOs) formed for each topic and as per the Domain of each Specific Learning Objectives / Outcomes (SLOs) to assess the learner.

In the above example, Multiple Choice Questions (MCQ), Short Answer Questions (SAQ) and Viva Voce are the assessment methods to be adopted for assessing the SLO. The Assessment Methods will vary as per the SLO and the Domain it covers

5. Integrated Teaching

S.No	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
	Topic 1- Introduction to Repertory, Definition and Meaning of Repertory											
HomUG-R-I-1.1	Gathering and Integration of information	Introduction to Repertory	Knows	Get acquainted with tools required to search for remedy.	*Define* the term Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	----------	Horizontal Integration with Materia Medica and Organon of medicine, Spiral Integration in II, III and IV BHMS
HomUG-R-I-1.2			Knows		*Explain* the meaning of Repertory	Cognitive	Level 1(Remember/ recall)	Desirable to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	----------	
HomUG-R-I-1.3			Knows		*Discuss* the origin of the word Repertory	Cognitive	Level 2(Understand)	Nice to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	----------	
HomUG-R-I-1.4			Knows		*List* 3 uses and 3 limitations of Repertory	Cognitive	Level 1(Remember/ recall)	Must Know	Lecture, Integrated teaching (with Materia Medica) Small Group discussion	MCQ, SAQ, Viva Voce	----------	

Horizontal or Vertical Integrated Teaching with other subjects is required for a holistic understanding of the topic from different points of view.

The above topic should be integrated with other subjects of the same year for better understanding of the topic.

Spiral integration is required as the subject will be taught in II, III and IV BHMS and concepts taught in I BHMS will be utilized for further understanding of the subject.

III - Glossary of terms used in the template.

Goals

These are broad outcomes expected of a student at the end of the course of studies. These are to be contrasted with Objectives/Outcomes which are more specifically and narrowly defined.

Programme

A range of learning experiences offered to students in a formal manner over a period of one-to-four years leading to certificates/ diplomas/ degrees. Examples:BA (Economics) BSc (Physics). All possible formal degree Programmes are identified by UGC. BHMS is one such Programme

Programme Outcome

Programme Outcomes (POs) are what knowledge, skills and attitudes a graduate should have at the time of graduation. The Programme Outcomes of professional disciplines are identified at national level by the concerned accrediting agency. In this case, it would be the National Commission of Homoeopathy which would be involved.

Course

Course for the purpose of this Manual represents a subject e.g. Anatomy. In homoeopathic education some of the courses extend over several years e.g. Materia Medica. The relevance of this is in the formulation of Course Outcome

Course Outcome

CourseOutcomes are statements that describe what students should be able to do at the end of a course. Where a Course extends over a number of years, it is necessary to define distinct Course Outcomes over the entire teaching programme of the subject. These will vary in depth and extent of the coverage of the subject.

Competency

An observable ability of a health professional, integrating multiple components such as knowledge, skills, values, and attitudes. Since competencies are observable, they can be measured and assessed to ensure their acquisition.

Generic competency:

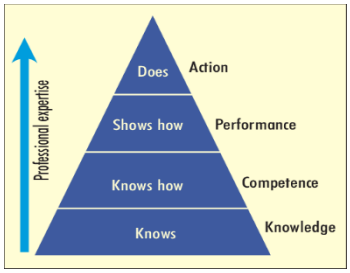
Professional performances are denoted by certain demonstrable attributes that the learners imbibe and internalise as reflex activities. These are the abilities of the professional that characterise the quality and level of performance. The generic competencies therefore are the abilities that a basic homoeopathic doctor would be trusted to have acquired as a consequence of his / her learning. The examples include Information gathering, problem identification, etc. The generic competencies therefore refer to the overall frames of abilities.

Subject area:

Subject area is a chunk of content in a given subject. It could be a chapter, topic, sub-topic, etc.

Millers Levels:

Miller's Pyramid is a diagrammatic representation of the convergence of learning. It maps the pathway of learning to show a person gains the ability and competence in a series of increasingly progressive phases of learning.



The broad base of this pyramid - 'Knows' – has the ability to recall facts and ideas that form the bedrock of professional requirements. 'Knows How' is the next phase of learning, where the students gains the insight into the relationships between the various units of 'knows' and can relate them meaningfully to reach the 'knows how' capacity. These phases would largely be in the Cognitive Domain of Bloom's Taxonomy of Learning Objectives.

Learning is not just about knowing and knowing how, but also to enable that the 'know how' is put into practice. This is the third phase of Miller's Pyramid – the 'Shows How'. During this phase of learning, the student is able to demonstrate the reasoning ability that he / she has acquired in controlled or real situations. This ability also includes the psychomotor dimension of Bloom's Taxonomy. The summit of pyramid, i.e., 'Does' also includes the emotional aspect of learning in the form of values, attitudes, communication, etc, that denote the 'Affective Domain' of Bloom's Taxonomy.

The Miller's Pyramid is a valuable tool to represent the increasing levels of competencies that the students need to acquire, and also a framework to assess the level of competency that is

achieved. Interestingly, the framework focuses on what the learner would be doing, rather than on what the teacher would be doing.

Specific competency:

Specific competencies are the abilities that the student is expected to acquire in a focused area of expertise, which could be a discipline-based knowledge, a skill, an attitude, or a combination of these.

Specific Learning Objectives / Outcomes:

Specific Learning Objectives / Outcomes (SLOs) describe what students should know or be able to do at the end of a learning session, that they couldn't do before. These are written and communicated in a 'low context communication style', that is to say, whoever reads the SLO would have the same understanding that the person who wrote it had. That is, there would be no communication gap.

That is the reason why the SLOs are written specifically and exclusively as units of learning in one of the domains of Bloom, and further at one of the levels of Guilbert. This will ensure that the learning that is expected is clearly communication among all those who refer to it, including those who set the assessment and evaluate the student performance. Further, the SLOs are ALWAYS written with an ACTIVE verb, so as to make the statement observable and measurable.

Bloom's domain:

Bloom's Taxonomy of Educational Objectives is a tool for classifying learning under the categories of 'knowledge', 'skill', and 'attitude / value / communication', represented by the technical terms 'Cognitive', 'Psychomotor', and 'Affective' domains respectively. Each of these domains distinguish the dimension of learning in a particular area. The importance of such classification is that it offers a clear model for both teaching and students' assessment.

Guilbert's level:

Guilbert's Hierarchy is a tool that describes the various levels of learning that can be mapped and managed in the Bloom's domains of learning – cognitive, psychomotor, and affective.This tool also has the additional benefit to identify the appropriate teaching – learning methods / media, and also the assessment strategies.

In the 'knowledge' domain Guilbert's approach to learning proceeds from recall of facts to understanding / interpreting the different sets of data, and finally to the ability to make decisions and solve problems on the basis of the understanding / interpretation. This simple three-step process builds a sequential order of learning; it clearly brings out that decisions shall be made NOT on the basis of facts alone, but through a process of understanding and interpretation.

The 'skill' domain builds the learning from the stage of observing and imitation to gaining control over the skills and culminating in automatism of the skill. In simple terms, any skill will be learnt initially by observing its performance, and imitating the same in the sequential

order. In the next phase, the learner tries to gain control over the skill initially under the supervision, and ultimately will be able to perform it independently.

Learning in the affective domain proceeds from the stage where the learner is open and receptive to the stimulus or trigger situation, responding to it in a desirable manner, and finally internalising the responses.

Priority of learning:

The priority of learning is represented as 'Must know', 'Desirable-to-know', and 'Nice-to-know'. Prioritisation is a critical component of curriculum design because it classifies the learning outcomes on the basis of their importance and usefulness for the ultimate professional standards. The priority of learning is objectively assigned by a formula that gives weightage on the basis of 'frequency and impact' of the learning for professional needs.

TL Method / Media:

The teaching-learning (TL) methods and media are the vehicles that enable the acquisition of stated outcomes. Teaching method is simply 'what the teacher does or what the teacher enables the students with', such as giving a lecture, conducting a demonstration, or facilitating a group discussion. Teaching-learning media is 'what the teacher or the students use' to enable the learning; with examples such as a board, or projector, or model, or specimen, among others.

The teaching-learning methods and media are specific to the domains and levels in the domains. It must also be remembered that learning is a continuum, and a range of methods and media would be appropriate in the different phases in the continuum of learning.

Assessment:

Assessment of learning is an important component of curriculum. This measures the performance of the students in comparison to the expected outcomes of learning. Therefore the learning outcomes must be stated and communicated clearly and objectively to all the stakeholders of education. Assessment strategy is based on the domain and the level of domain in which the outcome is to be measured. Assessment could be judgemental for the extent and quality of outcomes, when it is called 'assessment of learning', or it could also be supportive for learning, when it is called as 'assessment for learning'. There are two major approaches to assessment – formative, and summative. The tools of assessment are provided in the annexure.

Formative Assessment:

Formative assessment is NOT judgemental, in that it does not brand the learner as 'pass' or 'fail'. The formative assessments measure the extent and quality of learning with reference to the expected learning outcomes, so that the students can be given feedback to improve on their performance. The formative assessments promote mastery learning, that is to say, each students achieves the stated level of mastery of performance because of the feedback and support. Formative assessment is also called as continuous assessment.

Summative Assessment:

Summative assessment has the mandate to judge the achievement of the learner at the end of a period of learning, and label him / her as 'pass' or 'fail, assign a rank, approve for eligibility to be promoted or eligibility to be admitted to a course. These assessment also serve as quality check to ensure that those who are being certified conform to a minimum standard of professional competence.

Integration:

Integration of learning is an essential requirement for aligning various data points of knowledge and skills for getting a holistic understanding and enabling a unified performance. Integration can be achieved at various dimensions and at various levels.

The dimensions of integration could be temporal in the form of Horizontal, Vertical, or Spiral. Horizontal integration is the alignment of learning on a longitudinal timeline, where the comparable contents of various subjects in the same term or year are integrated, for example the structure from anatomy, function from physiology, symptoms from materia medica, and rubrics from repertory in the pre-clinical phase of BHMS.

Vertical integration is seen in the subjects that build on the pre-existing knowledge and skills of another subject. For example, the integration between the basic sciences such as anatomy, physiology, and biochemistry for the para-clinical learning such as in pathology, and the integration of basic and para-clinical skills into clinical learning.

Spiral integration is where a subject is recurring at various levels in the same course. For example, materia medica is learnt from the first to final BHMS, and the focus of the subject is not the same in each year. There would be iteration of the same knowledge from different perspectives and capabilities across the different phases of BHMS.

The levels of integration represent the increasing approximation of knowledge from different subjects, so as to reach an approximation of fusion. The attempt to integration may begin with arranging the comparable contents of different subjects at the same cross sections of timeline. Further, there could be positioning the content of one subject into another subject to bring some kind of co-existence. Still further, the contents can be seamlessly merged to create an aligned learning content. Such integrative efforts can bring about holistic learning for a meaningful homeopathic capacity-building.

I PROFESSIONAL BHMS

Subject NAME: Organon of Medicine and Homoeopathic philosophy and Fundamentals of Psychology

Subject CODE: HomUG-OM-I

TEACHING HOURS:

1st BHMS **Organon of Medicine and Homoeopathic Philosophy, and Fundamentals of Psychology**		
YEAR	**TEACHING HOURS-**	
	LECTURES	**NON-LECTURE**
1ST BHMS	180	100

Preamble-

Organon of Medicine with Homoeopathic Philosophy is a central fulcrum around which education and training of a homoeopathic physician revolves. It lays down the foundations of homoeopathic practice, education, training and research. It not only elaborates on the fundamental laws but also how to apply them in practice. It defines the qualities of a healer, guides the homoeopathic physician in inculcating values and attitude and develop skills.

Nature nurtures us. It is well depicted in our science. Therefore, Homoeopathy is in sync with Nature. The need to keep life force within us well balanced with nature is well established in Organon. Hahnemann as an ecologist was well ahead of his time. Philosophically, it connects man and his actions to the dynamic forces available in nature, thus bringing to fore the holistic approach. Lateralization of these concepts helps the student to develop insight into various facets of Life & Living. Organon orients the students to homoeopathy as an Art & Science. Its comprehensive understanding needs a core competency in logic and the concepts of generalization and individualization. Its treatment of disease process and relating to the concept of miasm makes it a study of the process of scientific investigation.

The biggest challenge in teaching-learning of Organon is to first understand the fundamentals according to the Master's writing and then demonstrate them in practice. Quality and real time integration with other subjects helps a student to conceive the holistic perceiving of Man and Materia Medica. The concepts and knowledge required by the Physician with operational knowledge of management of patients and their diseases will

need horizontal and vertical integration with Homoeopathic subjects and clinical subjects. First BHMS will need horizontal integration with Anatomy, Physiology, Homoeopathic Pharmacy and Homoeopathic Materia Medica. Organon will have spiral integration with itself and vertical integration with clinical subjects. Second year will need integration with pathology, community medicine, forensic medicine, along with other homoeopathic subjects. Third and fourth year establishes links with clinical subjects, research methodologyand pharmacology.

Science is never static. Since the time of Hahnemann, medical science has advanced by leaps and bounds. Since Homoeopathy is based on principles rooted in nature, they would stand the test of time. However, their application in the changing times and circumstances would find newer avenues to heal. This is an opportunity for a homoeopath to connect the current advances while relating with the fundamental laws. Mastering all this will make him a master healer and will move him towards higher purpose of existence.

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1. Course Code and Name of Course

Course Code	Name of Course
HomUG-OM-I	Organon of Medicine and Homoeopathic philosophy andFundamentals of Psychology.

2. COURSE OUTCOMES (CO):

At the end of course in Organon of Medicine and Homoeopathic philosophy and Fundamentals of Psychology, the BHMS student shall be able to:

1. Explain the Cardinal Principles and Fundamental laws of Homoeopathy.
2. Describe the concept of Health, Disease and Cure in Homeopathy
3. Interpret a case according to the Hahnemannian Classification of Disease
4. Apply the Theory of Chronic Disease to determine the miasmatic background in a case.
5. Demonstrate case taking and show empathy with the patient and family during case taking
6. Demonstrate Analysis, evaluation of the case to form the Portrait of disease
7. Apply the concept of Susceptibility to determine posology in a given case
8. Interpret the action of the medicine in a case on the basis of Remedy reactions.
9. Apply knowledge of various therapeutic modalities, auxiliary measures & its integration with prevalent & other concepts in the management of patients.
10. Identify the various obstacles to cure and plan treatment accordingly.
11. Display qualities, duties & role**s** of a Physician as true practitioner of healing art
12. Develop the competencies essential for primary health care in clinical diagnosis and treatment of diseases through the judicious application of homoeopathic principles
13. Recognize the scope and limitation of homoeopathy and to apply the Homoeopathic Principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community.
14. Discern the relevance of other systems of medical practice for rational use of cross referral and life saving measures, so as to address clinical emergences
15. Develop capacity for critical thinking and research aptitude as required for evidence based homoeopathic practice.
16. Demonstrate aptitude for lifelong learning and develop competencies as and when conditions of practice demand.
17. Be competent enough to practice homoeopathy as per the medical ethics and professionalism.

18. Develop the necessary communication skills to work as a team member in various healthcare setting and contribute towards the larger goals of national policies such as school health, community health, environmental conservation.
19. Identify socio-demographic, psychological, cultural, environmental & economic factors that affect health and disease and plan homoeopathic intervention to achieve the sustainable development Goal.

Specific Objectives of Organon of Medicine and Homoeopathic philosophy in 1st BHMS

1. Recall the history of medicine and history of homoeopathy to relateits evolution
2. Correlate the first six aphorisms of Organon of Medicine for the study of anatomy, physiology, pharmacy.
3. Discuss the concept of health, indisposition and disease and its importance ~~in~~to the learning of anatomy, physiology, pharmacy and psychology
4. Discuss concept of Dynamization with health, disease and drug
5. Develop portrait of drug in the context of knowledge of anatomy, physiology, psychology and pharmacy
6. Explain the procedure and ethics of Drug proving

COURSE OUTCOMES (CO) of Organon of Medicine and Homoeopathic Philosophy for I BHMS

At the end of IBHMS, the student should be able to,

1. Summarize the important milestones in the History of Medicine and development of Homoeopathy.
2. Value the contributions and qualities of Dr.Hahnemann as a physician and person
3. Recall the contributions of stalwarts in development of Homoeopathy
4. Explain the Cardinal Principles and Fundamental laws of Homoeopathy
5. Explain the Homoeopathic concept of Health, Disease and Cure in light of modern concepts
6. Apply Inductive and Deductive Logic in the study of the Basic principles of Homoeopathy
7. Describe the important features of the various editions and Ground plan of Organon of Medicine
8. Explain the meaning and significance of aphorisms §1-27
9. Relate the concepts of homoeopathic philosophy with other pre-, para-, and clinical skills by way of horizontal, vertical and spiral integration.

5. Contents of Course HomUG-OM-I

Course Contents-

1. Introduction:

    1.1. History of medicine

    1.2. History of Homoeopathy

    Short history of Hahnemann's life, his contributions, and situation leading to discovery of Homoeopathy

    1.3. Brief history and contributions of Boenninghausen, Hering, Kent, R L Dutt, M L Sircar& B K Sarkar.

    1.4 History and Development of Homoeopathy in brief in India, U.S.A. and European countries

    1.5. Fundamental Principles of Homoeopathy.

    1.6. Basic concept: Individualistic, Holistic& Dynamic

    1.6.1. Life; Hahnemann's concept and modern concept.

    1.6.2 Health: Hahnemann's concept and modern concept.

    1.6.3. Disease: Hahnemann's concept and modern concept.

    1.6.4. Cure.

    1.7. Understanding Homoeopathy in vertical, horizontal & spiral integration with pre, para & clinical subject.

2. Logic: To understand Organon of medicine and homoeopathic philosophy, it is essential to be acquainted with the basics of LOGIC to grasp inductive and deductive reasoning. Preliminary lectures on inductive and deductive logic (with reference to philosophy book of Stuart Close Chapter 3 and 16).

3. § 1 to 27 of Organon of medicine, § 105 to 145

4. The physician – purpose of existence, qualities, duties and knowledge

5. Vital force- dynamisation- homoeopathic cure- natures law of cure & its Implications- drug proving

Table E- 1: Topics with reference list referring to Chapters from the text books				
Topic	Kent	Roberts	Close	Dhawale
Understanding the first six aphorisms and its application in the study of anatomy, physiology, pharmacy.	1-6	1	6	4
Concept of health, indisposition and disease and its importance in learning anatomy, physiology, pharmacy and psychology	1 to 9	2, 3, 4	6	2
Dynamisation and relating with health, disease and drug	10, 11	2-6	14, 15	2, 16
Developing portrait of drug with help of knowledge of anatomy, physiology, psychology and pharmacy	13,21-25,26	15	15	16

Non lectures– community – OPD/IPD -

Students will be exposed to OPD/PD-community from first BHMS:

Students will understand the first six aphorisms in action and will get sensitized to socio-cultural-political-economical perspective of the community. They should develop insight into what constitutes health and how disease develops.

Introduce Journals from 1st year–

Habit of collecting evidence and noting them down vis-a-vis the expected objective will train them for evidence-based learning and inculcating the habit of using logic so inherent in Homoeopathic practice.

They also will realize the importance of skill and attitude and relevance of each subject in relation to Organon and Homoeopathic philosophy

They will write their experience of the clinic/OPD in relation to Observation/Cure/relief/Mission/Prevention/acute/chronic/indisposition etc.

(i) 5 medicine from HMM to correlate with Physiology-Anatomy-Pharmacy.

(ii) 5 cases observed in OPD

Teaching Learning Method

Assignments- Group work

Problem Based Learning through Cases- Literature

Group Discussion – Problem based learning

Project work with its presentations in class

Practicing Evaluation & Feedback system- after Project work, assignments & Group Discussions.

Teaching Hours-

1st BHMS Organon Classroom teaching and non-lecture hours		
YEAR	**TEACHING HOURS-LECTURES**	**Non-lecture**
1ST BHMS	130	78

Teaching Hours Theory

Sr. No.	**List of Topics**	**Term**	**Lectures**	**Non-Lectures**
1	History of medicine in brief History and Development of Homoeopathy in brief in India, U.S.A. and European countries.	I	5	5
2	Short history of Hahnemann's life, his contributions, and situation leading to discovery of Homoeopathy	I	5	5
3	Fundamental Principles of Homoeopathy	I	20	5
4	Basic concept of: Individualistic& Holistic Life: Hahnemann's concept and modernconcept.	I	5	5

	Health: Hahnemann's concept and modernconcept. Disease: Hahnemann's concept concept. Cure.			
5	Logic: To understand Organon of medicine and homoeopathic philosophy, it is essential to be acquainted with the basics of LOGIC to grasp inductive and deductive reasoning. Preliminary lectures on inductive and deductive logic (with reference to philosophy of Stuart Close).	I	5	5
6	Science & Art in Homoeopathy	I	5	
8	Different editions and constructions ofHahnemann's Organon of Medicine.	II	10	5
9	§1-27&105-145 of Organon of medicine	II/III	60	48
10	Brief history and contributions of Boenninghausen, Hering, Kent, R L Dutt, M L Sircar& B K Sarkar.	III	15	
			130	78

6. Table 2-Learning Objectives (Theory) of Course HomUG-OM-I

Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
TOPIC 1(1.1) – HISTORY OF MEDICINE											
Acquiring and Integration of Information	History of Medicine as it is evolved with important milestones	Knows	Explain History of Medicine with important milestones	Describe the evolution of Medicine	Cognitive	Level II Understand and interpret	Must Know	Lecture, small group discussion, Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	

		Knows		Summarize important Milestones in Development and Evolution of Medicine	Cognitive	Level II Understand and interpret	Nice to Know	Lecture, small group discussion, Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
		Knows		Describe the contribution of various Stalwarts in development of medicine	Cognitive	Level II Understand and interpret	Nice to Know	Lecture, small group discussion, Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
TOPIC 1(1.2) – HISTORY OF HOMOEOPATHY											
Acquiring and Integration of Information	History of Homoeopathy as it is evolved with important	Knows	Describe History of Homoeopathy	DescribeHistory of Homoeopathy	Cognitive	Level II Understand and interpret	Must Know	Lecture small group discussion	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	

	milestones							Seminars			
				Describe the important milestones in the evolution of Homoeopathy	Cognitive	Level II Understand and interpret	Must Know	Lecture small group discussion Seminars Quiz	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
				Discuss the significance of important milestones in the evolution of Homoeopathy	Cognitive	Level II Understand and interpret	Must Know	Lecture small group discussion Seminars Quiz	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
TOPIC 1(1.2) – LIFE HISTORY OF DR. HAHNEMANN											

Acquiring and Integration of Information	Hahnemann's Life History	Knows	Describe Hahnemann's Life History	Explain in detail the Life history of Dr. Hahnemann with his contribution towards Homoeopathy	Cognitive	Level II Understand and interpret	Must Know	Lecture Small Group Discussions Presentation	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica
				Discuss the contributions and qualities of Dr.Hahneman n as a physician and person	Affective	Level II Understand and interpret	Must Know	Lecture Small Group Discussions Presentation	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
TOPIC 1(1.3) – LIFE HISTORY OF STALWARTS OF HOMOEOPATHY											
Acquiring and Integration of Information	Stalwarts of Homoeopathy	Knows	Life History of Different Stalwarts In Homoeopathy	Describe Life History of Following stalwarts Dr. Kent,	Cognitive	Level II Understand and interpret	Desirable to know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Repertory

				Dr. Boger, Dr.Boenninghausen. Dr, Hering, Dr. T.F. Allen, Dr. M.L. Sircar							
				Discuss the Contributions of stalwarts in development of Homoeopathy	Cognitive	Level II Understand and interpret	Desirable to know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Repertory
TOPIC 1(1.4) – HISTORY & DEVELOPMENT OF HOMOEOPATHY IN INDIA. USA & EUROPEON COUNTRIES											

Acquiring and Integration of Information	History & Development of Homoeopathy in India, USA & European Countries	Knows	History & Development of Homoeopathy in India, USA & European Countries	Explain the History & development of Homoeopathy in India, USA and European countries	Cognitive	Level II Understand and interpret	Desirable to know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica
		Knows		Discuss the Contributions of stalwarts in development of Homoeopathyin India, USA and European countries	Cognitive	Level II Understand and interpret	Desirable to know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Materia Medica Repertory
TOPIC 1(1.5): Fundamental Principles of Homoeopathy											
Acquiring and	Fundamental Principles	Knows	Understanding the Fundame	Enumerate the cardinal principles of	Cognitive	Level II	Must know	Lecture Small Group	MCQ, SAQ,	MCQ, SAQ,	

Integration of Information	of Homoeopathy		ntal Principles that govern Homoeopathy	Homoeopathy		Understand and interpret		Discussion Seminars	LAQ, Quiz	LAQ, Viva	
		Knows		Explain the Cardinal Principles and Fundamental laws of Homoeopathy	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
		Knows		Describe the significance and importance of Cardinal Principles and Fundamental laws	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	

TOPIC 1(1.6): Concept of Health Disease and Cure as per Hahnemann's concept and correlation with modern concept.											
Acquiring and Integration of Information	Concept of Health Disease and Cure	Knows	Knowledge and application of concept of Health, Disease and Cure	Define the terms Health, disease and cure according to Dr. Hahnemann	Cognitive	Remember (Level I)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
		Knows		Define the terms Health, disease and cure according to modern concept.	Cognitive	Remember (Level I)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
		Knows		Explain Health, disease and cure according to	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	

				Dr Hahnemann				Seminars			
		Knows		Differentiate the Hahnemannian concept of health, disease and cure from the modern concept	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
TOPIC 1(1.7): Different editions and Constructions of Organon of Medicine											
Acquiring and Integration of Information	Different editions and Constructions of Organon	Knows	Significance of Different editions and Constructions of Organon	Explain the history & development different editions and Constructions of Organon of Medicine	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	

	of Medicine		of Medicine								
		Knows		Differentiate between Different editions and Constructions of Organon of Medicine	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
Topic 2: Logic											
Acquiring and Integration of Information	Logic in Homoeopathy	Knows	Utility and Correlating Logic to Homoeopathy	Explain 1 Inductive Logic 2.Deductive Logic	Cognitive	Level 2 Understand and interpret	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
		Knows		Differentiate between inductive and deductive	Cognitive	Level 2 Understand and interpret	Must know	Lecture Small Group Discussion	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	

				logic using examples				Seminars			
		Knows		Apply the concept of Inductive and Deductive Logic to the Fundamental Principles of Homoeopathy	Cognitive	Level III Decision/problem solving	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
Topic3: Aphorisms 1-27 and 105-145											
Acquiring and Integration of Information	Aphorism	Knows	Understanding the meaning of Aphorisms	Explain the meaning and significance of Aph. 1-27	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	

				Explain Drug proving as per Aph 105-145	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Integrated teaching with Homoeopathic Pharmacy
Topic 4 : Physician- Purpose of existence, qualities, duties and knowledge											
Acquiring and Integration of Information	Homoeopathic Physician	Knows	Qualities and Attributes of a Physician	Recognize the qualities, duties and knowledge expected from a physician	Affective	Receiving	Desirable to know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
				Explain the Mission, qualities, duties & role of a Physician as true	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	

				practitioner of healing art				Seminars			
Topic 5: Vital force- dynamisation- homoeopathic cure- natures law of cure & its Implications- drug proving											
Acquiring and Integration of Information	Concept of Vital Force and Drug Dynamization	Knows	Importance of Vital Force in health, disease and Cure and Drug Dynamization	Explain the roleof vital force in health, disease and cure	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
		Knows		Explain the concept of Homoeopathic Dynamization	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	
		Knows		Enumerate the methods of Homoeopathi	Cognitive	Remember (Level I)	Must know	Lecture Small Group	MCQ, SAQ,	MCQ, SAQ,	

				c Dynamization				Discussion Seminars	LAQ, Quiz	LAQ, Viva	
		Knows		Explain the Nature's therapeutic law of cure	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Cognitive
		Knows		Apply Nature therapeutic law of cure to Homoeopathy	Cognitive	Understand (Level III)	Must know	Lecture Small Group Discussion Seminars	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Cognitive
		Knows		Explain Drug Proving	Cognitive	Understand (Level II)	Must know	Lecture Small Group Discussion	MCQ, SAQ, LAQ, Quiz	MCQ, SAQ, LAQ, Viva	Cognitive

								Seminars			

7. Table 3. Non-Lecture Activities

Sr. No	**Non-Lecture Teaching Learning methods**	**Total Time Allotted per Activity (Hours)**
1	Seminars/ Workshops	78 hours
2	Group Discussions	
3	Problem based learning	
4	Integrated Teaching	
5	Case Based Learning	
6	Self-Directed Learning	
7	Tutorials, Assignments, Projects	
	Total	**78 hours**

Psychology

Preamble

Mind is an invisible dynamic force operating on the body which can be seen and felt with its expressions at multiple levels. While understanding Man it is important to know how he behaves, feels and thinks in general of his life and in different situations.

Health is that balanced condition of the living organism in which the integral, harmonious performance of the vital functions tends to the preservation of the organism ensuring the normal development of the individual. In a similar way, study of mind is an inseparable component of the study of man and is essential for prescribing. Thus mind remains an integral component of Homoeopathic prescribing.

In § 5 of Organon of Medicine, Dr Hahnemann talked of basic knowledges required for Homoeopathic practice of Holistic cure. According to him homoeopathic physician has to have knowledge of :

a. Constitution of Man
b. His moral & intellectual character
c. Mode of living habits
d. His social & domestic relations
e. His adaptations with the environment

Above knowledge will help the Homoeopathic physician not only to understand the person in the patient but also to identify the cause of suffering by delving in to detailed enquiry. This may take the form of exploring evolutionary aspects from childhood to present, from family history – past history to present illness - all of which will indicate the qualities of the human in health as well as in disease.

Psychology is a science of mind and behavior which is important and necessary in all areas of life including the growth and development of human being. Theoretically, psychology examines psychological phenomena and behavioral patterns that appear as individual's external behavioral reactions against any stimulus - be it Biological–Psychological– Emotional –Social-Spiritual.

Modern concept of psychology has talked of Mental Health and Hygiene which indicates the importance and great need for ensuring psychological wellbeing in us. This state is under constant stress due to the rapid changes taking place in the life situation due to internal pressures and external environment.

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Course outcomes:

1. Explain the concept of Mind as perceived by Hahnemann and other stalwarts
2. Define the structure of the mind as conscious and unconscious and its various constituents / components in terms of Emotion, Thinking, Behaviour, Sleep and Dreams
3. Identify the conscious expressions of Mind as Emotion, Thought and Behaviour
4. Explain the neurophysiological basis of mental functioning
5. Discuss the relationship between the growth of the brain and the mind and its correlation with physical growth of the from infancy to old age and psychosocial development.
6. Evaluate the role that emotions and intellectual functions play in our daily lives
7. Derive the importance of the role of 'Learning' in human adaptation and change
8. Discuss 'Personality' as a synthesis of inborn traits and learnt responses occurring over the growing years
9. Realize the various forms of 'conflict', their origins and their role in determining the quality of our personal and social lives
10. Integrate the concept of mind as conceived in homoeopathic philosophy with that in modern psychology
11. Demonstrate the importance of the study of the Mind in approaching the study of Repertory and Materia Medica
12. Realize how a healthy individual experiences the harmonious functioning of the different constituents of the mind
13. Summarise the importance of knowledge of Psychology in Modern life and in Homoeopathic practice

General Instructions

1. Instructions in psychology should be planned in such a way that students should be able to present a basic understanding of the structure of mind, brain and its functioning with the kind of interrelationship they are sharing with each other.
2. Each topic should be planned in parallel with others subjects of Homeopathy where ever relevant to achieve integration with other subjects.
3. Since this subject is dealing with the human mind and its functions, topic should be dealt in more interactive ways where maximum learning will be achieved by doing rather than memorizing the things.
4. Emphasis would be more on the organization of the brain areas, their functions and correlated with the medical concept and philosophical concept of Mind.

5. Student should learn the psychological organization with learning the importance of special senses and their functions in great details that forms the foundation of the subject.
6. Most of the basic topics can be studied in interactive ways, discussion based on clinical case or any relevant event/ incidence of daily life.
7. Topics having philosophical connection should be taught with the help of discussion or in the form of story -telling with connections to the principles of philosophy.
8. Topics requiring a lot of analysis of information can be taught with role-play with directed observation method followed by discussion on the same pointing out its relevance and importance.
9. Nice to know topics along with a lot of community related information should be dealt with survey methods
10. Topics which are interrelated with other subjects of Homoeopathy should be presented and discussed.
11. Lectures or demonstration on the clinical and applied part of psychology should be arranged in the 3rd semester of the course and it should aim at demonstrating the structural-physiological –psychological basis of mental expressions of the symptoms and its value in Homeopathy.
12. Learning of applied psychology would be more qualitative in the various OPDs/Peripheral OPDs where contact with community will improve their knowledge, observation skills, attitude of communication with the community.
13. Some of the theoretical lectures should conclude with discussion on the learning achieved with its importance.
14. Periodical seminars on general topics related to philosophical aspect and its connection with psychology should be arranged for vertical, horizontal and spiral integration.
15. Role of observation and correlation should be demonstrated while discussing the intricacies of the subject of psychology.
16. Inter-departmental or joint seminars should be planned
17. While working on community survey- purpose should be kept very broad with the following objectives.
    (i) Experiencing the community in actuality for the demographic configuration, different cultural traditions, different practices and inter-relationship and its effect on Mind and Body as a joint system.
    (ii) Learning the functioning of human being in multiple situations of stress and process of getting adapted with those.
    (iii) Quality of Mental Health of the community and its varied expressions
    (iv) Quality of Inter-relationship within different castes, communities, religions and its impact on Individuals

Course contents:

Note: Each topic should be related with relevant clinical examples and the relationship with the subjects of Homoeopathic Philosophy, Materia Medica and Repertory must be made.

1. Introduction to the study of Mind in Homoeopathy
    A. Concept of Mind- i. Contemporary schools of psychology
    ii. Concept of Mind by Hahnemann
2. Psychological organization and the interrelationship of Thought (Cognition), Feelings (Affect) and Behaviour (Conation); Conscious and Unconscious elements
    A. Psychological Organisation i. Definition of Emotions and its types
    ii. Definition of Thinking and its types
    iii. Definition of Behavior and its types
    B. Effects on Thought (Cognition), Feelings (Affect) and Behaviour (Conation) on Mind and Body
    C. Interrelationship of Thought (Cognition), Feelings (Affect) and Behaviour (Conation) on Mind and Body
    D. Representation of Thought (Cognition), Feelings (Affect) and Behaviour (Conation) in Materia Medica
    E. Representation of Thought (Cognition), Feelings (Affect) and Behaviour (Conation) in Repertory

3. Physiological and Evolutionary basis of behaviour -
    A. Instincts, Conditioned and unconditioned reflexes
    B. Conscious and unconscious behaviour
    C. Scientific study of Behavior and its expressions
    D. Evolutionary study of behaviour
    E. Understanding Relationship of Behaviour to Emotions and Thought
    F. Expressions of Behaviour in Repertory and Materia Medica

4. Understanding Emotion, its different definitions and expressions in Repertory and Materia Medica
    A. Scientific study of Emotions i. Definition of Emotions and its types

ii. Effects Emotions on Mind and Body
iii. Effect of emotions on sexual behaviour
iv. Interrelationship of Emotions on Mind and Body

B. Representation of Emotions in Materia Medica-

C. Representation of Emotions in Repertory

5. Understanding Intellect: Attention, memory and its function and expression in Repertory and Materia Medica
   Basic concepts of Thinking
   A. Definition of Thinking and its types
   B. Intelligence and its measurement
   C. Effects of Thinking /Thought (Cognition) on Mind and Body
   D. Representation of Thinking /Thought (Cognition) in Materia Medica
   E. Representation of Thinking /Thought in Repertory

6. Motivation and their types with role in our lives
   Study of Motivation and its types
   Importance of study of Motivation for Homoeopathic Physicians

7. Learning and its place in adaptation
   A. Study Learning:
      Definition of Learning and its types
      Study of relevance of Learning for Homoeopathic Physician
      Study of disturbances/ malfunctioning of Learning
   B. Adaption
      Definition and its dynamic nature
      Successful and unsuccessful adaptation

8. Growth and development of Mind and its expressions from Infancy to old age
   Study of Developmental Psychology
   i. Normal developments since birth to maturity (both physical and psychological)
   ii. Deviations- in Growth and Development and its effects on later behaviour
   iii. Understanding the bio-psycho-socio-cultural-economical-political-spiritual concept of evolution
   iv. Importance of above study to understand Materia Medica drug proving

9. Structure of Personality, the types, their assessment, relationship to Temperament and representation in Materia Medica
   i. Definition of Personality and its types
   ii. Various constituents of Personality like Traits and Temperament
   iii. Theories of Personality by psychologists
   iv. Measures for the assessment of Personality, relationship to Temperament and representation in Materia Medica

10. Conflicts: their genesis and effects on the mind and body
   i. Conflicts and their types
   ii. Genesis of Conflicts and effects on the mind and body
   iii. Genesis of Conflicts and related Materia Medica images

11. Applied Psychology: Clinical, Education, Sports, Business, Industrial
   Application of knowledge of Psychological Components and its Integration in understanding
   i. Psychological basis of Clinical Conditions
   ii. Education
   iii. Sports
   iv. Business

12. Psychology and its importance in Homoeopathic practice for Holistic Management of the patient

Semester 1 Topic 1: 1. Introduction to Psychology with overview of different schools

Sr.No 1	Generic competency	Subject area	Millers Know / Know how/ Show how/ Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summ -ative Assessment	Integration - Horizontal / Vertical / Spiral
HomUG-OM-I.1.1	Information collection	What is Psychology	Knows	Discuss Psychology as a science	Define Psychology	Cognitive	Recall level I	Must know	Class room Lecture	MCQ	SAQ LAQ	
	Information Analysis		Knows		Discuss the factors which make Psychology as a science	Cognitive	Understand Level II	Must know	Lecture	MCQ	SAQ Viva	
	Integration of information		Knows how		Explain the utility of the subject for a	Cognitive	Interpret Level II	Desirable to know	Lecture with discussion	MCQ	SAQ Viva	Horizontal integration with Organon

					Homoeopath							
HomUG-OM-l.1.2	Information collection	Different schools of Psychology	Knows	Know the different schools of Psychology	Classify different schools of psychology based on their objectives and methods.	Cognitive	Understand Level II	Must know	Class room lecture	SAQ	SAQ Viva	

Semester 1: Topic 2 Concept of Mind in Psychology and Homoeopathy

Sr.No 2	Generic competency	Subject area	Millers Know/ Know how/ Showhow/Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assess ment	Summ -ative Assess ment	Integration - Horizontal / Vertical / Spiral
Hom UG-	Information	Concept of Mind in Psycholo	Knows	Describe	Describe	Cognitive	Understand and	Must know	Lecture/ (use of 'Story	MCQ	LAQ / SAQ	Organon -Concept of Mind

OM-I.2.1	collection	gy and Homoeopathy		the concept of Mind	concept of Mind in different schools of psychology		interpret Level II		telling')/ and Discussion on concept of Mind			as per Hahnemann/ Kent /BB/ Boger
Hom UG-OM-I.2.2	Information synthesis		Knows	Relate concepts of Mind in psychology and homoeopathy	Discuss concept of Mind as in Organon and	Cognitive	Integrate Level III	Must know	Small group discussion Charts / Models Audio-visual aids	Quiz True-false test items	LAQ/SAQ /Viva	Horizontal Organon
	Analysis		Knows		Compare and contrast concept of mind in	Cognitive	Understand Level II	Nice to know	Lecture	MCQ	SAQ	

					Organon with that in different schools of psychology							

Semester 1 Topic 3 Psychological organization of Mind and its interrelationship with Thought (Cognition), Feelings (Affect) and Behaviour (Conation)

Sr.No 3	Generic competency	Subject area	Millers Know/ Know how/ Showhow/ Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summ-ative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-OM-l.3.1	Information synthesis	Organization of Mind and interrelationship of its constituents	Knows how	Identify the topography of the mind	Classify the divisions of the mind into conscious, unconscious and sub-conscious elements	Cognitive	Understand Level II	Must know	Caselets and discussion	DOPS	LAQ / SAQ	

Hom UG-OM-l.3.2	Information collection		Knows how	Identify the constituents of the conscious mind	Distiguish the conscious mental expressions as Emotion , Thought and Behaviour	Cognitive	Interpret Level II	Must know	Caselets and Matching exercises	MCQ	LAQ, / SAQ/Viva	
Hom UG-OM-l.3.3	Information Interpretation Self reflection	Interrelationship of Emotions/ Thinking/ Behaviour and Mind and Body	Knows how	Recognize the interrelationship of mental constituents and effects of Mind and Body	Identify the relationship of mental expressions in terms of Emotion , Thinking and Behaviour on Mind	Affective	receive Level I	Must	Audio-visual media	Caselets with check list	SAQ	Horizontal integration Organon

					and Body							

HomUG-OM-I.3.4	Information Demonstration	Demonstration of abilities of observation	Shows How	Observe the mental expressions in terms of Emotion, Thinking and Behaviour	Identify the evidences of psychological expressions of Emotion, Thinking and Behaviour	Affective	Receive Level I	Must know	Audio-visual means in Small groups	Film viewing	Viva	
	Analysis and intergation	Demonstration of abilities of integration	Knows how	Distinguish the expressions into Emotion, Thinking and Behaviour	Align the observations conducted above with the knowledge about emotions, thoughts and behaviour	Cognitive	Understand Level II	Must know	Process the observations	Check list on the film shown	MCQ	
HomUG-OM-I.3.5	Analytical	Application of knowledge in practice	Shows how	Identify the mental expressions in	Demonstrate the rubrics from the	Psychomotor	Imitate Level I	Must know	Case-based learning	Assignments	SAQ	Hor learning with Repertory

				Repertory	given case scenarios				Teaching with Repertory			

Semester 1 Topic 4 Physiological basis of Emotions, Thought and Behaviour

Sr.No. 4	Generic competency	Subject area	Millers Know/ Knowhow/ Show how/ Does	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summ-ative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-OM-I.4.1	information Collection	Physiological basis of the mind	Knows	Understanding the parts of the brain important in understanding	List the parts of the Brain relevant to understanding the mental	Cognitive	Recall Level I	Must know	Lecture with a demonstration with model of brain	MCQ	SAQ	Anatomy - Brain structures can be dealt

				mental functions	functioning							simultaneously
Hom UG-OM-l.4.2	information collection		Knows		Explain the different parts of the brain which are the seat of the emotions of aggression, love, anger and anxiety	Cognitive	Understand and interpret Level II	Must know	Demonstration of brain model with discussion	MCQ	SAQ	
Hom UG-OM-l.4.3			Knows		Explain the different parts of the Brain which are the seat of intellectual functions of attention,	Cognitive	Understand and interpret Level II	Must know	Demonstration of brain model with a discussion	MCQ	SAQ	

					memory and executive functions							
Hom UG-OM-I.4.4			Knows		Explain the different parts of the Brain which are responsible for simple behaviour	Cognition	Understand and interpret Level II	Desirable to know	Group discussion	MCQ	SAQ	
Hom UG-OM-I.4.5	Information Interpretation and Synthesis		Knows how	Discuss the genesis of Emotions, Thinking ,Behavior	Intergate the manner in which the emotions, intellectual and behavioursl function are coordinated	Cognitive	Problem solving Level III	Must know	Lecture with PPT	MCQ	SAQ	

Semester 1: Topic 5: Understanding behaviour, its origins and its representation in repertory and materia medica

Sr. No	Generic Competency	Subject area	Millers Know/ Know how / Show how / Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summ-ative Assessment	Integration - Horizontal / Vertical / Spiral
	Information	Behaviour and Functioning and the origins	Knows	Instincts and reflexes and their	Define instinct and reflex	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ	Physiology
	Information		Knows		Enumerate the	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ	

				importance	instincts seen across the animal species							
	Information		Knows		Enumerate the reflexes seen in the new born	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ	
	Information Analysis		Knows		Discuss the role and limitations of these ensuring in our survival	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	
	Information		Knows		Define Conditioned and Unconditioned reflex	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ	

	Information		Know	Define Behavior and Functioning	Define Behaviour as externally observed expressions	Cognitive	Recall Level I	Must know	Lecture and AV methods	MCQ	MCQ	
	Information Analysis Self awareness		Knows		Differentiate behaviour as being of conscious and unconscious	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	
	Information		Know		Define functioning as expressions of the system which needs special instruments to measure	Cognitive	Recall Level I	Must know	Lecture and Demonstration	MCQ	MCQ	

	Information Analysis		Know how		Elaborate on the difference between Behaviour and Functioning	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	
	Information System thinking		Knows		Discuss the scientific methods of studying behaviour	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information		Knows	Origins and function of Behaviour	Draw a list of species specific behaviours in birds, fish and primates	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ	
	Information Analysis		Knows		Discuss the function of these specific	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ Viva	

					behaviours							
	Information	Control of Behaviour	Knows	Factors influencing behaviour	Discuss the factors which regulate any two of the species specific behaviours listed above	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ Viva	
	Information Synthesis		Knows		Differentiate innnate and learned behaviour as originating from unconditioned and conditioned reflexes	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	

	Analytical		Knows		Discuss how emotions are the determinants of behaviour and functioning	Cognitive	Understand and interpret Level I	Must know	Lecture	SAQ	SAQ Viva	
	Analytical		Knows		Discuss how thoughts are is the determinant of behaviour and functioning	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ Viva	
	Information Analysis	BehaviourBehaviourand Homoeopathy	Knows	Representation of Behaviour in the repertory	Illustrate the place of behaviour in repertory	Cognitive	Understand and interpret Level II	Must know	Demonstration	Checklist	MCQ / Viva	Repertory

	Information Synthesis		Knows	Representation of behaviour in Materia Medica	Illustrate the representation of behaviour in Materia Medica	Cognitive	Understand and interpret Level II	Must know	Demonstration	Checklist	MCQ / Viva	Materia Medica

Semester 2 Topic 1 Understanding emotions and their representation in the repertory and materia medica

Sr. No	Generic Competency	Subject area	Millers Know/ Know how/ Show how/ Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summ-ative Assessment	Integration - Horizontal / Vertical / Spiral

	Information	Understanding emotions, the types and their origins	Knows	Define emotions and differentiate from feeling and mood	Define emotions, mood and feelings	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ	
	Analysis		Knows how		Differentiate the above three from each other	Cognitive	Understand and interpret Level II	Must know	Lecture	Caselets	SAQ/Viva	
	Observation Empathy		Shows	Recognition of facial expressions	Recognize different emotions exhibited on the screens	Affective	Receive Level I	Must know	Images of facial expressions	Spotters	MCQ	
	System thinking		Know		Discuss the different ways that emotional expression is perceived by us	Cognitive	Understand and interpret Level II	Must know	Lecture	MCQ	MCQ	

	Information		Knows	Classification of emotions	Discuss the classification of emotions Primary and Secondary; Positive and negative	Cognitive	Understand and interpret Level II	Nice to know	Lecture	MCQ	MCQ	
	Analysis		Knows		Discuss the implications and limitation of the above classification	Cognitive	Understand and interpret Level II	Nice to know	Lecture	SAQ	SAQ/Viva	
	Information		Knows	Understand theories of emotions and their significance	Describe the prominent theories of emotions James Lange	Cognitive	Understand and interpret Level II	Nice to know	Lecture	SAQ	SAQ/Viva	

					Cannon-Bard Schaster-Singer Cognitive mediational theory							
	Information		Knows		The Bhava-Rasa theory of emotions	Cognitive	Recall level-I	Nice to know	Lecture	SAQ	SAQ	
	Analysis		Knows		Differentiate the five theories from each other	Cognitive	Understand and interpret Level II	Nice to know	Lecture	LAQ	LAQ	
	Synthesis Problem solving		Knows		Evaluate the implications of each of the theories in understan	Cognitive	Problem solving level -III	Nice to know	Discussion with examples	LAQ	LAQ	

					ding emotions							
	Information	Biological view of emotions	Knows	Biological basis of emotions	Enumerate the constituents of the limbic system important in the understanding of emotions	Cognitive	Recall Level	Must know	Lecture with model	MCQ	MCQ/Viva	Anatomy
	Analysis and Synthesis		Knows		Discuss the role of the different constituents of the limbic system in expression and regulation of emotions	Cognitive	Understand and interpret Level II	Must know	Discussion	LAQ	LAQ	

	Information Analysis		Knows		Discuss the effects of hormones in influencing emotions	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	Physiology
	Synthetic		Knows	Sex and emotions	Define sexual activity in terms of emotional arousal	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Synthesis		Knows		Describe the participation of brain systems in sexual behaviour	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information		Knows		Discuss the effect of early influences on sexual behaviour	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	
	Synthesis		Knows		Discuss the effects of	Cognitive	Understand and	Must know	Lecture	SAQ	SAQ/Viva	

					socio-cultural surroundings on sexual behaviour		interpret Level II					
	Informaiton		Knows		Enumerate the varieties of sexual orientation seen	Cognitive	Recall Level -I	Must know	Lecture	MCQ	MCQ	
	Information		Knows		Identify gender identity and sexual identity	Cognitive	Recall Level -1	Must know	Lecture	MCQ	MCQ/Viva	
	Self awareness		Knows		Recognize the challenges faced by differently sexually oriented persons in society	Affective	Receive Level-II	Must know	Visual clips of cases Role play	SAQ	SAQ/Viva	

	Information	Wholistic approach to Emotional health	Knows	Emotions and their effects on the self and others	List the effects of emotions on the human system in terms of cognitive, behavioural and physical system	Cognitive	Recall Level-I	Must know	Lecture	MCQ	MCQ/Viva	
	Systems thinking		Knows		Discuss the pathways through which emotions affect cognition, behaviour and physical system	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information		Knows	Positive emotions and their	Define happiness, joy and peace	Cognitive	Recall Level I	Must know	Lecture	SAQ	SAQ/Viva	

	Analysis		Know	effect on health	Describe the brain mechanisms responsible for states of happiness, joy and peace	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ	Anatomy
	Synthesis		Know		Discuss the effects of states of happiness, joy and peace on human systems	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	Physiology
	Holistic approach Self awareness		Knows		Explore the different mechanisms for maintaining a state of joy and peace	Affective	Receive Leve-I	Must know	Lecture	LAQ	LAQ	

	Information		Knows	Influence of Cultural on expressions of emotions	Enumerate the effects of different cultures on emotional expression	Cognitive	Recall level-I	Nice to know	Lecture	MCQ	MCQ/Viva	
	Holsitic approach		Knows		Discuss the implications of cultures affecting emotional expressions	Cognitive	Understand and interpret Level II	Nice to know	Lecture/Films	SAQ	SAQ/Viva	
	Information Analysis	Emotions and Homoeopathy	Knows	Representation of Emotions in the repertory	Illustrate the place of emotions in repertory	Cognitive	Understand and interpret Level II	Must know	Demonstration	DOPS	MCQ	Repertory
	Information Synthesis		Knows	Representation of emotions in Materia Medica	Illustrate the representation of emotions in Materia Medica	Cognitive	Understand and interpret Level II	Must know	Demonstration	DOPS	MCQ	Materia Medica

Semester 2 Topic 2 Understanding intellect and its representation in repertory and materia medica -I Attention, concentration and memory

Sr. No	Generic Competency	Subject area	Millers Know/ Knowhow/ Showhow/ Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summ-ative Assessment	Integration - Horizontal / Vertical / Spiral
	Information	Introduction to attention and concentration the underlying psycho-physiological mechanisms, regulation and	Knows	Definition of terms with psychophysiological mechanisms	Define attention and concentration	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ/ Viva	
	Information		Knows		Enumerate the brain regions which are involved in these functions	Cognitive	Recall Level I	Must know	Lecture with model	MCQ	MCQ/ Viva	Anatomy

	Information	applied aspects	Knows		Discuss the neural processes which are responsible for regulating attention and concentration	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	Physiology
	Information		Knows	Control over attention and concentration	Discuss the factors which affect attention and concentration	Cognitive	Understand and interpret Level II	Must know	Lecture	MCQ	MCQ/ Viva	
	Information		Knows		Realize the above processes in our daily life	Affective	Receive Level-I	Must know	Demonstration	-	-	

	Information		Knows		Discuss the different physical and psychological methods used for regulating attention and concentration	Cognitive	Understand and and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information	Applied aspects of attention	Knows	Application of attention and concentration	Discuss the effects of disturbed attention in childhood and adult life	Cognitive	Understand and and interpret Level II	Must know	Lecture Video	SAQ	SAQ/Viva	
	Information		Knows	Representation of attention and concentration	Identify the rubrics representi	Cognitive	Understand and and interpret Level II	Must know	Demonstration	DOPS	MCQ	

				in the repertory	ng attention and concentration in the repertory							
	Information		Knows	Reflection of attention in Materia Medica	Identify the reflection of attention and concentration in remedies	Cognitive	Understand and interpret Level II	Must know	Demonstration	SAQ	SAQ/Viva	
	Information	Memory types, processes and applied aspects	Knows	Types of Memory and processes	Enumerate the types of memory	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ	
	Information		Knows		Discuss the models of memory Information-processing	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	

					And neural network							
	Information Analysis		Know		Discuss the function of the types of memory in our daily lives	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information		Know	Factors affecting memory and their regulation	Enumerate the factors which affect different types of memories	Cognitive	Recall Level I	Must know	Lecture	MCQ	MCQ/ Viva	
	Information		Know how		Discuss different ways of assessing different types of memory	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	

	Information	Forgetting, its mechanisms and implications	Know	Forgetting, the types and the implications	Discuss the reasons for forgetting	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	
	Information Synthesis		Know how		Discuss ways of enhancing recall	Cognitive	Understand and interpret Level II	Must know	Lecture Demonstration	SAQ	SAQ/Viva	
	Information		Knows		Describe the state of memory with senescence	Cognitive	Recall Level I	Must know	Lecture	SAQ	SAQ/Viva	
	Information		Knows		Discuss the implications of loss of memory with advancing age	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/Viva	

	Information	Applied aspects of Memory	Knows	Memory changes	Describe ways in which memory can get distorted	Cognitive	Understand and interpret Level II	Nice to know	Lecture	-	-	
	Information		Knows		Discuss ways of reconstructing a lost memory	Cognitive	Understand and interpret Level II	Nice to know	Lecture	-	-	
	Information		Knows		Discuss the implications of the dangers of reconstruction of memory in our everyday life	Cognitive	Understand and interpret Level II	Nice to know	Lecture	-	-	
	Information	Homoeopathic	Knows	Representation of sharp and loss of	Identify the rubrics representi	psychomotor	Understand and	Must know	Demonstration	DOPS	MCQ	

		aspects of memory		memory in the repertory	ng memory issues in the repertory		interpret Level I					
	Information		Knows	Reflection of memory issues in Materia Medica	Identify the reflection of memory in remedies	Cognitive	Understand and interpret Level I	Must know	Demonstration	SAQ	SAQ/Viva	

Semester 2 Topic 3 Understanding intellect and its representation in repertory and materia medica -II Perception and Intelligence

Sr.No	Generic Competency	Subject area	Millers Know/ Know	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice	TL method / media	Formative Assessment	Summ -ative Assess ment	Integration - Horizontal / Vertical / Spiral

			how / Show how / Does					to know				
Hom UG-OM-2.2.1	Information collection	Discuss Perceptual organization	knows	Describe Perception and differentiate from sensations and thinking	Define Perception.	Cognition	Recall level I	Must know	Small group discussion	MCQ	MCQ	Horizontal Anatomy and Physiology
	Information organization				Relate perception to sensory processes and differentiate from thinking	Cognition	Understand and interpret Level II	Must know	Visual films	SAQ	SAQ	
Hom UG-	Synthesis		know	Genesis of perception and	Describe the Psychophy	Cognition	Understand and	Must know	Small group	MCQ	MCQ	

OM-2.2.2				importance of ground	siology of perception		interpret Level II		discussion			
Hom UG-OM-2.2.3	Information interpretation		Knows how	Dynamics of perception and perceptual errors	Describe the role of attention and state of the mind, depth, constancy, movement in Perception	Cognitive	Understand and interpret Level II	Must know	Small group activities	Observation	MCQ/ Viva	
Hom UG-OM-2.2.4	Information synthesis		Know		Explain the physiological and psychological basis for Perceptual errors.	Cognitive	Understand and interpret Level II	Desirable to know	Films and images	Project	MCQ/ Viva	
Hom UG-OM-2.2.5	Information synthesis		Know	Social perception and its impact on our lives	Discuss determinants of social perception	Cognitive	Understand and interpret Level II	Must know	Class room lecture	MCQ	LAQ/ SAQ	

	Self reflection		Know		Realize the effect of perception on interpersonal and community relationships	Affective	Receive Level I	Must know	Media and discussion	SAQ	SAQ/ Viva	
Hom UG-OM-2.2.6	Holistic approach		Knows	Gestalt perception and its importance to Homoeopathy	Observe gestalt perception	psycho motor	Observe/imitate Level II	Must know	Small group activity	Presentation performance	MCQ	
					Illustrate its importance to Homoeopathy in case taking	Cognitive	Understand and interpret Level II	Desirable to know	Visual films Demonstration in OPD/videos		LAQ	Horizontal/ Vertical with Organon
HOM UG OM 2.2.7	Synthesis		Knows	Applied aspects of Perception	Understand the perceptual difficulties of Dyslexia Know the phenomena of	Cognitive	Understand and interpret Level II	Must know	Caselets and visual graphics		SAQ/ Viva	Vertical integration Psychiatry

					hallucination							
HOM UG OM 2.2.8	Information management		Shows how	Perception in Repertory and Materia Medica	Derives rubrics and remedies related to perceptual phenomena	Cognitive	Unerstand Level II	Must know	Demonstrate	DOPS	SAQ / Viva	Horizontal integration Repertory and HMM
	Information	Intelligence and its measurement	Knows	Conceptual models of Intelligence	Define Intelligence	Cognitive	Recall level I	Must know	Lecture	MCQ	MCQ/ Viva	
	Analysis		Knows		Detail the different approaches to viewing Intelligence i. Multiple intelligences (Gardner) ii. Triarchic theory	Cognitive	Understand and interpret Level II	Nice to know	Lecture	SAQ	SAQ/ Viva	

					(Sternberg) iii. Fluid and Crystallized (Catell's) iv. PASS theory							
	Information		Knows	Measurement of Intelligence	Define Intelligence Quotient (IQ)	Cognitive	Recall level I	Must know	Lecture	SAQ	SAQ/ Viva	
	Information Analysis		Knows		Discuss the contribution of heredity and environment to intelligence	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/ Viva	
	Informaiton Analysis		Knows		Discuss the pros and cons of measurement of IQ	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ/ Viva	

	Information		Knows		Enumerate the methods of assessing intelligence	Cognitive	Recall level I	Nice to Know	Lecture	MCQ	MCQ/ Viva	
	Information	Intelligence as a force	Knows	Emotional intelligence and its uses	Define emotional intelligence	Cognitive	Recall level I	Must know	Lecture	MCQ	MCQ/ Viva	
	Information		Knows		Define the components of Emotional intelligence	Cognitive	Recall level I	Must know	Lecture	MCQ	SAQ/ Viva	
	System thinking and self awareness		Knows		Discuss the ways in which Emotional intelligence is useful to individuals and groups	Cognitive	Understand and interpret Level II	Must know	Lecture and discussion	LAQ	LAQ	
	Information		Knows	Creativity and its growth	Define creativity	Cognitive	Recall level I	Must know	Lecture	SAQ	SAQ/ Viva	
	Information		Knows		Illustrate the process	Cognitive	Understand and	Must know	Lecture			

	Systems thinking				of creativity		interpret Level II					
	Systems thinking		Knows		Discuss the ways in which creativity can be fostered	Cognitive	Understand	Must know	Lecture	SAQ	SAQ/ Viva	
	Information	Applied aspects of Intelligence	Knows	Extremes of intelligence	List the types of extreme intelligence on the Bell-shaped curve	Cognitive	Recall level I	Must know	Lecture	SAQ	SAQ/ Viva	
	Information Analysis		Knows		Discuss the special needs of the persons occupying the extremes of intelligence	Cognitive	Understand and interpret Level II	Nice to know	Lecture	SAQ	SAQ/ Viva	

	Information Analysis	Intelligence and Homoeopathy	Knows	Representation of Intelligence in the repertory	Illustrate the place of Intelligence in repertory	Cognitive	Understand and interpret Level II	Must know	Demonstration	DOPS	MCQ	Repertory
	Information Synthesis		Knows	Representation of intelligence in Materia Medica	Illustrate the representation of intelligence in Materia Medica	Cognitive	Understand and interpret Level II	Must know	Demonstration	DOPS	SAQ/ Viva	Materia Medica

Semester 2 Topic 4 Motivation, its types and its relevance for Homoeopath

Sr.No 10	Generic Competency	Subject area	Millers Know/ Know how/ Show how/ Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summ -ative Assessment	Integration - Horizontal / Vertical / Spiral

Hom UG-OM-2.10.1	Information collection	Motivation, the types and its role in daily living	Knows	Describe motivation	Define motivation	Cognitive	Recall level I	Must know	Class room lecture	MCQ	LAQ/SAQ	
Hom UG-OM-2.10.2	Information collection		Knows	Understand the nature and types of motivation	Enumerate the types of motivation	Cognitive	Recall level I	Must know	Class room lecture	MCQ	LAQ/SAQ	
Hom UG OM 2.10.3	Self reflection		Knows how		Recognize the types of motivation influencing our thinking and emotions	Affective	Receive level I	Must know	Audio-visual Discussion	SAQ	SAQ/Viva	
Hom UG-OM-2.10.4	Information Interpretation	Use of Maslow's model of motivation in our personal	Knows	Models of Motivation	Describe the Maslow's self-actualization model	Cognitive	Understand and interpret Level II	Must know	Small group discussion	Assignment	LAQ	

HOM UG OM 2.10.5	Self reflection and awareness	and professional lives	Knows how		Recognize the importance of the model in knowing human beings	Affective	Receive level I	Must know	Group discussion with caselets	Checklist	SAQ/Viva	
UG HOM 2.10.6	Synthesis	Utility of Motivation for a Homoeopath	Shows how	Reflection of motivation in Repertory and HMM	Derives rubrics and remedy images related to motivation	Cognitive	Understand and interpret Level II	Must know	Demonstrate	Checklist	MCQ	

Semester 2 Topic 5 Learning, its types and its relevance in daily functioning of Humans

Sr.No 8	Generic Competency	Subject area	Millers Know / Know how/	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summ -ative Assessment	Integration - Horizontal / Vertical / Spiral

			Show how/ Does									
Hom UG-OM-I.6.1	Information collection	Learning and adaptation	Knows	Define learning and its role in bringing about adaptation to change	Define learning and adaptation	Cognitive	Recall level I	Must know	Class room lecture	MCQ	LAQ / SAQ	
	Synthesis				Derive the relationship between the two	Cognitive	Understand and interpret Level II	Must know	Caselets	Caselets	Problem	
Hom UG-OM-I.6.2	Information collection	Learning forms and their implication for us	Knows	Forms of learning	Explain the three forms of learning viz. Classical conditioning, Instrumental conditioning and observational learning	Cognitive	Understand and interpret Level II	Must know	Class room lecture	Checklist	LAQ/SAQ	
Hom UG-	Holistic thinking		Does	Differentiate the forms or types of	Explain the significance of the above	Cognitive	Understand and	Must to know	Demonstration	Project	MCQ	

OM-I.6.3				learning and their significance	three forms in our daily lives		interpret Level II					
	Information		Know	Determinants of learning and their significance	Enumerate the various factors which determine the quality of learning	Cognitive	Recall level I	Must know	Lecture	MCQ	MCQ	
	Problem solving		Know how		Derive the ways in which these factors can be used for enhancing learning	Cognitive	Problem solving level II	Must know	Assignments	Caselets	SAQ / Viva	
	Analytical		Knows		Identify the factors which would inhibit learning and which would need to be attended to	Cognitive	Understand and interpret Level II	Must know	Assignment	SAQ	SAQ/Viva	
	Information		Knows	Know the methods of	List the methods whereby	Cognitive	Recall level I	Must know	Lecture	MCQ	MCQ/Viva	

		Assessment of learning		assessing learning	learning is assessed							
	Analytical				Evaluate the respective value of the different methods to assess learning	Cognitive	Problem solving level III	Must know	Assignment	SAQ	SAQ/Viva	
	Synthesis	Utility of Learning and adaptation for a Homoeopath	Shows how	Reflection of learning and adaptation in Repertory and HMM	Derives rubrics and remedy images related to learning and adaptation	Cognitive	Understand and interpret Level II	Must know	Demonstrate	DOPS	MCQ	

Semester 3 Topic 1 Evolution of Mind with Growth and Development: Normal developments since birth to maturity: physical and psychological

Sr.No	Generic Competency	Subject area	Millers Know/ Know	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know /	TL method / media	Formative Assessment	Summ-ative Assess	Integration - Horizontal /

			how/Show how/Does					nice to know			ment	Vertical / Spiral
	Information collection and analysis	Concept and process of Human Develop m	Knows	Discuss areas of human Growth and Development	Distinguish between Growth and Development	Cognitive	Interpret	Must know	Lecture	SAQ	SAQ/Viva	
Hom UG-OM-I.4.1	Information collection		Knows		List the three domains of development Physical, Cognitive and psychosocial development	Cognitive	Remember- level I	Must know	Class room Lecture	MCQ	LAQ / SAQ	
Hom UG-OM-I.4.2	Analytical		Knows how		Distinguish the characteristics of physical, cognitive and psychosocial development	Cognitive	Understand and interpret Level II	Must know	Small group discussion Charts / Models	Quiz True-false test items	LAQ/SAQ	

									Audio-visual aids			
	Analyitcal		Knows how	Discuss determinants of development	Distinguish between the contribution of nature and nurture in development	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
			Knows		Define the concept of developmental milestones in childhood	Cognitive	Recall	Must know	Lecture	MCQ	MCQ	
Hom UG-OM-I.4.3	Information Analytical	Devlopmental stages of Psychosexual, cognitive and psychosocial development	Knows how	Discuss the theories of cognitive and psychosocial development	Discuss the theory of psychosexual development as proposed by Freud	Cognitive	Understand and interpret Level II	Must know	Small group demonstration, peer group activities.	MCQ	MCQ	Horizontal integration with Anatomy, physiology
	Information Analytical		Knows how		Discuss the theory of cognitive developmen	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	

					t proposed by Piaget							
	Information Analytical		Knows how		Discuss the theory of psychosocial development of Erik Erikson	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information Analysis	Human Development across the Life span	Knows how	Discuss the development of the human being across the lifespan	Discuss the different stages of physical, emotional and cognitive development of childhood	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information Self reflection		Knows		Discuss parental styles appropriate to help optimal growth in childhood	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	

	Information Analysis		Knows how		Discuss the different stages of physical, psychosocial and cognitive development of adolescence	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information Self reflection		Knows how		Discuss the role of home, school and society on the development of the adolescent	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information Analysis		Knows how		Discuss the different stages of physical, psychosocial and cognitive development of adulthood	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Information Analysis		Knows how		Discuss the different stages of physical,	Cognitive	Understand and	Must know	Lecture	LAQ	LAQ	

					psychosocial and cognitive development of old age and senescence		interpret Level II					
	Information Self reflection and awareness	Significance of knowledge of Growth and Development for a homoeopath	Knows how	Discuss significance of growth and development in homoeopathy	Recognize the impact on knowledge of G and D in case taking	Affective	Receive level I	Must know	Lecture	LAQ	LAQ	Hor. with Organon
	Information Analysis		Knows		Identify the significance of knowledge of G and D in use of Repertory	Psycho motor	Imitation level I	Must know	Lecture	LAQ	LAQ	Hor. with Repertory
	Information Analysis		Knows		Locate the significance of knowledge of G and D in Homoeopathic Materia Medica	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	Hor. with HMM

Semester 3 Topic 2 Development of Personality, types, Traits, Temperament

Sr.No	Generic Competency	Subject area	Millers Know/ Know how/Show how/Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summ-ative Assessment	Integration - Horizontal / Vertical / Spiral
HomUG-OM-I.9.1	Information collection	Concept of Personality. Temperament and trait	Knows	Discuss the concept of personality	Define the concept of personality	Cognitive	Recall level I	Must know	Lecture with discussion	MCQ	SAQ/Viva	Concept to be discuss with Organon
	Information Synthesis		Knows	Discuss the concept of Temperament and its evolution	Discuss the concept of temperament and its relation to Body type	Cognitive	Understand and interpret Level II	Must know	Lecture	SAQ	SAQ	

Hom UG-OM-I.9.4	Information collection + Information Interpretation		Knows	Discuss the concept of traits and its utility	Describe the scientific concept of 'Traits' and their importance	Cognitive	Understand and interpret Level II	Must know	Lecture with case let discussion	MCQ	SAQ/Viva	Concept to be discuss with Organon
Hom UG-OM-I.9.5	Information collection Analysis Synthesis	Theories of Personality and developmental process	Knows	Discuss the Theories of Personality	Explain the following theories of personality 1. Biological 2. Behaviouristic 3. Learning 4. Humanistic proposed by various psychologists and their implications to a physician	Cognitive	Understand and interpret Level II	Desirable to know	Lecture with case discussion or suitable example	MCQ	SAQ/Viva	

Hom UG-OM-I.9.6	Information Holistic approach		Knows how	Discuss the development of Personality and factors determining it	Illustrate the process of personality development	Cognitive	Understand and interpret Level II	Desirable to know	Case scenario discussion	MCQ	SAQ	
Hom UG-OM-I.9.7	Information collection and Case Interpretation of data		Knows		Enumerate the Factors determining the Personality	Cognitive	Recall level I	Desirable to know	Case scenario discussion	MCQ	SAQ/Viva	
Hom UG-OM-I.9.9	Information Analysis Synthesis		Knows how	Assessment of personality	Describe the techniques of assessing Personality	Cognitive	Understand and interpret Level II	Nice to know	Case scenario discussion	MCQ	SAQ/Viva	
Hom UG-OM-I.9.10	Information collection	Personality and Homoeopathy	Knows	Implications of study of personality to	Discuss the relevance of concept of Personality to a homoeopath	Cognitive	Understand and interpret Level II	Must know	Discussion with case scenario	MCQ	LAQ	Hor with Organon

Hom UG-OM-I.9.11	Problem Solving		Knows	homoeopath	Discuss the relevance of studying Personality from the perspective of Materia Medica	Cognitive	Understand and interpret Level II	Desirable to know	Discussion with scenario	MCQ	LAQ	Hor with MM

Semester 3 Topic 3 Bio-Psycho-Social development of Human Being

Sr.No 7	Generic Competency	Subject area	Millers Know/ Know how/Show how/Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summ-ative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-OM-I.5.1	Information	Concept of Bio-Psycho-Social model for	Knows	Describe concept of Bio-Psycho-Social developm	Define the Bio-Psycho-Social model	Cognitive	Recall level I	Must know	Lecture	Ess	LAQ/ SAQ	Anatomy, Physiology

	Information Analysis Synthesis	holistic care	Knows	ent of Human Being	Illustrate how each of the constituent of the Bio-psycho-social model gives a more comprehensive understanding of a human being	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Holistic approach System based thinking		Knows how	Implications of the Bio-psycho-social approach	Discuss the significance of the Bio-psycho-social approach to a human being	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	
	Synthesis		Knows	Implications in homoeopathic care	Discuss the similarity between homoeopathic approach to a human being with Bio-psycho-	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	Hor with Organon

					social approach							
Hom UG-OM-I.5.5	Information Synthesis		Knows how	Discuss Socio cultural basis of Behavior	Defines the role of culture in shaping human behavior.	Cognitive	Recall level I	Must know	Small group discussion	Chart preparation Assignment	SAQ	

Semester 3 Topic 4 Concept of Stress-Conflict: their genesis, types and effects on the mind and body

Sr.No	Generic Competency	Subject area	Millers Know/ Know how/Show how/Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summ-ative Assessment	Integration - Horizontal / Vertical / Spiral
Hom UG-OM-	Information	Stress, Conflicts and	Knows	Discuss the Concept of	Define Stress	Cognitive	Remember and	Must know	Presentation	MCQ	LAQ	Observation in any departm

I.10.1	collection	Coping Mechanisms		Stress and types of stress			Recall Level I		with case let			ental OPD/ IPD
Hom UG-OM-I.10.2	Information and analysis		Knows		Classify the types of stress	Cognitive	Understand and interpret Level II	Must know	Presentation with case let	MCQ	LAQ	
Hom UG-OM-I.10.3	Information		Knows how		Identify the sources of Stress	Cognitive	Understand and interpret Level II	Must know	Presentation with case let	MCQ	SAQ/Viva	
Hom UG-OM-I.10.4	Organize the data		Knows how		Discuss the effect of Stresses on Mind and Body	Cognitive	Understand and interpret Level II	Desirable to know	Presentation with case let	MCQ	SAQ/Viva	
Hom UG-OM-I.10.5	Information		Knows	Concept of Conflict and types	Define Conflict	Cognitive	Recall level I	Must know	Presentation with case let	MCQ	SAQ/Viva	Observation in any departmental OPD/ IPD

Hom UG-OM-I.10.6	Information collection		Knows		State the stages of Conflict	Cognitive	Recall Level I	Must know	Presentation with case let	MCQ	SAQ/Viva	Observation in any departmental OPD/ IPD
Hom UG-OM-I.10.7	Organize the data		Knows how		Enumerate the types of Conflict	Cognitive	Recall Level I	Must know	Presentation with case let	MCQ	SAQ/Viva	Observation in any departmental OPD/ IPD
Hom UG-OM-I.10.8	Analysis Synthesis		Know	Describe the relationship between stress and conflict	Discuss the relationship between Stress and Conflict	Cognitive	Understand and interpret Level II	Desirable to know	Presentation with case let	MCQ	SAQ/Viva	Observation in any departmental OPD/ IPD
Hom UG-OM-	Information		Know	Discuss the concept of Coping Mechanis	Define Coping mechanism	Cognitive	Recall Level I	Must know	Presentation with case let	MCQ	SAQ/Viva	Observation in any departmental OPD/ IPD

I.10.9				ms and their use								
Hom UG-OM-I.10.10	Information		Knows how		Enumerate the types of Coping mechanisms	Cognitive	Recall Level I	Must know	Presentation with case let	MCQ	SAQ/Viva	Observation in any departmental OPD/ IPD
Hom UG-OM-I.10.11	Problem solving		Knows how		Discuss the utility of Coping mechanism while dealing with Stress	Cognitive	Understand and interpret Level II	Must know	Presentation with case let	MCQ	MCQ	Observation in any departmental OPD/ IPD
	Holistic approach System based thinking		Knows how	Discuss successful resoution of conflict	Evaluate the role of learning and adaptation in ensuring resolution of stress	Cognitive	Understand and interpret Level II	Must know	Lecture	LAQ	LAQ	

	Synthetic	Application of stress-conflict in Homoeopathy	Shows How	Exploring effects of stress-conflict in Homoeopathy	Explore the reflection of conflict in Hom Materia Medica	Cognitive	Problem solving III	Must know	Lecture	LAQ	LAQ	

Semester 3 Topic 5 Applied Psychology: Clinical, Education, Sports, Business and Industrial

Sr.No	Generic Competency	Subject area	Millers Know/ Know how/ Show how/ Does	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summ-ative Assessment	Integration - Horizontal / Vertical / Spiral

Hom UG-OM-I.11.1	Information Collection	Applied Psychology	Knows	Understand the application of Psychology in the different fields of Clinical, Education, Sports, Business, Industrial	Define the following terms in Applied Psychology viz Clinical, Business, Education, Sports, Industrial	Cognitive	Recall Level I	Must know	Discussion on the utility of the subject in multiple human resources areas	MCQ	SAQ	
	Information management		Knows		Illustrate the utility of subject Psychology in various fields	Cognitive	Understand and interpret Level II	Desirable to know	Library references	SAQ	SAQ/Viva	

Semester 3 Topic 6: Psychology and its importance in Homoeopathic practice for Holistic Management of the patient

	Generic Competency	Subject area	Millers Know/ Know how/	Specific competency	Specific Learning Objectives / Outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know /	TL method / media	Formative Assessment	Summ -ative Assessment	Integration - Horizontal /

			Show how/ Does					nice to know				Vertical / Spiral
	Systems thinking	Psychology and Homoeopathy for Holistic management	Knows	Summarizing the course of Psychology	Discuss the ways in which Psychology may contribute to the holistic management of the patient	Cognitive	Understand and interpret Level II	Must know	Lecture and discussion	LAQ	LAQ	

Teaching-Learning Methods

a. Classroom teaching
    i. Lecture
    ii. Demonstration
    iii. Group discussion
    iv. Problem based learning
b. Practical
    i. Psychometric tests
    ii. Facial recognition spotters

c. Individual learning
    i. Assignment
    ii. Short project -e.g. searching MM or Repertory for representation of emotions, thoughts and behaviour

V Practical – Lab work – Field – Clinical Hospital work

a. Journal club: a team of students to present the understanding of current development inpsychological aspects of every day events

b. Field work - Some survey for identification of psychological disturbance in Common Man
c. Clinical Hospital Work- Small project on psychometric tests.

VI No of Teaching Hours: Theory

Sr. No	Topic	No of lectures	Non-lectures
1.	Introduction to the study of Mind in Homoeopathy	3	-
2.	Psychological organization and the interrelationship of Thought (Cognition), Feelings (Affect) and Behaviour (Conation); Conscious and Unconscious elements	2	1
3.	Physiological basis of behaviour - the place of conditioned and unconditioned reflex	3	1
4.	Understanding Behavior and Functioning and expressions in Repertory and Materia Medica	4	2
5.	Understanding Emotion, its different definitions and expressions in Repertory and Materia Medica	5	3

6.	Understanding Intellect: Attention, memory and its function and expression in Repertory and Materia Medica	4	3
7.	Understanding Intellect: Perception and expressionsin Repertory and Materia Medica	3	2
8.	Understanding Intellect: Thinking, intelligence and its measurementand expressions in Repertory and Materia Medica	4	2
9.	Motivation and their types with role in our lives	2	2
10.	Learning and its place in adaptation	4	2
11.	Growth and development of Mind and its expressions from Infancy to old age	4	2
12.	Structure of Personality, the types, their assessment, relationship to Temperament and representation in Materia Medica	4	2
13.	Conflicts: their genesis and effects on the mind and body	3	1
14.	Applied Psychology: Clinical, Education, Sports, Business, Industrial	2	-
15.	Psychology and its importance in Homoeopathic practice	2	-
	Total	50	22

8. Assessment

8A- Number of papers and Mark Distribution

Sr. No.	Course Code	Papers	Theory	Practical	Viva Voce	Internal Assessment Practical	Grand Total
1	HomUG-OM-I	1	100	50	40	10	200

8B - Scheme of Assessment (formative and Summative)

Sr. No	**Professional Course**	**1st term (1-6 Months)**	**2nd Term (7-12 Months)**	**3rd Term (13-18 Months)**	
1	First Professional BHMS	First PA + 1ST TT	2nd PA+2ND TT	3rd PA	UE

PA: Periodical Assessment; TT: Term Test; UE: University Examinations

8 C - Evaluation Methods for Periodical Assessment

Sr. No	**Evaluation Dimensions**
1	Practical/Clinical Performance
2	Viva Voce, MCQs, MEQ (Modified Essay Questions/Structured Questions)
3	Open Book Test (Problem Based)
4	Reflective writing
5	Class Presentations; Work Book Maintenance

6	Problem Based Assignment
8	Co-curricular Activities, (Social Work, Public Awareness, Surveillance/ Prophylaxis Activities, Sports or Other Activities which may be decided by the Department).
9	Small Project

8 D - Paper Layout

Summative assessment:
Theory- 100 marks

Section –I-50 marks-Organon

MCQ	**5 marks**	**10min**
SAQ	**25 marks**	**50 min**
LAQ	**20 marks**	**30 min**

Section –II-50 marks- psychology

MCQ	**5 marks**	**10min**
SAQ	**25 marks**	**50 min**
LAQ	**20 marks**	**30 min**

8 E– I - Distribution of Theory exam

Sr. No	Paper			D Type of Questions "Yes" can be asked. "No" should not be asked.		
	A List of Topics	B Term	C Marks	MCQ (1 Mark)	SAQ (5 Marks)	LAQ (10 Marks)
1	Introductory Topics	I	Refer Next Table	Yes	Yes	No
2	Logic	I		Yes	Yes	No
3	§ 1 to 27 of Organon of medicine, § 105 to 145	I & II		Yes	Yes	Yes
4	The physician – purpose of existence, qualities, duties and knowledge	II		Yes	Yes	Yes
5	Vital force- dynamisation- homoeopathic cure- natures law of cure & its Implications- drug proving	II & III		Yes	Yes	Yes

8 E– II - Theme table-organon

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	Introductory Topics	I	10	Yes	Yes	No
B	Logic	I	05	Yes	Yes	No
C	§ 1 to 27 of Organon of medicine, § 105 to 145	I & II	25	Yes	Yes	Yes
D	The physician – purpose of existence, qualities, duties and knowledge	II	10	Yes	Yes	Yes

Theme table: -Psychology

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	Introduction to psychology	I	05	NO	Yes	No
B	Psychological organization of Mind –Structural and Functional	I	25	Yes	Yes	Yes
C	Growth and development	II	10	Yes	Yes	Yes
D	Personality development and stress management	III	05	NO	yes	no
E	Applied Psychology	III	05	No	Yes	no

8F Question paper Blue print :

Section one Organon

A **Question Serial Number**	**B** **Type of Question**	**Question Paper Format** **(Refer table 4 F II Theme table for themes)**
Q1	Multiple choice Questions (MCQ) 5 Questions 1 mark each All compulsory Must know part: 3 MCQ Desirable to know: 2 MCQ. Nice to know: 1 MCQ	Theme A Theme B Theme C Theme C Theme D
Q2	Short answer Questions (SAQ) 5 Questions 5 Marks Each All compulsory Must know part:5 SAQ	Theme A Theme B Theme C Theme C Theme D

	Desirable to know: Nil Nice to know: Nil	
Q3	Long answer Questions (LAQ) Two Questions 10 marks each All compulsory All questions on must know No Questions on Nice to know and Desirable to know	Theme C Theme D

Section Two: psychology

Section-II- Psychology -50 marks

Question Serial Number	**Type of Question**	**Question Paper Format** **(Refer table 4 F II Theme table for themes)**
Q1	All compulsory Multiple choice Questions (MCQ) 5 Questions -1 mark each Must know – 3MCQ Desirable to know-1 MCQ Nice to know -1 MCQ	Theme B +C
Q2	Short answer Questions (SAQ) 5 Questions 5 Marks Each All compulsory Must know part: 3 SAQ Desirable to know: 1 SAQ Nice to know: 1 SAQ	Theme A+B+C+D+E
Q3	Long answer Questions (LAQ) 2 Questions 10 marks each	Theme B+C

	All compulsory Must know part: 2 LAQ	

8 G - Distribution of Practical Exam

Practical 50 marks –

Organon: 25 marks

Viva voce	20 marks
Internal assessment	5 marks

Psychology: 25 marks

Viva voce	20 marks
Internal assessment	5 marks

9. References

I. Text book/s

1. Hahnemann S. Organon of medicine. 6ed (2016) New Delhi: Indian Book & Periodicals Publishers;.
2. Sarkar. B. K. Hahnemann's organon of medicine. (2014) Reprint ed. Birla Publications Pvt.Ltd;.
3. Roberts H. A. The principles and Art of cure by homoeopathy. student ed. (2014) New Delhi: B. Jain Publisher's (P) Ltd; 2006.
4. Kent J. T. Lecture's on homoeopathic philosophy. Reprint ed. New delhi: B Jain Publisher's (P) Ltd;

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Subject- Human Anatomy

Subject Code: Hom UG-AN

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1. PREAMBLE

Anatomy is a study of the structural organization and development of man from gross to cellular aspects along with exploring the interrelationship of different tissues, organs and systems.

An important aspect for the homoeopathic student to grasp is the essentially holistic approach emphasized by Hahnemann. From that perspective, study of anatomy is not a study of isolated organs, parts or tissues but that of a hierarchical system which is intimately interconnected and functions with a purpose of striking balance when in a state of adaptation. The subtle ways in which this balance is lost through a malfunctioning of the vital force needs to be appreciated. This can occur when anatomy is taught with applied anatomy in the background. This delivers an immediate clinical relevance in the mind of the student who is being simultaneously being exposed to clinical practice in the OPD and IPD.

While anatomy explores the structural organization of man, physiology gives us an understanding of the functional organization of the human being. These subjects, which are in reality the two sides of the coin, need to be taught interdependently. This enables the student to develop an insight into the essential interconnection of both in normal health and how both these alter when the disease process gets initiated in the system. This will also reduce the number of teaching hours due to avoiding duplication of information. While the clinical integration is taking place, homoeopathic connection is emphasized when the relevance of the Homoeopathic subjects being taught in the 1st year (Philosophy, Materia Medica, Pharmacy and Repertory), is simultaneously brought to the forefront and hence student centred teaching of the first BHMS year be achieved.

Advances in the understanding of tissues and cell structures which subsume functions of the organs and systems can afford a fertile area for exploring the action of drugs of Materia medica.

2. PROGRAMME OUTCOMES

At the end of BHMS program, a student must

1. Develop the competencies essential for primary health care in clinical diagnosis and treatment of diseases through the judicious application of homoeopathic principles

2. Recognize the scope and limitation of homoeopathy and to apply the Homoeopathic Principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community.

3. Discern the relevance of other systems of medical practice for rational use of cross referral and life saving measures, so as to address clinical emergences

4. Develop capacity for critical thinking and research aptitude as required for evidence based homoeopathic practice.

5. Demonstrate aptitude for lifelong learning and develop competencies as and when conditions of practice demand.

6. Be competent enough to practice homoeopathy as per the medical ethics and professionalism.

7. Develop the necessary communication skills to work as a team member in various healthcare setting and contribute towards the larger goals of national policies such as school health, community health, environmental conservation.

8. Identify and respect the socio-demographic, psychological, cultural, environmental & economic factors that affect health and disease and plan homoeopathic intervention to achieve the sustainable development Goal.

3. COURSE OUTCOMES

At the end of the course, I BHMS student must be able to-

1. Discuss the evolution of life and the developmental anatomy and genetics of human.
2. Explain the ethics of Anatomy, such as Anatomy act, Body donation & receiving procedure and its legal aspects, develop respect to the human cadaver.
3. Differentiate the structural organization of man from micro to macro and its evolution from embryo
4. Correlate the structural organization of man with functional organization and its applied aspect
5. Apply anatomy knowledge to achieve vertical integration with clinical subjects
6. Correlate structural organization of man with homeopathic philosophy and concept of man, Homoeopathic Materia Medica, Repertory and Pharmacy.
7. Correlate structural organization in interpreting different investigations

4. TEACHING HOURS

Sr No.	Subject	Theoretical Lecture	Practical / Tutorial / Seminar / Clinical Posting
01	Anatomy	325 hrs.	330hrs.

TEACHING HOURS (THEORY)

Sr. No	**Paper-I**		
	A **List of Topics**	**B** **Term**	**C** **Teaching Hours**
1	General Anatomy	I	20
2	Head, Neck & Face	II	40
3	Central Nervous System	II	40
4	Upper Extremities	I	50
5	Embryology	I	25

Sr. No	Paper-II		
	A **List of Topics**	**B** **Term**	**C** **Teaching Hours**
1	Thorax	II	25
2	Abdomen & Pelvis	III	55
3	Lower Extremities	III	50
4	Histology	I	20

TEACHING HOURS (PRACTICAL)

Sr. No			
	A **List of Topics**	**B** **Term**	**C** **Teaching Hours**
1	Head, Neck & Face	II	24
2	Central Nervous System	II	18

3	Upper Extremities	I	72
4	Thorax	II	48
5	Abdomen & Pelvis	III	66
6	Lower Extremities	III	72
7	Histology	I	18
8	Embryology	I	12

5. COURSE CONTENT (THEORY)

Syllabus Planning:

(a) Syllabus should start with revision of some of important topics of BIOLOGY- (To connect Biology to Medical Science) Origin of Earth-Environment - Origin of LIFE-Evolution of Human Lives.
(b) The complete course of Human Anatomy should be subdivided in number ofmodules-according to topics/region/system.
(c) Syllabus of other subjects of same year should plan out where the maximum integration (Vertical & Horizontal) of topics is possible.
(d) Theory/Practical/Tutorial/Clinical posting should be arranged in parallel.
(e) Integrated Syllabus planning of whole year should be briefed to clinician where clinical postings are going to be arranged for application of classroom knowledge to clinical knowledge.
(f) Each module should be planned according to the need of system-Co-relation with Homoeopathy & time dimension. (No. of hours)
(g) At the end of each module knowledge should be assessed by arranging joint seminars.(Application of classroom knowledge to practical understanding)

A. Theory:-

The curriculum includes the following from an introductory stage which would include

1. Anatomy Act
2. Body donation procedure and its legal aspects.
3. Develop respect to the human cadaver, empathy towards diseased and sense of gratification for the voluntary body donors and their families
4. Anatomy and Ethics

The rest of the contents have been detailed below:

1. General Anatomy: -

1.1 Modern concepts of cell and its components; cell division, types with their significance.

1.2 Tissues- Theory & demonstration of each basic Tissue (Structure, Location & Function)-Organ formation- Histology.

1.3 Genetics

1.4 Basics of General Anatomy-

i. Definition & Subdivision of Anatomy
ii. History of Anatomy
iii. Anatomical Terms, Position & Movements
iv. Superficial and Deep fasciae
v. Muscles
vi. Bones
vii. Joints
viii. Blood vessels
ix. Lymphatic system
x. Nerves

2. Developmental anatomy (Embryology): -

2.1 Male & Female reproductive organs (Superficial)

2.2 Spermatogenesis
2.3 Oogenesis
2.4 Fertilization
2.5 Formation of Germ Layers-Tissue formation & its classification
2.6 Notochord
2.7 Yolk Sac
2.8 Amniotic Sac
2.9 Developmental embryogenic disk
2.10 Placenta
2.11 Development of abdominal organ
2.12 Development of cardio vascular system
2.13 Development of nervous system
2.14 Development of respiratory system
2.15 Development of body cavities
2.16 Development of uro-genital system

3. Regional or systemic anatomy:

Each of the areas below will cover: -

(a) Osteology
(b) Syndesmology (Joints)
(c) Myology
(d) Angiology
(e) Neurology
(f) Splanchnology (Viscera and Organ)
(g) Histology
(h) Surface anatomy

(i) Applied anatomy
(j) Radiographic anatomy
(k) Correlation with homoeopathic subjects

This will be taught under the following regions: -

3.1 Upper and Lower extremities
3.2 Head, Neck and Face
3.3 Brain- CNS
3.4 Thorax- Respiratory & Cardio vascular system

3.5Abdomen- GIT, Metabolism, Excretory, RE system, Lymphatics & Reproductive

Practical – Lab work – Field – Clinical Hospital work

1. Dissection of whole Human Body, Demonstration of dissected parts.- Small group discussion
2. Identification of histological slides, related to tissue & Organs. -Microscope/OHP slides
3. Students shall maintain Practical-Dissection & Histology record and clinical journals

THEORY

Sr. No.	Topics	Hrs	Term
1	**GENERAL ANATOMY**		I

	3.5 Modern concepts of cell and its components; cell division, types with their significance	2	
	1.1 Tissues- Theory & demonstration of each basic Tissue (Structure, Location & Function)-Organ formation- Histology	2	
	3.6 Basics of General Anatomy- xi. Definition & Subdivision of Anatomy xii. History of Anatomy xiii. Anatomical Terms, Position & Movements xiv. Superficial and Deep fasciae xv. Muscles xvi. Bones xvii. Joints xviii. Blood vessels xix. Lymphatic system xx. Nerves	 2 1 1 1 2 2 2 1 1 1	

	1. Anatomy – Physiology Seminar on cell	1	
	2. Anatomy – Physiology Seminar on Musculoskeletal System	1	
	Total Hours	**20 hrs**	
2	**EMBRYOLOGY & GENETICS**		I
	1. Developmental anatomy (Embryology): - 1.1 Male & Female reproductive organs (Superficial) 1.2 Spermatogenesis 1.3 Oogenesis 1.4 Fertilization 1.5 Formation of Germ Layers-Tissue formation & its classification 1.6 Notochord 1.7 Yolk Sac 1.8 Amniotic Sac 1.9 Developmental embryogenic disk 1.10 Placenta 1.11 Development of abdominal organ	 2 1 1 1 3 1 1 1 2 1	

	1.12 Development of cardio vascular system 1.13 Development of nervous system 1.14 Development of respiratory system 1.15 Development of body cavities 1.16 Development of uro-genital system	1 2 2 2 2 2	
	Total Hours	**25 hrs**	
3	**HISTOLOGY**		I
	1. Modern concept of cell, tissue & systemic structure	1	
	2. Connective tissue	1	
	3. Histology lectures-General	3	
	4. Epithelial tissue	1	
	5. Nervous tissue	1	
	6. Histology lectures of specific organs	13	
	Total Hours	**20 hrs**	
4	**UPPER LIMB**		I

	1. Brachial plexus	2	
	2. Mammary Gland	2	
	3. Shoulder Joint	2	
	4. Median nerve and wrist joint	2	
	5. Muscles of scapular region	2	
	6. Muscles of shoulder region	2	
	7. Back and Intermuscular spaces around scapula	2	
	8. Arm- Post. Aspect	1	
	9. Radial nerve	2	
	10. Forearm – superficial extensor	2	
	11. Forearm- Deep extensor	2	
	12. Elbow joint	2	
	13. Radioulnar joint	1	
	14. Extensor retinaculum	1	
	15. Ulnar nerve	2	
	16. Hand- post. Aspect	2	
	17. Pectoral region	2	

	18. Arm- Ant. Aspect	2	
	19. Musculocutaneous nerve	1	
	20. Cubital fossa	1	
	21. Forearm- superficial flexors	2	
	22. Forearm- deep flexors	2	
	23. Median nerve	2	
	24. Flexor retinaculum	1	
	25. Brachial, Ulnar & Radial artery	3	
	26. Venous drainage of upper limb	2	
	27. Anatomy – Physiology Seminar on nerves of upper limb & nervous system	1	
	28. Integrated lecture with Surgery on Joints of Upper limb	1	
	29. Tutorial	1	
	Total Hours	**50 hrs**	
5	**LOWER LIMB**		III
	1. Introduction to lower limb	1	

	2. Hip Joint	2	
	3. Knee Joint	2	
	4. Arches of foot	2	
	5. Sacral Plexus	1	
	6. Gluteal region	2	
	7. Back of thigh	2	
	8. Sciatic nerve	2	
	9. Popliteal fossa	2	
	10. Lat. Compartment of leg	2	
	11. Post. Compartment of leg	2	
	12. Femoral, popliteal & tibial artery	3	
	13. Ankle joint	2	
	14. Peroneal nerve	2	
	15. Median compartment of thigh	2	
	16. Obturater nerve	1	
	17. Femoral Triangle	2	

	18. Front of thigh& Tensor Fascia Lata	3	
	19. Femoral vessels	2	
	20. Ant. Compartment of leg	2	
	21. Venous drainage of lower limb	2	
	22. Saphenous vein	2	
	23. Retinaculum (Lat., Ant. & medial)	2	
	24. Sole of foot	2	
	25. Femoral nerve	1	
	26. Anatomy – Physiology Seminar on nerves of lower limb & nervous system	1	
	27. Integrated lecture with Surgery on Joints of Lower limb	1	
	28. Tutorial	1	
	Total Hours	**50 hrs**	
6	**THORAX**		II
	1. Introduction to thorax	1	

	2. Development of Heart and lung	2	
	3. Pericardium and Heart	2	
	4. Coronary circulation	1	
	5. Lungs and pleura	3	
	6. Trachea	1	
	7. Oesophagus	1	
	8. Thoracic duct	1	
	9. Diaphragm	1	
	10. Aorta	2	
	11. Mediastinum	2	
	12. Azygous vein	1	
	13. Sup. Vena cava	1	
	14. Inf. Vena cava	1	
	15. Integrated lecture with Surgery on Radiology of Thorax	1	
	16. Anatomy – Physiology Seminar on Respiratory System	1	

	17. Tutorial	1	
	18. Anatomy – Physiology Seminar on Cardiovascular System	1	
	19. Revision	1	
	Total Hours	**25 hrs**	
7	**ABDOMEN**		III
	1. Introduction to Abdomen	1	
	2. Development of Abdominal organs	2	
	3. Oesophagus	1	
	4. Stomach	2	
	5. Duodenum	1	
	6. Small intestine	2	
	7. Revision	2	
	8. Caecum	1	
	9. Appendix	1	
	10. Large intestine	2	
	11. Rectum	2	

	12. Anal canal	1	
	13. Liver	2	
	14. Abdominal aorta	1	
	15. Female genital system	4	
	16. Post. Abdominal wall	2	
	17. Male reproductive system	2	
	18. Ant. Abdominal wall	2	
	19. Pancreas	2	
	20. Gall Bladder	1	
	21. Spleen	2	
	22. Kidney	2	
	23. Supra renal gland	1	
	24. Ureter	1	
	25. Urinary bladder	2	
	26. Pelvic diaphragm	1	
	27. Portal venous system	1	
	28. Peritoneum	2	
	29. Extrahepatic biliary apparatus	2	

	30. Walls of pelvis	1	
	31. Revision	6	
	Total Hours	**55 hrs**	
8	**HNF**		II
	1. Introduction to HNF	1	
	2. Ear	1	
	3. Tongue	1	
	4. Face- muscles	2	
	5. Contents of Orbit	1	
	6. Lachrymal apparatus	1	
	7. Extraocular muscles	2	
	8. Ant. Triangle of neck	2	
	9. Post. Triangle of neck	1	
	10. Common & Internal carotid artery	1	
	11. External carotid artery	1	
	12. Sternocleidomastoid muscle	1	
	13. Fascias of neck	1	

	14. Suboccipital triangle of neck	1	
	15. Contents of vertebral canal	1	
	16. Cranial cavity	2	
	17. Supra &Infra hyoid muscle	1	
	18. Vertebral artery	1	
	19. Scalp	1	
	20. Eyeball	2	
	21. Oral cavity	1	
	22. Pharynx	2	
	23. Larynx	2	
	24. Eustachian tube	1	
	25. Parotid gland	1	
	26. Submandibular gland	1	
	27. Thyroid gland	1	
	28. Muscles of mastication	1	
	29. Jugular vein	1	
	30. Lateral wall of Nose	1	
	31. Revision	3	

	Total Hours	**40 hrs**	
9	**CNS**		II
	1. Introduction to Brain	1	
	2. IIIrd Ventricle and IVth Ventricle	2	
	3. Pons	2	
	4. Medulla	2	
	5. Spinal cord	1	
	6. Lateral Ventricle	1	
	7. Cerebrum Sulci & gyri	2	
	8. Areas of cerebrum	2	
	9. Corpus callosum	1	
	10. White matter of cerebrum	1	
	11. Internal capsule	1	
	12. Basal ganglia	1	
	13. Midbrain	1	
	14. Blood supply of brain	1	
	15. Meninges	1	

	16. CSF	1	
	17. Thalamus	1	
	18. Cerebellum	2	
	19. Cranial nerves including special senses.	12	
	20. Revision	4	
	Total Hours	**40 hrs**	

Total – 325 hrs

PRACTICAL

Sr. No.	**Topics**	**Hrs**	**Term**
1.	**EMBRYOLOGY & GENETICS**		I
	Stages of Development	12	
	Spermatogenesis, Oogenesis and Germ layers.		
	Development of Embryogenic Disc, Placenta		
	Embryology of organs		
	Total Hours	**12 hrs**	

2	**HISTOLOGY**		I
	Histology lectures of specific organs	18	
	Total Hours	**18 hrs**	
3	**UPPER LIMB**		I
	Practicals		
	Clavicle	6	
	Scapula	6	
	Humerus	6	
	Radius	6	
	Ulna	6	
	Hand	6	
	Surface Marking of Upper limb	6	
	Dissection		
	Axilla & Arm	6	
	Forearm & Hand	6	
	Muscles of Back	6	
	Muscles of Pectoral Region	6	
	Radiology		

	Joints of Upper limb	6	
		72 hrs	
4	**LOWER LIMB**		II
	Practicals		
	Hip Bone	6	
	Femur	6	
	Tibia	6	
	Fibula	6	
	Foot	6	
	Surface Marking of Lower limb	6	
	Dissection		
	Femoral Region	6	
	Gluteal Region	6	
	Thigh	6	
	Leg	6	
	Foot	6	
	Radiology		
	Joints of Lower limb	6	

		72 hrs	
5	**THORAX**		III
	Practicals		
	Ribs – Typical & Atypical	6	
	Thoracic Vertebrae	6	
	Sternum	6	
	Dissection		
	Heart	6	
	Mediastinum	6	
	Lungs	6	
	Surface Marking of thorax	6	
	Radiology	6	
	Total Hours	**48 hrs**	
6	**ABDOMEN**		II
	Practical		
	Lumbar Vertebrae	6	
	Dissection		
	Abdominal cavity, Abdominal vessels	6	

	Stomach, Pancreas, Spleen	6	
	Relation of viscera	6	
	Liver, Gall bladder	6	
	Kidney, Ureter, Urinary bladder	6	
	Peritoneum & Intestine	6	
	Uterus, fallopian tubes, Ovaries	6	
	Ant. Abdominal wall & Post. Abdominal wall	6	
	Surface Marking of Abdomen	6	
	Radiology	6	
		66 hrs	
7	**Head, Neck and Face**		III
	Practical		
	Skull & Mandible	12	
	Dissection		
	Face & Neck	6	
	Radiology	6	
		24 hrs	
8	**CNS**		III

	Cerebrum	6	
	Cerebellum	6	
	Midbrain, Pons & Medulla	6	
		18 Hrs	

Total – 330 Hrs

6. TEACHING LEARNING METHODS

General Instructions

(a) Instructions in anatomy should be so planned as to present a general working knowledge of the structure of the human body both at micro and macro level and should correlate with function. Topics-syllabus should be planned out in parallel with other subjects for better understanding & to achieve integration.

(b) The amount of detail which a student is required to memorise should be reduced to the minimum but should connect to syllabus of other subjects and applied anatomy

(c) Major emphasis should be laid on functional anatomy of the living subject rather than on the static structures of the cadaver and on general anatomical positions and broad relations of the viscera, muscles, blood vessels, nerves and lymphatics and study of the cadaver is the only means to achieve this

(d) Students should know the basic applied anatomy & should not be burdened with minute anatomical details which have no clinical significance.

(e) Only such details which have professional or general educational value for the Homoeopathic medical students need to be focused.

(f) Normal radiological anatomy may also form part of practical or clinical training and the structure of the body should be presented linking functional aspects.

(g) A good part of theoretical lectures on anatomy can be transferred to tutorial classes with the demonstrations / Prosection / Dissection.

(h) Lectures or demonstration on the clinical and applied anatomy should be arranged in the later part of the course and it should aim at demonstrating the anatomical basis of physical signs and the value of anatomical knowledge to the students. For better exposure of applied & Clinical aspects of all the subjects, student should be allotted clinical posting at various OPDs/Clinical Pathology lab/Radiology/Dispensing/ Community OPDs/Causality etc

(i) Seminars and group discussion to be arranged periodically with view of presenting these subjects in an integrated manner.

(j) More stress on demonstrations and tutorials should be given. Emphasis should be laid on the general anatomical positions and broad relations of the viscera, muscles, blood vessels, nerves and lymphatics.

(k) There should be joint seminars with the departments of Physiology and Bio-Chemistry, Repertory, HMM, Philosophy and Pharmacy which should be organized once a month considering that syllabus of all the subjects is arranged in an integrated form.-Teaching tool can be a CASE (Clinical Posting) which students have attended.

(l) There should be a close correlation in the teaching of gross Anatomy, Histology, Embryology and Genetics and the teaching of Anatomy, Physiology including Bio Chemistry along with Homoeopathic subjects shall be integrated.

Though dissection of the entire body is essential for the preparation of the student for his clinical studies, the burden of dissection can be reduced and much saving of time can be effected with considerable reduction of the amount of topographical details while following the above points-

The purpose of dissection is to give the student an understanding of the body-Structure from Macro to Micro correlate to its function- Functional anatomy to integrate with Physiology and the dissection should be designed to achieve this goal.

(v) Dissection should be preceded by a course of lectures on the general structure of the organ or the system under discussion and then its function. In this way anatomical and physiological knowledge can be presented to students in an integrated form and the instruction of the whole course of anatomy and physiology made interesting, lively practical or clinical. Syllabus of all the subjects of First BHMS should be structured to run parallelly, horizontally & vertically as far as possible to achieve maximum integration.

Students should be able to identify anatomical specimens and structures displayed in the dissection. Teaching and Demonstration methods should be supported with latest software/Practical/Charts/OHP/slides/Working or 3D Diagrams, Audio-Visual/ Multimedia presentation/Simulation to train clinical application

The Teaching Learning activities in Anatomy requires change in structure & process in order to be more skill based & providing hands on experience. The Teaching Learning methods with respect to Anatomy may be covered in the following manner –

a) **Class Room Lectures** – Oral Presentation, Board Work, Power point Presentation.

b) **Tutorials** on the topics covered.

c) **Assignments –** For Slow Learners

d) **Practical Class** – Demonstration, Dissection, Surface Marking, Histology, Radiology

e) **Student Activities –** Working out the Assignments, Projects, PowerPoint presentations as assigned

f)**Case based Learning &Problem Based Learning (CBL & PBL)-** for students to understand the application of knowledge of Anatomy with Clinical subjects.

g)**DOAP (Demonstration – Observation – Assistance – Performance)-** For Clinical Anatomy

7. CONTENT MAPPING (COMPETENCY TABLE)

Content (Topic) List:

1 Theory:-

The curriculum includes the following from an introductory stage which would include

1. Anatomy Act
2. Body donation procedure and its legal aspects.
3. Develop respect to the human cadaver, empathy towards diseased
4. sense of gratification for the voluntary body donors and their families
5. Anatomy and Ethics

The rest of the contents have been detailed below:

1. General Anatomy: -

1.1 Modern concepts of cell and its components; cell division, types with their significance.

1.2 Tissues- Theory & demonstration of each basic Tissue (Structure, Location & Function)-Organ formation- Histology.

1.3 Genetics

1.4 Basics of General Anatomy-

xxi. Definition & Subdivision of Anatomy
xxii. History of Anatomy
xxiii. Anatomical Terms, Position & Movements
xxiv. Superficial and Deep fasciae
xxv. Muscles
xxvi. Bones
xxvii. Joints
xxviii. Blood vessels
xxix. Lymphatic system
xxx. Nerves

2. Developmental anatomy (Embryology): -
   - 2.1 Male & Female reproductive organs (Superficial)
   - 2.2 Spermatogenesis
   - 2.3 Oogenesis
   - 2.4 Fertilization
   - 2.5 Formation of Germ Layers-Tissue formation & its classification
   - 2.6 Notochord
   - 2.7 Yolk Sac
   - 2.8 Amniotic Sac
   - 2.9 Developmental embryogenic disk
   - 2.10 Placenta
   - 2.11 Development of abdominal organ
   - 2.12 Development of cardio vascular system
   - 2.13 Development of nervous system
   - 2.14 Development of respiratory system
   - 2.15 Development of body cavities
   - 2.16 Development of uro-genital system

3. Regional or systemic anatomy:

   Each of the areas below will cover: -

   (l) Osteology
   (m) Syndesmology (Joints)
   (n) Myology
   (o) Angiology
   (p) Neurology
   (q) Splanchnology (Viscera and Organ)

(r) Histology
(s) Surface anatomy
(t) Applied anatomy
(u) Radiographic anatomy
(v) Correlation with homoeopathic subjects

This will be taught under the following regions: -

3.1 Upper and Lower extremities- Muscle Physiology
3.2 Blood
3.3 Head, Neck and Face-
3.4 Endocrine & Exocrine system
3.5 Brain- CNS system
3.6 Thorax- Respiratory & Cardio vascular system
3.7 Abdomen- GIT, Metabolism, Excretory, RE system, Lymphatics & Reproductive

Semester I

1. **Topic: General Anatomy**

Learning Outcomes (LO): At the end of general anatomy, I-BHMS student must:

1. Describe the structure of a cell, its components and their function.
2. Classify the different types of cells in order to identify and differentiate different cell types.
3. Illustrate the different types of tissues and organs with respect to their cell structure, location and function.
4. Differentiate different types of tissues and organs based on their histological characteristics
5. Mention the drugs indicated for particular tissue/organ involvement.

6. Classify bones, muscles, joints
7. Recall the terminologies used in Anatomy.
8. Practice Ethics related to the learning of Anatomy.

Sr.No.	Generic Competency	Subject Area	Millers Knows/Knows how/ Shows how/ Does	Specific Competency	Special learning objectives	Blooms Domain	Guilberts level	Must know/ Desire to know/ Nice to know	TL Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical/ Spiral
Hom UG-AN-1.1	Problem formulation Integration of Knowledge Information	eneral natomy	Knows	1.Describe structural organization of the cell, tissue, organ, organ system. 2.Differentiate and Identify	Define the terms cell, tissue, organ, organ system	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions.	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Anatomy – Physiology Seminar
Hom UG-AN-1.2			Knows how		Explain the structure of a cell with respect to its components with their functions.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Anatomy – Physiology Seminar

	gathering Practical Skills			cell, tissue, organ, and organ system								
Hom UG-AN-1.3			Knows		Enumerate the different types of cells.	Cognitive	Level 1 (Remember/ recall)	Desirable to Know	Lecture, Small Group Discussions	MCQ, SAQ.	MCQ, SAQ. Viva Voce	Anatomy – Physiology Seminar
Hom UG-AN-1.4	Information management synthesis		Knows how		Explain the characteristic features of different normal cell lines.	Cognitive	Level2 Understanding and Interpretation	Desirable to Know	Lecture, Small Group Discussions	SAQ	MCQ, SAQ. Viva Voce	Anatomy – Physiology Seminar

Hom UG-AN-1.5			Knows how		Differentiate the given normal cell lines	Cognitive	Level2 Understanding and Interpretation	Desirable to Know	Histology Practical	Practical	MCQ, SAQ. Viva Voce	
Hom UG-AN-1.6			Knows		Enumerate the different types of tissues and organs	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	MCQ, SAQ	MCQ, SAQ. Viva Voce	Anatomy – Physiology Seminar
Hom UG-AN-1.7			Knows how		Explain the structure of each tissue with respect to its cell structure, location and function.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions	SAQ	MCQ, SAQ. Viva Voce	Anatomy – Physiology Seminar

Hom UG-AN-1.8			Knows how		Differentiate the given types of tissues.	Cognitive	Level2 Understanding and Interpretation	Must Know	Histology Practical	Spotting-Histology Practical, OSPE	MCQ, SAQ. Observation checklist, Viva Voce	
Hom UG-AN-1.9			Knows	Correlate the Knowledge of same with Homoeopathy.	Enumerate the drugs indicated for a particular type of tissue, organ, organ system	Cognitive	Level 1 (Remember/ recall)	Nice to Know	Integrated teaching with Materia Medica	MCQ, SAQ,	MCQ, SAQ Viva Voce	Integrated teaching with Materia Medica
Hom UG-AN-1.10			Knows how	Explain and classify bones, muscles, joints.	Explain the Types and Classification of bones, muscles, joints	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions	MCQ, SAQ, Assignments,	MCQ, SAQ Viva Voce	Integrated lecture with Surgery.

Hom UG-AN-1.11			Shows how	Demonstrate the terminologies of Anatomy	Demonstratenormalanatomicalposition,variousplanes,relation,comparison,laterality&movementinourbody	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture ,DOAP session	MCQ, SAQ, Assignments,	MCQ, SAQ Viva Voce	
Hom UG-AN-1.12			Knows how	Explain the Ethics of Anatomy	Explain the Anatomy Act	Cognitive and Affective	Level 1 (Remember/ recall)	Nice to Know	Lecture , Small Group Discussions	Assignments	MCQ, SAQ Viva Voce	

2. Topic: Developmental Anatomy (Embryology)

Learning Outcomes (LO): At the end of embryology, I-BHMS student should be able to:

1. Describe evolution of life on earth and the developmental anatomy and genetics.
2. Explain the structural organization of man from micro to macro and its evolution from embryo
3. Explain the evolution of different organs and systems from the embryo.
4. Enumerate the homoeopathic drugs indicated for particular genetic or developmental defect.

Sr.No.	Generic Competency	Subject Area	Millers Knows/Knows how/ Shows how/Does	Specific Competen	Special learning objectives	Blooms Domain	Guilberts level	Must know / Desire to know / Nice to know	TL Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical / Spiral
Hom UG-AN-2.1	Integration of Knowledge Information gathering Information manage	Developmental Anatomy (Embryology)	Knows	Describe in detail the developmental Anatomy of the male and female reproductive organs	Define Darwin's Theory of evolution.	Cognitive	Level 1 (Remember/ recall)	Nice to know	Lecture, Small Group Discussions	MCQ, Assignments.	MCQ, SAQ Viva Voce	

	ment synthesis											
Hom UG-AN-2.2			Knows how		Explain the normal human reproductive cycle in males and females and the genetics involve	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions	MCQ, Assignments	MCQ, SAQ Viva Voce	Anatomy – Physiology Seminar
Hom UG-AN-2.3			Knows how		Explain the developmental anatomy of the	Cognitive	Level2 Understanding and Interpretation	Desirable to know	Lecture, Small Group Discussions	MCQ, Assignments	MCQ, SAQ Viva Voce	Anatomy – Physiology Seminar

					male and female reproductive organs and their functions.							
Hom UG-AN-2.4			Knows		Enumerate the different germ layers	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions, Histological identification, Models/Specimens of embryonic development	MCQ, Assignments,	MCQ SAQ Viva Voce	Anatomy – Physiology Seminar, Integrated teaching with Gynaecology and Obstetrics

Hom UG-AN-2.5			Knows how		Explain the development of the organ and organ system.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions	MCQ, Assignments	MCQ SAQ Viva Voce	Anatomy – Physiology Seminar,
Hom UG-AN-2.6			Knows how		Explain the developmental anatomy of embryo.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions	MCQ, SAQ, Assignments	MCQ SAQ Viva Voce	Integrated teaching with Gynaecology and Obstetrics
Hom UG-AN-2.7			Knows	Correlate knowledge developme anatomy with homoeopa	Enumerate the drugs indicated for a particular type of genetic or	Cognitive	Level 1 (Remember/ recall)	Nice to know.	Integrated teaching with Materia Medica	MCQ, Assignments, Viva Voce	MCQ SAQ Viva Voce	Integrated teaching with Materia Medica

					develop mental defect							

3. Topic: Upper Extremities

Learning Outcomes (LO): At the end of Upper Extremities, I-BHMS student should be able to:

1. Describe the anatomy of the bones of the upper extremities, their blood supply and applied anatomy.

2. Describe anatomy of the joints of the upper extremities, their blood supply, action and applied anatomy.

3. Describe the muscles of the upper extremities, their origin, insertion, nerve supply, action and applied anatomy.

4. Explain anatomy of the vessels and nerves of the upper extremities, their course, muscles they supply, relations and applied anatomy.

5. Describe the anatomy of mammary gland with its applied anatomy.

6. Describe the anatomy of axilla.

6. Enumerate homoeopathic drugs indicated for particular involvement of bones, muscles, joints, nerves, blood vessels.

Sr.No.	Generic Competency	Subject Area	Millers Knows/Knows how/ Shows how/ Does	Specific Competency	Special learning objectives	Blooms Domain	Guilberts level	Must know / Desire to know / Nice to know	TL Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical/ Spiral
Hom UG-AN-3.1	Problem formulation Integration of Knowledge Information	Upper Extremities	Knows	Describe the anatomy of upper extremities in detail.	Enumerate the bones in the upper extremities.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	SAQ, Assignments, Viva voce	MCQ SAQ Viva Voce	Integrated teaching with Department of Surgery and Medicine (Orthopeadics)

	gathering Practical Skills Information management synthesis											
Hom UG-AN-3.2			Knows how		Explain the anatomy of the bones of the upper limb with their muscle attachments, relations, blood supply and applied anatomy.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions	MCQ, SAQ, Assignments,	MCQ SAQ Viva Voce	Integrated teaching with Department of Surgery and Medicine (Orthopeadics)
Hom UG-			Knows		Enumerate the joints in the upper extremities.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture,	SAQ, Assignmen	MCQ SAQ	Integrated teaching with

AN-3.3									Small Group Discussions	ts, Viva voce	Viva Voce	Department of Surgery and Medicine (Orthopeadics)
Hom UG-AN-3.4			Knows how		Explain the anatomy of the joints of the upper limbs, their blood supply, action and applied anatomy.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions	MCQ, SAQ, Assignments,	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar Integrated teaching with Department of Medicine (Orthopeadics)

Hom UG-AN-3.5			Knows		Enumerate the muscles in the upper extremities.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	SAQ, Assignments, Viva voce	MCQ SAQ	Anatomy – Physiology Seminar
Hom UG-AN-3.6			Knows how		Explain the anatomy of the muscles of the upper extremities, their origin, insertion, nerve supply, action and applied anatomy.	Cognitive	Level2 Understanding , Interpretation	Must Know	Lecture, Small Group Discussions, Case based learning, PBL	MCQ, SAQ, Assignments , Viva voce	MCQ SAQ Viva Voce	Anatomy – Physiology Seminar
Hom UG-AN-3.7			Knows		Enumerate the vessels and nerves in the upper extremities.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	SAQ, Assignments, Viva voce	MCQ SAQ Viva Voce	Anatomy – Physiology Seminar

Hom UG-AN-3.8			Knows how		Explain the anatomy of the vessels and nerves of the upper extremities, their course, muscles they supply, relations and applied anatomy.	Cognitive	Level2 Understanding , Interpretation	Must Know	Lecture, Small Group Discussions, Case based learning, PBL	MCQ, SAQ, LAQ, Assignments ,Viva voce	MCQ SAQ, LAQ Viva Voce	Anatomy – Physiology Seminar
Hom UG-AN-3.9			Knows		Explain thelocation,extent,deep relations, structure,age changes,blood supply,lymphatic drainage,microanatomyand applied anatomy of mammary gland.	Cognitive	Level2 Understanding , Interpretation	Must Know	Lecture, Small group discussion, DOAP session	MCQ, SAQ, LAQ, Assignment, Viva voce	MCQ SAQ, LAQ Viva Voce	Spiral Integration with Homoeopathic subjects
Hom UG-AN-3.10			Knows how		Explain boundariesandcontentsofaxilla.	Cognitive	Level2 Understanding , Interpretation	Must Know	Lecture,Smallgroupdiscussion,DOAPsession	MCQ, SAQ, LAQ, Assignment Viva voce	MCQ SAQ, LAQ Viva Voce	Anatomy – Physiology Seminar

Hom UG-AN-3.11			Knows	Correlate the knowledge of anatomy of upper extremity with homoeopathy.	Enumerate the drugs indicated for particular involvement of bones, muscles, joints, nerves, blood vessels of upper extremities.	Cognitive	Level 1 (Remember/ recall)	Nice to Know	Integrated teaching with Materia Medica	MCQ, Assignments, Viva Voce	MCQ SAQ, LAQ Viva Voce	Integrated lectures with Homoeopathic Materia Medica

Semester II

4. Topic: Head Neck Face &Special Senses

Learning Outcomes (LO): At the end of Head Neck & Face, I-BHMS student should be able to:

1. Describe the anatomy of the bones of the Head Neck &Face, their blood supply, and applied anatomy.

2. Describe the anatomy of the joints of the Head Neck & Face, their blood supply, action and applied anatomy.

3. Explain the anatomy of the muscles of the Head Neck & Face, their origin, insertion, nerve supply, action and applied anatomy.

4. Describe the atomy of the vessels and nerves of the Head Neck & Face, their course, muscles they supply, relations and applied anatomy.

5. Describe the triangles of the Neck with its applied anatomy.

6. Identify a particular bone of Head Neck & Face on X-Ray.

7. Describe the structure of the special senses organs with its applied anatomy.

Sr.No.	Generic Competency	Subject Area	Millers Knows/Knows how/ Shows how/ Does	Specific Competency	Special learning objectives	Blooms Domain	Guilberts level	Must know/ Desire to know/ Nice to know	TL Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical / Spiral
HomUG-AN-4.1	Problem formulation Integration of Knowledge	Head Neck Face	Knows how	Describe in detail the anatomy of Head, Neck and Face	Explain the anatomy of the bones of the Head Neck & Face with their muscle attachments, blood supply.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions, Assignments, Tutorials	MCQ SAQ, LAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar

	Information gathering											
HomUG-AN-4.2	Practical Skills Information management synthesis		Knows how		Explain the applied anatomy of the bones of the Head Neck & Face.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions	SAQ, LAQ Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar
HomUG-AN-4.3			Knows how		Explain the anatomy of the joints of the Head Neck & Face, their blood supply, action	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions Assignments, Tutorials, Case based	MCQ, SAQ, LAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Integrated teaching with Department of Surgery and Medicine (Orthopeadics)

									learning, PBL			
HomUG-AN-4.4			Knows how		Explain the applied anatomy of the joints of the Head Neck & Face	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions, Case based learning, PBL	SAQ, LAQ Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Spiral Integration with Homoeopathic subjects
HomUG-AN-4.5			Knows		Enumerate the muscles in the Head Neck & Face.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	SAQ	MCQ SAQ Viva Voce	Anatomy – Physiology Seminar

HomUG-AN-4.6			Knows how		Explain the anatomy of the muscles of the Head Neck & Face, their origin, insertion, nerve supply, action.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions.	MCQ, SAQ, LAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar
HomUG-AN-4.7			Knows how		Explain the applied anatomy of the muscles of the Head Neck & Face	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions, Case based learning, PBL	SAQ, LAQ Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Spiral Integration with Homoeopathic subjects

HomUG-AN-4.8			Knows		Enumerate the vessels and nerves in the Head Neck & Face.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	SAQ,	MCQ SAQ Viva Voce	Anatomy – Physiology Seminar
HomUG-AN-4.9			Knows how		Explain the anatomy of the vessels and nerves of the Head Neck & Face, their course, muscles they supply, relationsand its applied anatomy.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions, Assignments, Tutorials	MCQ, SAQ, LAQ, Assignments, , Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar, Integrated teaching with Department of Medicine (ENT, Opthalmology)

HomUG-AN-4.10			Knows how		Explain the boundaries and contents of triangles of the Neck with its applied anatomy.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions, Case based learning, PBL	SAQ, LAQ, Assignments, , Viva voce	MCQ SAQ LAQ Viva Voce	Spiral Integration with Homoeopathic subjects
HomUG-AN-4.11			Does		Identify a particular bone of Head Neck & Face on X-Ray	Cognitive	Level 1 (Remember/ recall)	Nice to Know	Radiology - Practicals	Spotting OSPE Mini CEX	MCQ Viva Voce	Integrated teaching with Surgery
HomUG-AN-4.12		Special Senses Organs	Knows	Describe the anatomy of organs of Special Senses	Enumerate the special sense organs.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	SAQ, Assignments, Viva voce	MCQ SAQ	Anatomy – Physiology Seminar

HomUG-AN-4.13			Knows how		Explain the anatomy of the special sense organs with their applied anatomy	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions	MCQ, SAQ, LAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar, Spiral Integration with Homoeopathic subjects
HomUG-AN-4.14			Knows		Enumerate the drugs indicated for involvement of particular special sense organ	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	SAQ, Assignments, Viva voce	MCQ SAQ Viva Voce	Integrated teaching with Materia Medica, Organon and Repertory.

5. Topic- Brain- CNS System

Learning Outcomes (LO): At the end of CNS, I-BHMS student should be able to:

1. Describe the structure of Brain and CNS with their applied anatomy.
2. Classify nervous system and identify the parts of the brain and their features and internal structure.
3. Describe the origin and course of cranial nerves

Sr.No.	Generic Competency	Subject Area	Millers Knows/Knows how/ Shows how/ Does	Specific Competency	Special learning objectives	Blooms Domain	Guilberts level	Must know / Desire to know / Nice to know	TL Method /Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical/ Spiral
HomUG-AN-5.1	Problem formulation	Brain - CNS	Knows	Describe in de the Anatomy Brain and CN	Enumerate the vessels and nerves of the CNS.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	SAQ, Assignments,	MCQ SAQ Viva Voce	Anatomy – Physiology Seminar

	Integration of Knowledge Information gathering Practical Skills Information management synthesis									,Viva voce		
HomUG-AN-5.2			Knows how		Explain the anatomy of parts of Brain and CNS	Cognitive	Level2 Understanding, Interpretation	Must Know	Lecture, Small Group Discussions	MCQ, SAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar

HomUG-AN-5.3			Knows how		Explain the applied anatomy of the Brain and CNS	Cognitive	Level2 Understanding, Interpretation	Must Know	Lecture, Small Group Discussions, Case based learning, PBL	SAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Spiral Integration with Homoeopathic subjects
HomUG-AN-5.4			Knows		Enumerate the drugs indicated for involvement of CNS.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	SAQ, Assignments, Viva voce	MCQ SAQ Viva Voce	Integrated teaching with Materia Medica, Organon and Repertory.
HomUG-AN-5.5			Knows how		Explain the origin and course of cranial nerves	Cognitive	Level2 Understanding, Interpretation	Desirable to Know	Lecture, Small Group Discussions, Case	SAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar

									based learning			

6. Topic: Thorax- Respiratory and Cardiovascular system

Learning Outcomes (LO): At the end of Thorax, I-BHMS student should be able to:

1. Describe the parts of Respiratory and Cardiovascular system with their applied anatomy.

Sr.No.	Generic Competency	Subject Area	Millers Knows/Knows how/ Shows how/ Does	Specific Competency	Special learning objectives	Blooms Domain	Guilberts level	Must know/ Desire to know/ Nice to know	TL Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical/ Spiral

HomUG-AN-6.1	Problem formulation Integration of Knowledge Information gathering	Thorax	Knows how	Describe the anatomy of th Thorax in deta	Explain the anatomy of organs of the Respiratory system.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	MCQ, SAQ, Assignments, Viva voce	MCQ SAQ Viva Voce	Anatomy – Physiology Seminar
HomUG-AN-6.2	Practical Skills Information management		Knows how		Explain the applied anatomy of organs of the Respiratory system.	Cognitive	Level2 Understanding, Interpretation	Must Know	Lecture, Small Group Discussions, Case based	MCQ, SAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar, Spiral Integration with Homoeop

	synthesis								learning, PBL			athic subjects
HomUG-AN-6.3			Knows how		Explain the anatomy of organs of Cardiovascular system.	Cognitive	Level2 Understanding, Interpretation	Must Know	Lecture, Small Group Discussions	MCQ, SAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar

HomUG-AN-6.4			Knows how		Explain the applied anatomy of organs of the Cardiovascular system.	Cognitive	Level2 Understanding, Interpretation	Must Know	Lecture, Small Group Discussions, Case based learning, PBL	MCQ, SAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Spiral Integration with Homoeopathic subjects
HomUG-AN-6.5			Knows		Enumerate the drugs indicated for involvement of thoracic organs.	Cognitive	Level2 Understanding, Interpretation	Nice to know	Lecture, Small Group Discussions	MCQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Integrated teaching with Materia Medica, Organon and Repertory.

Semester III

7. Topic: Lower Extremity

Learning Outcomes (LO): At the end of Lower Extremities, I-BHMS student should be able to:

1. Describe the anatomy of the bones of the lower extremities, their blood supply, and applied anatomy.
2. Describe the anatomy of the joints of the lower extremities, their blood supply, action and applied anatomy.
3. Describe the anatomy of the muscles of the lower extremities, their origin, insertion, nerve supply, action and applied anatomy.
4. Describe the anatomy of the vessels and nerves of the lower extremities, their course, muscles they supply, relations and applied anatomy.
5. Enumerate the homoeopathic drugs indicated for particular involvement of bones, muscles, joints, nerves, blood vessels.

Sr.No.	Generic Competency	Subject Area	Millers Knows/Knows how/ Shows how/ Does	Specific Competency	Special learning objectives	Blooms Domain	Guilberts level	Must know/ Desire to know/ Nice to know	TL Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical/ Spiral
HomUG-AN-7.1	Problem formulation	Lower Extremities	Knows	Describe the anatomy of lower extremitie in detail.	Enumerate the bones in the lower extremities.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	SAQ, Assignments,	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar

	Integration of Knowledge Information gathering Practical Skills Information management synthesis									Viva voce		
HomUG-AN-7.2			Knows how		Explain the anatomy of the bones of the lower limb with their muscle attachments, relations, blood supply and applied anatomy.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions.	MCQ, SAQ, Assignments,	MCQ SAQ LAQ Viva Voce	Integrated teaching with Department of Surgery Medicine (Orthopeadics)

HomUG-AN-7.3			Knows		Enumerate the joints in the lower extremities.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	SAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar Integrated teaching with Department of Surgery Medicine (Orthopeadics)
HomUG-AN-7.4			Knows how		Explain the anatomy of the joints of the lower limbs, their blood supply, action and applied anatomy.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions, Case based	MCQ, SAQ, Assignments,	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar Integrated teaching

									learning, PBL			with Department ofSurgery Medicine (Orthopeadics)
HomUG-AN-7.5			Knows		Enumerate the muscles in the lower extremities.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	SAQ, Assignments, Viva voce	MCQ SAQ Viva Voce	Anatomy – Physiology Seminar
HomUG-AN-7.6			Knows how		Explain the anatomy of the muscles of the lower extremities, their origin, insertion, nerve supply, action and applied anatomy.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions, Case based learning, PBL	MCQ, SAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar

HomUG-AN-7.7			Knows		Enumerate the vessels and nerves in the lower extremities.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussions	SAQ, Assignments, Viva voce	MCQ SAQ Viva Voce	Anatomy – Physiology Seminar
HomUG-AN-7.8			Knows how		Explain the anatomy of the vessels and nerves of the lower extremities, their course, muscles they supply, relations and applied anatomy.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions, Case based learning, PBL	MCQ, SAQ, LAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy – Physiology Seminar, Spiral Integration with Homoeopathic subjects
HomUG-AN-7.9			Knows	Correlate knowledge of anatomy of lower extremity with homoeopathy.	Enumerate the drugs indicated for particular involvement of bones, muscles, joints, nerves, blood vessels of lower extremities.	Cognitive	Level 1 (Remember/ recall)	Nice to Know	Integrated teaching with Materia Medica	MCQ, Assignments, Viva Voce	MCQ SAQ Viva Voce	Integrated lectures with Homoeopathic Materia Medica, Organon,

												Repertory .

8. Topic: Abdomen

Learning Outcomes (LO): At the end of Abdomen, I-BHMS student should be able to:

1. Describe the anatomy of the abdomen and pelvic organs with their applied anatomy.

2. Enumerate the homoeopathic drugs indicated for involvement of the abdominal and pelvic organs

Sr.No.	**Generic Competency**	**Subject Area**	**Millers Knows/Knows how/ Shows how/ Does**	**Specific Competency**	**Special learning objectives**	**Blooms Domain**	**Guilberts level**	**Must know/ Desire to know/ Nice to know**	**TL Method/Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal / Vertical/ Spiral**
Hom UG-AN-8.1	Problem formulation	Abdomen	Knows	Describe in detail Anatomy of Abdomen	Enumerate the organs of the Abdomen	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group	SAQ, Assignments, ,	MCQ SAQ	Anatomy-Physiology Seminar

	Integration of Knowledge Information gathering Practical Skills Information management synthesis								Discussions	Viva voce	Viva Voce	

Hom UG-AN-8.2			Knows how		Explain the anatomy of the abdominal organs with their applied anatomy	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions, Case based learning, PBL	MCQ, SAQ, LAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy-Physiology Seminar Integrated teaching with Department of Surgery, Spiral Integration with Homoeopathic subjects
Hom UG-AN-8.3			Knows how		Explain the anatomy of the pelvic organs with their applied anatomy	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions, Case based	MCQ, SAQ, LAQ, Assignments, Viva voce	MCQ SAQ LAQ Viva Voce	Anatomy-Physiology Seminar Integrated teaching with Department of

									learning, PBL			Surgery, Spiral Integration with Homoeopathic subjects
Hom UG-AN-8.4			Knows		Enumerate the drugs indicated for involvement of Abdominal organs	Cognitive	Level 1 (Remember/ recall)	Nice to Know	Lecture, Small Group Discussions	MCQ, SAQ, LAQ, Assignments, Viva voce	MCQ SAQ Viva Voce	Integrated lectures with Homoeopathic Materia Medica, Repertory, Organon

PRACTICAL

Semester I

9. Topic: Upper Extremities

Learning Outcomes (LO): At the end of Upper Extremity, I-BHMS student should be able to:

1. Describe the anatomy of the bones of the upper extremity, their blood supply, and applied anatomy.
2. Describe the anatomy of the joints of the upper extremity, their blood supply, action and applied anatomy.
3. Describe the anatomy of the muscles of the upper extremity, their origin, insertion, nerve supply, action and applied anatomy.
4. Describe the anatomy of the vessels and nerves of the upper extremity, their course, muscles they supply, relation and applied anatomy.
5. Identify a particular bone and joint of upper extremity on X-Ray.
6. Trace the course of the vessels and nerves of the upper extremity on the cadaver.

Sr.No.	Generic Competency	Subject Area	Millers Knows/ Knows how/ Shows how/Does	Specific Competenc	Special learning objectives	Blooms Domain	Guilberts level	Must know/ Desire toknow / Nice to know	TL Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical/ Spiral
HomUG-AN-9.1	Problem formulation	Upper	Knows how	Describe the	Explain the anatomy of the bones of the upper limb with their muscle	Cognitive	Level 2 Understanding and	Must Know	Practical, Group	Practicals and	MCQ SAQ LAQ	-

	Integration of Knowledge Information gathering Practical Skills Information management synthesis	Extremity		anatomy of upper extremity in detail.	attachments, relations, blood supply		Interpretation		Discussions and DOAP session, Workshop	Viva voce	Viva Voce	

HomUG-AN-9.2			Shows how		Demonstrate important muscle attachment on the bones of upper limb.	Psychomotor	Level 2 Understanding and Interpretation	Must Know	Practical DOAPsession, Smallgroupteaching	Practicals	MCQ SAQ LAQ Checklist Viva Voce	-
HomUG-AN-9.3			Knows how		Explain the applied anatomy of the bones of the upper limb	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions	Viva voce	MCQ SAQ Viva Voce	-
HomUG-AN-9.4			Knows how		Explain the anatomy of the joints of the upper limb, their blood supply, action.	Cognitive	Level2 Understanding and Interpretation	Must Know	Practical and DOAPsession	Practicals and Viva voce	MCQ SAQ LAQ Viva Voce	-

HomUG-AN-9.5			Shows how		Demonstrate the action of joint.	Cognitive	Level2 Understanding and Interpretation	Must Know	Practical Demonstration, PBL	Practicals	MCQ SAQ LAQ Viva Voce	-
HomUG-AN-9.6			Knows how		Explain the applied anatomy of the joints of the upper limb.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions	Practicals and Viva voce	MCQ SAQ LAQ Viva Voce	-
HomUG-AN-9.7			Knows how		Explain the anatomy of the muscles of the upper extremity, their origin, insertion, nerve supply, action and applied anatomy.	Cognitive	Level2 Understanding and Interpretation	Must Know	Practical and DOAPs session	Practicals and Viva voce	MCQ SAQ LAQ Viva Voce	-
HomUG-AN-9.8			Shows how		Dissect the given muscle of the upper extremity and demonstrate the	Psychomotor	Level2 Understanding and	Must Know	DOAPs session	Practicals	MCQ SAQ LAQ	-

					anatomical relations and actions		Interpretation				Viva Voce	
HomUG-AN-9.9			Does		Illustrate the actions of muscles of upper limb.	Psychomotor	Level2 Understanding and Interpretation	Must Know	Practicals	Practicals	Checklist	-
HomUG-AN-9.10			Knows how		Explain the applied anatomy of the muscles of upper limb.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions	Practicals and Viva voce	MCQ SAQ LAQ Checklist Viva Voce	-
HomUG-AN-9.11			Knows how		Explain the anatomy of the vessel and nerves of the upper extremity, their course, muscles they supply and relation.	Cognitive	Level2 Understanding and Interpretation	Must Know	Practical and Dissection	Practicals and Viva voce	MCQ SAQ LAQ Viva Voce	-

HomUG-AN-9.12			Shows How		Dissect the given vessel and nerve of the upper extremity	Psychomotor	Level2 Understanding and Interpretation	Must Know	DOAPsession	Practicals	Checklist Viva Voce	-
HomUG-AN-9.13			Knows how		Explain the Applied Anatomy of the vessels and nerves of the upper limb	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions, PBL	Practicals and Viva voce	MCQ SAQ LAQ Viva Voce	-
HomUG-AN-9.14			Does		Identify a particular bone of upper extremity on X-Ray	Cognitive	Level2 Understanding and Interpretation	Must Know	DOAPsession	Spotting OSPE Mini CEX	Checklist Viva Voce	-

HomUG-AN-9.15			Shows How		Trace the course of the vessels and nerves of the upper extremity on the cadaver.	Psychomotor	Level2 Understanding and Interpretation	Must Know	DOAPsession	Surface Marking, OSPE	Practical / checklist	-

10. Topic – Histology

Learning Outcome- At the end of Histology, I-BHMS student should be able to:

1. Describe a particular organ and tissue through its histological features.

Sr.No.	Generic Competency	Subject Area	Millers Knows/Knows how/ Shows	Specific Competency	Special learning objectives	Blooms Domain	Guilberts level	Must know / Desire to know / Nice	TL Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical / Spiral

			how/ Does					**to know**				
HomUG-AN-10.1	Problem formulation Integration of Knowledge Information gathering Practical Skills	Histology	Does	Describe the organ/ tissue with its histological features in detail	Identify the organ/tissue with its histological features.	Cognitive	Level 1 (Remember/ recall)	Must Know	Demonstration	Spotting, OSPE / Practical performance	Practical / check list	-

	Information management synthesis											
HomUG-AN-10.2			Knows how		Explain the organ/tissue with its histological features.	Cognitive	Level2 Understanding and Interpretation.	Must Know	Demonstration	Spotting, OSPE / Practical performance	Practical / check list	-

Semester II

10. Topic: Head Neck Face

Learning Outcomes (LO): At the end of Head Neck & Face, I-BHMS student should be able to:

1. Describe the anatomy of the bones of the Head Neck & Face, their blood supply and applied anatomy.

2. Describe the anatomy of the joints of the Head Neck & Face, their blood supply, action and applied anatomy.

3. Describe the anatomy of the muscles of the Head Neck & Face, their origin, insertion, nerve supply, action and applied anatomy.

4. Describe the anatomy of the vessels and nerves of the Head Neck & Face, their course, muscles they supply, relation and applied anatomy.

5. Identify individual bones of Head Neck & Face on X-Ray.

6. Demonstrate the projection of structures of Head, Neck & Face on the cadaver.

Sr.No.	**Generic Competency**	**Subject Area**	**Millers Knows/Knows how/ Shows how/Does**	**Specific Competer**	**Special learning objectives**	**Blooms Domain**	**Guilberts level**	**Must know/ Desire to know/ Nice to know**	**TL Method/Media**	**Formative Assessment**	**Summative Assessment**	**Integration Horizontal/ Vertical/ Spiral**
HomUG-AN-11.1	Problem formulation		Knows how	Describe ir	Explain thefeaturesofnormafrontalis,verticalis,o	Cognitive	Level 1 (Remember/ recall)	Must Know	Small group discussi	Practicals and	Practical / checkl	

	Integration of Knowledge Information gathering Practical Skills Information management synthesis			detail anatomy c Head, nec face	ccipitalis,lateralisandbasalis				on, Practical, DOAPsession, Workshop	Viva voce	ist and Viva voce	
HomUG-AN-11.2			Knows how		Explain cranialcavity,itssubdivisions,foraminaandstructurespassingthroughthem	Cognitive	Level 1 (Remember/ recall)	Must Know	Small group discussion, Practic	Practicals and Viva voce	Practical / checklist and	

									al, DOAP session		Viva voce	
HomUG-AN-11.3			Knows how		Explain features of typical and atypical cervical vertebrae	Cognitive	Level 2 (Understand)	Must Know	Small group discussion, Practical, DOAP session	Practicals and Viva voce	MCQ SAQ and Viva voce	
HomUG-AN-11.4			Knows how		Explain the anatomy of the bones of the Head Neck & Face with their muscle attachments, relations, blood supply and applied anatomy	Cognitive	Level2 Understanding, and Interpretation.	Must Know	Practical and DOAP session	Practicals and Viva voce	MCQ SAQ and Viva voce	

HomUG-AN-11.5			Does		Identify the given bone of the Head Neck & Face and demonstrate the anatomical relations.	Cognitive	Level 1 (Remember/ recall)	Must Know	Small group discussion, Practical	Practicals and Viva voce	Practicals MCQ SAQ and Viva voce	
HomUG-AN-11.6			Knows		Enumerate the joints in the Head Neck & Face.	Cognitive	Level 1 (Remember/ recall)	Must Know	Lecture, Small Group Discussion	Practicals and Viva voce	MCQ	
HomUG-AN-11.7			Knows how		Explain the anatomy of the joints of the Head Neck & Face, their blood supply, action and applied anatomy.	Cognitive	Level2 Understandingand Interpretation.	Must Know	Small group discussion, Practical and DOAPsession	Practicals and Viva voce	MCQ SAQ and Viva voce	

HomUG-AN-11.8			Knows		Enumerate the muscles in the Head Neck & Face.	Cognitive	Level 1 (Remember/ recall)	Must Know	Small group discussion, Practical and DOAPs session	Practicals and Viva voce	MCQ	
HomUG-AN-11.9			Knows how		Explain the anatomy of the muscles of the Head Neck & Face, their origin, insertion, nerve supply, action and applied anatomy	Cognitive	Level2 Understanding, and Interpretation	Must Know	Small group discussion, Practical, PBL and DOAPs session	Practicals and Viva voce	MCQ SAQ and Viva voce	
HomUG-AN-11.10			Shows how		Dissect the given muscle of the Head Neck & Face	Psychomotor	Level2 Understandingand	Must Know	DOAPs session	Practicals and	Practicals / Checklist and	

							Interpretation.			Viva voce	Viva voce	
HomUG-AN-11.11			Shows How		Demonstrate the actions of muscle of Head Neck & Face	Psychomotor	Level2 Understanding and Interpretation	Must Know	Small group discussion, Practical and DOAP session	Practicals and Viva voce	Practicals / checklist and Viva voce	
HomUG-AN-11.12			Knows		Enumerate the vessels andnerves in the Head Neck & Face.	Cognitive	Level 1 (Remember/ recall)	Must Know	Small group discussion, Practical and DOAP session	Practicals and Viva voce Practicals and Viva voce	MCQ and Viva voce	

HomUG-AN-11.13			Knows how		Explain the anatomy of the vessels andnerves of the Head Neck & Face, their course, muscles they supply, relation and applied anatomy	Cognitive	Level2 Understanding, and Interpretation	Must Know	Small group discussion, Practical and DOAPsession	Practicals and Viva voce	SAQ LAQ and Viva voce	
HomUG-AN-11.14			Shows how		Dissect the given vessels andnerve of the Head Neck & Face	Psychomotor	Level2 Understanding, and Interpretation	Must Know	DOAPsession	Practicals and Viva voce	Practicals / checklist and Viva voce	
HomUG-AN-11.15			Shows How		Demonstrate the anatomical relations and applied anatomy of given vessels andnerve of the Head Neck & Face.	Psychomotor	Level2 Understanding and Interpretation	Must Know	Small group discussion, Practical and	Practicals and Viva voce	Practicals / checklist and Viva voce	

									DOAPs ession			
HomUG -AN- 11.16			Does		Identify a particular bone of Head Neck & Face on X-Ray	Cognitive	Level 2 (Understan d)	Nice to Know	DOAPs ession	Radiol ogy, OSPE	SAQ Check list Viva voce	
HomUG -AN- 11.17			Shows How		Demonstrate the projection of structures ofHead, Neck & Face on the cadaver.	Psychomotor	Level2 Understan ding and Interpretat ion	Must Know	DOAPs ession	Surfa ce Marki ng, OSPE	Practi cal / checkl ist	-

12. Topic- Brain- CNS System

Learning Outcomes (LO): At the end of CNS, I-BHMS student should be able to:

1. Describe the anatomy of the Brain and its applied anatomy.
2. Classify CNS and describe the parts of brain

Sr.No.	Generic Competency	Subject Area	Millers Knows/Knowshow/Shows how/Does	Specific Competency	Special learning objectives	Blooms Domain	Guilberts level	Must know / Desire to know / Nice to know	TL Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical/ Spiral
HomUG-AN-12.1	Problem formulation Integration of Knowledge Information gathering		Knows	Describe in detail the anatomy of Brain And CNS	Enumerate the parts of the CNS.	Cognitive	Level 1 (Remember/ recall)	Must Know	Small group discussion, Practical and DOAPsession, Workshop	Practicals and Viva voce	MCQ SAQ Viva voce	

	Practical Skills Information management synthesis											
HomUG-AN-12.2			Knows how		Explain the anatomy of the Brain and CNS with their applied anatomy	Cognitive	Level2 Understandingand Interpretation.	Must Know	Small group discussion, Practical, PBL and DOAPsession	Practicals and Viva voce	SAQ LAQ Viva voce	
HomUG-AN-12.3			Shows how		Illustrate the parts of the Brain.	Psychomotor	Level2 Understandingand Interpretation.	Must Know	DOAPsession	Practicals and Viva voce	Practical / checklist	

13. Topic: Thorax- Respiratory and Cardiovascular system

Learning Outcomes (LO): At the end of Thorax, I-BHMS student should be able to:

1. Describe the anatomy of the Respiratory and Cardiovascular system with their applied anatomy.
2. Identify the organs of the Respiratory and Cardiovascular system
3. Explain features of X-ray thorax.
4. Demonstrate surface projection of thoracic organs.

Sr.No	Generic Competency	Subject Area	Millers Knows/ Knows how/ Shows how/Does	Specific Competer	Special learning objectives	Blooms Domain	Guilberts level	Must know/ Desire to know/ Nice to know	TL Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical/ Spiral
HomUG-AN-13.1	Problem formulation	Thorax	Knows	Describe the anatomy of	Enumerate the organs of the Respiratory and Cardiovascular system	Cognitive	Level 1 (Remember/ recall)	Must Know	Small group discussion, Practical and	Practicals and Viva voce	SAQ LAQ Viva voce	

	Integration of Knowledge Information gathering Practical Skills Information management synthesis			Thorax					DOAPsession, Workshop			
HomUG-AN-13.2			Knows how		Explain the organs of Respiratory and Cardiovascular system with their applied anatomy	Cognitive	Level2 Understanding, and Interpretation	Must Know	Small group discussion, PBL, Practical and	Practicals and Viva voce	LAQ SAQ	

									DOAP session			
HomUG-AN-13.3			Shows how		Dissect the organs of the Thorax	Psychomotor	Level2 Understanding, and Interpretation.	Must Know	DOAP session	Practicals and Viva voce	Practical / checklist	
HomUG-AN-13.4			Knows how		Explain featuresoftypicalandatypicalthoracic vertebrae and ribs.	Cognitive	Level2 Understanding, and Interpretation	Must Know	Lecture, DOAP session	Practicals and Viva voce	SAQ Practicals / checklist Viva voce	
HomUG-AN-13.5			Knows how		Explain featuresofX-raythorax.	Cognitive	Level 1 (Remember/ recall)	Nice to Know	Lecture, DOAP session	Radiology, OSPE	SAQ Practicals and Viva voce	

HomUG-AN-13.6			Shows How		Demonstratesurfaceprojectionof Thoracic organs.	Psychomotor	Level2 Understanding and Interpretation	Must Know	Practical, Smallgroupdiscussion,DOAPsession	Surface Marking, OSPE	Practical / checklist	

Semester III

14. Topic: Lower Extremities

Learning Outcomes (LO): At the end of Lower Extremity, I-BHMS student should be able to:

1. Describe the anatomy of the bones of the Lower extremity, their blood supply and applied anatomy.
2. Describe the anatomy of the joints of the Lower extremity, their blood supply, action and applied anatomy.
3. Describe the anatomy of the muscles of the Lower extremity, their origin, insertion, nerve supply, action and applied anatomy.
4. Describe the anatomy of the vessels and nerves of the Lower extremity, their course, muscles they supply, relations and applied anatomy.
5. Identify a particular bone and joint of Lower extremity on X-Ray.
6. Trace the course of the vessels and nerves of the Lower extremity on the cadaver.

Sr.No.	Generic Competency	Subject Area	Millers Knows/Knows how/ Shows how/Does	Specific Competency	Special learning objectives	Blooms Domain	Guilberts level	Must know/ Desire to know/ Nice to know	TL Method/Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical/ Spiral
HomUG-AN-14.1	Problem formulation Integration of Knowledge Information gathering Practical Skills	Lower Extremity	Knows how	Describe the anatomy of Lower extremity	Explain the anatomy of the bones of the Lower limb with their muscle attachments, relations, blood supply	Cognitive	Level2 Understanding and Interpretation	Must Know	Practical, Workshop and DOAP session	Practicals and Viva voce	SAQ LAQ, Practical & Viva Voce	-

	Information management synthesis											
HomUG-AN-14.2			Knows how		Explain the anatomy of the joints of the Lower limb, their blood supply, action.	Cognitive	Level2 Understanding and Interpretation	Must Know	Practical and DOAP session	Practicals and Viva voce	SAQ LAQ, Viva Voc	-
HomUG-AN-14.3			Shows how		Demonstrate the action of joint.	Psychomotor	Level2 Control	Must Know	Practical and DOAP session	Practicals	Practical / checklist	-
HomUG-AN-14.4			Knows how		Explain the applied anatomy of the joints of the Lower limb.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discus	Practicals and Viva voce	SAQ, Viva Voc	-

									sions,PBL			
HomUG-AN-14.5			Knows how		Explain the anatomy of the muscles of the Lower extremity, their origin, insertion, nerve supply, action and applied anatomy.	Cognitive	Level2 Understanding and Interpretation	Must Know	Practical, PBL and DOAP session	Practicals and Viva voce	SAQ LAQ Viva Voce	-
HomUG-AN-14.6			Shows how		Dissect the given muscle of the Lower extremity	Psychomotor	Level2 Control	Must Know	DOAP session	Practicals	Practical / checklist	-
HomUG-AN-14.7			Shows how		Demonstrate the actions of muscles of Lower limb and its applied anatomy.	Psychomotor	Level2 Control	Must Know	DOAP session	Practicals	Practical / checklist	-

HomUG-AN-14.8			Knows how		Explain the applied anatomy of the muscles of Lower limb.	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discussions	Practicals and Viva voce	SAQ, Viva Voce	-
HomUG-AN-14.9			Knows how		Explain the anatomy of the vessel and nerves of the Lower extremity, their course, muscles they supply and their relation.	Cognitive	Level2 Understanding and Interpretation	Must Know	Practical, PBL and DOAP session	Practicals and Viva voce	Theory, Practical & Viva Voce	-
HomUG-AN-14.10			Shows how		Dissect the given vessel and nerve of the Lower extremity	Psychomotor	Level2 Control	Must Know	DOAP session	Practicals	Practical & Viva Voce	-
HomUG-AN-14.11			Knows how		Explain the Applied Anatomy of the vessels and nerves of the Lower limb	Cognitive	Level2 Understanding and Interpretation	Must Know	Lecture, Small Group Discus	Practicals and Viva voce	SAQ, Practical & Viva Voce	-

									sions,PBL			
HomUG-AN-14.12			Does		Identify a particular bone and joint of Lower extremity on X-Ray	Cogniti ve	Level2 Understanding and Interpretation	Must Know	DOAP session	Spotting OSPE Mini CEX	SAQ, Practical & Viva Voce	-
HomUG-AN-14.13			Shows How		Trace the course of the vessels and nerves of the Lower extremity on the cadaver.	Psycho motor	Level2 Control	Must Know	DOAP session	Surface Marking, OSPE	Practical / checklist	-

15. Topic: Abdomen

Learning Outcomes (LO): At the end of Abdomen, I-BHMS student should be able to:

1. Describe the anatomy of the Abdominal and pelvic organs with their applied anatomy.

2. Identify the abdominal and pelvic organs in dissection.

3. Explain features of plain X-ray abdomen and pelvis.

4. Demonstrate surface projection of Abdominal and pelvic organs.

Sr.No	Generic Competency	Subject Area	Millers Knows/ Knows how/ Shows how/Does	Specific Competency	Special learning objectives	Blooms Domain	Guilberts level	Must know/ Desire to know/ Nice to know	TL Method/ Media	Formative Assessment	Summative Assessment	Integration Horizontal/ Vertical/ Spiral
Hom UG-AN-15.1	Problem formulation Integration of Knowledge Information gathering Practical Skills Information management synthesis	Abdomen	Knows	Describe in d the anatomy Abdomen	Enumerate the organs of the Abdomen and pelvis	Cognitive	Level 1 (Remember/ recall)	Must Know	Small group discussion, Practical and Dissection	Practicals and Viva voce	SAQ and Viva voce	

Hom UG-AN-15.2			Knows How		Explain the anatomy of the abdominal and pelvic organs with their applied anatomy	Cognitive	Level2 Understanding, and Interpretation	Must Know	Small group discussion, Practical, PBL and Dissection	Practicals and Viva voce	SAQ LAQ Viva voce	
Hom UG-AN-15.3			Shows how		Dissect the abdominal and pelvic organs with their relations	Psychomotor	Level2 Control	Must know	Dissection ,DOAPsession	Practicals and Viva voce	Practical / checklist	
Hom UG-AN-15.4			Knows how		Explain features of plainX-rayabdomen and pelvis	Cognitive	Level 1 (Remember/ recall)	Must know	Lecture,DOAPsession	Radiology, OSPE	Practicals and Viva voce	
Hom UG-			Shows How		Demonstrat esurfaceproj ectionofAbd ominaland pelvic	Psychomotor	Level2 Control	Must Know	Practical, Smallgroupdiscussio	Surface Marking, OSPE	Practical / checklist	-

AN-15.5					organs.				n,DOAPsession			

8. PRACTICAL TOPICS

Sr. No.	Topics	Hrs	Term
1.	**EMBRYOLOGY & GENETICS**		I
	Stages of Development	12	
	Spermatogenesis, Oogenesis and Germ layers.		
	Development of Embryogenic Disc, Placenta		
	Embryology of organs		
	Total Hours	**12 hrs**	
2	**HISTOLOGY**		I
	Histology lectures of specific organs	18	
	Total Hours	**18 hrs**	
3	**UPPER LIMB**		I
	Practicals		
	Clavicle	6	
	Scapula	6	
	Humerus	6	
	Radius	6	
	Ulna	6	

	Hand	6	
	Surface Marking of Upper limb	6	
	Dissection		
	Axilla & Arm	6	
	Forearm & Hand	6	
	Muscles of Back	6	
	Muscles of Pectoral Region	6	
	Radiology		
	Joints of Upper limb	6	
		72 hrs	
4	**LOWER LIMB**		II
	Practicals		
	Hip Bone	6	
	Femur	6	
	Tibia	6	
	Fibula	6	
	Foot	6	

	Surface Marking of Lower limb	6	
	Dissection		
	Femoral Region	6	
	Gluteal Region	6	
	Thigh	6	
	Leg	6	
	Foot	6	
	Radiology		
	Joints of Lower limb	6	
		72 hrs	
5	**THORAX**		III
	Practicals		
	Ribs – Typical & Atypical	6	
	Thoracic Vertebrae	6	
	Sternum	6	
	Dissection		
	Heart	6	

	Mediastinum	6	
	Lungs	6	
	Surface Marking of thorax	6	
	Radiology	6	
	Total Hours	**48 hrs**	
6	**ABDOMEN**		II
	Practical		
	Lumbar Vertebrae	6	
	Dissection		
	Abdominal cavity, Abdominal vessels	6	
	Stomach, Pancreas, Spleen	6	
	Relation of viscera	6	
	Liver, Gall bladder	6	
	Kidney, Ureter, Urinary bladder	6	
	Peritoneum & Intestine	6	
	Uterus, fallopian tubes, Ovaries	6	
	Ant. Abdominal wall & Post. Abdominal wall	6	

	Surface Marking of Abdomen	6	
	Radiology	6	
		66 hrs	
7	**Head, Neck and Face**		III
	Practical		
	Skull & Mandible	12	
	Dissection		
	Face & Neck	6	
	Radiology	6	
		24 hrs	
8	**CNS**		III
	Cerebrum	6	
	Cerebellum	6	
	Midbrain, Pons & Medulla	6	
		18 Hrs	

Non-Lecture Activities

Sr. No	Non Lecture Teaching Learning methods	Time Allotted per Activity (Hours)
1	Seminars/ Workshops	10
2	Group Discussions	10
3	Problem based learning	10
4	Integrated Teaching	15
5	Case Based Learning	10
6	Self-Directed Learning	15
7	Tutorials, Assignments, projects	10
Sub total		80
8	Practical	250
Total		**330**

9. ASSESSMENT

Table- Assessment Summary

Number of papers and Mark Distribution

Sr. No.	Course Code	Papers	Theory	Practical	Viva Voce	Internal Assessment- Practical	Electives Grade Obtained		Grand Total
1	HomUG-AN	2	200	100	80	20			400

Scheme of Assessment (formative and Summative)

Sr. No	**Professional Course**	**1st term (1-6 Months)**	**2nd Term (7-12 Months)**	**3rd Term (13-18 Months)**	
1	First Professional BHMS	First PA + 1ST TT	2nd PA+2ND TT	3rd PA	UE

PA: Periodical Assessment; TT: Term Test; UE: University Examinations

Evaluation Methods for Assessment

Sr. No	**Evaluation Criteria**
1	Practical Performance

2	Viva Voce, MCQs, MEQ (Modified Essay Questions/Structured Questions)

Paper Layout

Paper-1 (100 marks) General Anatomy, Head, face and neck, Central nervous System, upper extremities and Embryology			
1	**MCQ**	**10 marks**	
2	**SAQ**	**50 marks**	
3	**LAQ**	**40 marks**	
Paper-2 (100 marks) Thorax, Abdomen, Pelvis, Lower extremities and Histology (micro anatomy).			
1	**MCQ**	**10 marks**	
2	**SAQ**	**50 marks**	
3	**LAQ**	**40 marks**	

I - Distribution of Theory exam

Sr. No	**Paper-I**			**D** **Type of Questions** **"Yes" can be asked.** **"No" should not be asked.**		
	A **List of Topics**	**B** **Term**	**C** **Marks**	**MCQ** **(1 Mark)**	**SAQ** **(5** **Marks)**	**LAQ** **(10 Marks)**
1	General Anatomy	I	Refer Next Table	Yes	Yes	No
2	Head, Neck & Face	II		Yes	Yes	Yes
3	Central Nervous System	II		Yes	Yes	Yes
4	Upper Extremities	I		Yes	Yes	Yes
5	Embryology	I		Yes	Yes	No

Sr. No	**Paper-II**			**D** **Type of Questions**

				"Yes" can be asked. "No" should not be asked.		
	A **List of Topics**	**B** **Term**	**C** **Marks**	**MCQ** **(1 Mark)**	**SAQ** **(5 Marks)**	**LAQ** **(10 Marks)**
1	Thorax	II	Refer Next Table	Yes	Yes	Yes
2	Abdomen & Pelvis	III		Yes	Yes	Yes
3	Lower Extremities	III		Yes	Yes	Yes
4	Histology	I		Yes	Yes	No

II - Theme table

Paper-I

Theme*	**Topics**	**Term**	**Marks**	**MCQ's**	**SAQ's**	**LAQ's**
A	General Anatomy	I	10	Yes	Yes	No
B	Upper Extremities	I	30	Yes	Yes	Yes
C	Embryology	I	15	Yes	Yes	No
D	Head, neck and Face	II	25	Yes	Yes	Yes
E	Central nervous System	II	20	Yes	Yes	Yes

Paper-II

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	Lower Extremities	III	30	Yes	Yes	Yes
B	Thorax	II	30	Yes	Yes	Yes
C	Abdomen and Pelvis	III	30	Yes	Yes	Yes
D	Histology	I	10	Yes	Yes	No

Question paper Blue print

Paper-I

A Question Serial Number	B Type of Question	Question Paper Format (Refer table 4 F II Theme table for themes)
Q1	Multiple choice Questions (MCQ) 10 Questions 1 mark each All compulsory	1. Theme A 2. Theme A 3. Theme B 4. Theme B 5. Theme C 6. Theme C 7. Theme D 8. Theme D

	Must know part: 7 MCQ Desirable to know: 2 MCQ. Nice to know: 1 MCQ	9. Theme E 10. Theme E
Q2	Short answer Questions (SAQ) ten Questions 5 Marks Each All compulsory Must know part: 10 SAQ Desirable to know: Nil Nice to know: Nil	1. Theme A 2. Theme B 3. Theme B 4. Theme B 5. Theme C 6. Theme C 7. Theme D 8. Theme D 9. Theme E 10. Theme E
Q3	Long answer Questions (LAQ) four Questions 10 marks each All compulsory All questions on must know	1. Theme B 2. Theme D 3. Theme E

	No Questions on Nice to know and Desirable to know	

Paper-II

A **Question Serial Number**	**B** **Type of Question**	**Question Paper Format** **(Refer table II Theme table for themes)**
Q1	Multiple choice Questions (MCQ) 10 Questions 1 mark each All compulsory Must know part:7 MCQ Desirable to know: 2 MCQ. Nice to know: 1 MCQ	1. Theme A 2. Theme A 3. Theme A 4. Theme B 5. Theme B 6. Theme C 7. Theme C 8. Theme C 9. Theme D 10. Theme D
Q2	Short answer Questions (SAQ) ten Questions 5 Marks Each All compulsory Must know part: 7 SAQ	1. Theme A 2. Theme A 3. Theme A 4. Theme B 5. Theme B 6. Theme C 7. Theme C 8. Theme C 9. Theme D

	Desirable to know: 3SAQ Nice to know: 1 SAQ	10. Theme D
Q3	Long answer Questions (LAQ) four Questions 10 marks each All compulsory All questions on must know No Questions on Nice to know and Desirable to know	1. Theme A 2. Theme B 3. Theme C

Distribution of Practical Exam

Osteology	60 marks
Soft part	60 marks
Extremities	40 marks
Histology	10 marks
Journal	10 marks
Internal Assessment	20 Marks

Total	200 Marks

Practical- 100 Marks (Spotting- 30 Marks, Surface Anatomy-10 Marks, Extremities, Bones, Viscera-50 Marks, Journal-10 marks)

Viva Voce- 80 Marks

10. List of recommended books –

Standard Books

- Garg K, *B.D.Chaurasia's Human Anatomy Regional & Applied, Dissection & Clinical. Upper limb & Thorax*. CBS Publishers & Distributors Pvt Ltd, New Delhi.
- Garg K, *B.D. Chaurasia's Human Anatomy Regional & Applied, Dissection & Clinical. Lower limb &Abdomen*.CBS Publishers & Distributors Pvt Ltd, New Delhi
- Garg K, *B.D. Chaurasia's Human Anatomy Regional & Applied, Dissection & Clinical. Head, Neck &Brain.*CBS Publishers & Distributors Pvt Ltd, New Delhi
- Singh V. *General Anatomy*. Elsevier; New Delhi
- Garg K, Indira Bahl, Mohini Kaul. *Textbook of Histology*. Ed. 5. CBS Publishers & Distributors Pvt Ltd, New Delhi
- Halim A. *Surface and Radiological Anatomy*. CBS Publishers & Distributors Pvt Ltd, New Delhi
- Khurana A, Khurana I, Garg K *B.D. Chaurasia's Dream Human Embryology*, CBS Publishers & Distributors Pvt Ltd, New Delhi
- Loukas M, Benninger B, Tubbs R S. *Gray's Clinical Photographic Dissector of Human Body.* Elsevier; Philadelphia
- Romanes G J. *Cunningham's Manual of Practical Anatomy. Upper & Lower limb*. Oxford Medical Publisher; Oxford
- Romanes G J. *Cunningham's Manual of Practical Anatomy. Abdomen & Pelvis*. Oxford Medical Publisher; Oxford
- Romanes G J. *Cunningham's Manual of Practical Anatomy. Head & Neck*. Oxford Medical Publisher; Oxford

Reference books

- Eroschenko VP. *Di'fiore's Atlas of Histology with functional correlation*. Lippincot, William, Wilkins; London
- Gunasegaran JP. *Text book of Histology & Practical Guide*. Elsevier; New Delhi.
- Hansen JT. *Netter's Atlas of Human Anatomy*. South Asian Ed. Elsevier; New Delhi
- Mescher AL. *Junqueria's Basic Histology Text & Atlas*. Lange; New York
- Mortan DA, Peterson KD, Albretine K. H. *Gray's Dissection Guide for Human Anatomy.*Elsevier; London
- RomanesGJ.*Cunningham's Textbook of Anatomy*. Oxford Medical Publisher; Oxford
- Ross &Wilson.*Anatomy and Physiology in Health and Illness*. Elsevier; London
- Singh, Inderbir. *Human Embryology*. Jaypee; New Delhi
- Singh V. *Anatomy of Head, Neck & Brain*. Elsevier; New Delhi.
- Singh V. *Anatomy of Upper limb & Thorax*. Elsevier; New Delhi
- Singh V. *Anatomy of Abdomen & Lower limb*. Elsevier; New Delhi
- Sinnathamby CS. *Snell's Clinical Anatomy for Medical Students*. Lippincot, William, Wilkins; London
- Standring Susan. *Gray's Anatomy The Anatomical Basis of Clinical Practice*. Elsevier; London
- Tortora GJ &Derrickson B. *Anatomy & Physiology*. New Delhi: Wiley; New Delhi.

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Dr. Gautam Ash

Former HOD, Pratap Chandra Memorial HMC, Kolkata

Course- Human physiology & Biochemistry

Course code: Hom UG - PB

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1. PREAMBLE

Physiology studies the functional organization of man at several levels like atom, chemical, cells, tissues, organ systems and the whole body to understand fundamental mechanisms that operate in a living organism. The underlying goal is to explain the operations in a living organism.

Besides satisfying a natural curiosity about how humans function, the study of physiology is of central importance in medicine and related health sciences, as it underpins advances in our understanding of disease and our ability to treat it more effectively. It is also important from psychological and philosophical viewpoints, helping us to understand the different systems. Homoeopathic Philosophy postulates the force animating every cell as the Vital Force which helps in homoeostasis. When it is deranged due to web of causes, disease develops.

Homoeopath must understand Man in a holistic way which would help him to deliver the therapeutic action for the purpose of bringing about a cure. Understanding the structural organisation i.e., Anatomy along with psychological organisation go hand in hand. Their interplay maintains health and delivers optimum function for healthy living and progressing towards higher purpose as per Hahnemannian guidelines. Hence physiology needs to be integrated horizontally with Anatomy, Materia Medica, Organon of Medicine, Psychology & Pharmacy as well as vertically with Pathology, Surgery, Obstetrics &Gynaecology, Community Medicine, Practice of Medicine & Repertory for better grasp of health, disease and process of cure.

Advances in biochemical processes have been occurring at an astonishing pace. The action of homoeopathic medicines does occur at sub-cellular levels. Hence an in-depth understanding and correlation of the processes in health and disease can open up a whole new way of understanding Homoeopathic drugs and their far-reaching effects.

2. PROGRAMME OUTCOMES

At the end of BHMS program, a student must

1. Develop the competencies essential for primary health care in clinical diagnosis and treatment of diseases through the judicious application of homoeopathic principles

2. Recognize the scope and limitation of homoeopathy and to apply the Homoeopathic Principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community.

3. Discern the relevance of other systems of medical practice for rational use of cross referral and life saving measures, so as to address clinical emergences

4. Develop capacity for critical thinking and research aptitude as required for evidence based homoeopathic practice.

5. Demonstrate aptitude for lifelong learning and develop competencies as and when conditions of practice demand.

6. Be competent enough to practice homoeopathy as per the medical ethics and professionalism.

7. Develop the necessary communication skills to work as a team member in various healthcare setting and contribute towards the larger goals of national policies such as school health, community health, environmental conservation.

8. Identify and respect the socio-demographic, psychological, cultural, environmental & economic factors that affect health and disease and plan homoeopathic intervention to achieve the sustainable development Goal.

2. Course Outcomes (COs):

At the end of the course the student will be able to:

1. Discuss the Homoeopathic concept of health in relation to integrated body structure and functions.
2. Explain the normal functioning of the human body at all levels of organization.
3. Relate the concept of homoeostasis with relevant ideas in Anatomy, Materia medica and Organon of Medicine at BHMS I level .
4. Elucidate the physiological aspects of normal growth and development with focus on evolution.
5. Correlate micro functions at cellular level with macro functions at organ-system level.
6. Use necessary communication skills required for history-taking of the patient & relating various clinical findings in the patient.
7. Perform experiments in haematology, clinical physiology & biochemistry as required for the study of physiological phenomena and for assessment of normal function.
8. Identify the normal values of haematology, clinical physiology & biochemistry.
9. Perform clinical – physiological examination under supervision.
10. Correlate knowledge of Organon & Materia Medica with Physiology.
11. Explain the integrated responses of the organ systems of the body to physiological and pathological stresses.

4. TEACHING HOURS

Sr No.	Subject	Theoretical Lecture	Practical / Tutorial / Seminar / Clinical Posting
01	PHYSIOLOGY & BIOCHEMISTRY	325 hrs.	330 hrs.

PER SEMESTER TOTAL HRS OF TEACHING

Lectures - 108	Non – Lecture – 110	Total - 218

PER WEEK TOTAL HRS OF TEACHING

Lectures – 7	Non – Lecture – 7	Total - 14

Theory Wise Teaching Hours Distribution – 325 Hours

Sr. No	**Paper-I**	
	List of System	**Teaching Hours**
1	General Physiology	20
2	Bio Physics Science	15
3	Skin & The Integumentary System	15
4	Body fluids & Immune mechanism	35
5	Nerve Muscle physiology	15
6	Cardiovascular system	20
7	Respiratory and Environmental Physiology	25
8	Renal Physiology	20
	Total	**165**
Sr. No	**Paper-II**	
	List of System	**Teaching Hours**
1	Central Nervous System	35
2	Endocrinology	30
3	Reproduction	15
4	Special Senses	20

5	Digestion and Nutrition	35
6	Biochemistry	25
	Total	**160**

Practical / Clinical Physiology / OPD Wise Teaching Hours Distribution – 330 Hours

Physiology – SEMESTER 1 : Practical – lab work			
No	**Practical**	**Demonstration / Performance**	**Number of Teaching Hours**
HAEMATOLOGY			
1	Study of the Compound Microscope	Performance	05
2.	Collection of Blood Samples	Performance	05
3	Estimation of Haemoglobin Concentration	Performance	05
4	Determination of Haematocrit	Demonstration	05
5	Hemocytometry	Performance	05
6	Total RBC Count	Performance	10
7	Determination of RBC Indices	Demonstration	05
8	Total Leucocytes Count (TLC)	Performance	10

9	Preparation And Examination Of Blood Smear	Performance	10
10	Differential Leucocyte Count (DLC)	Performance	10
11	Absolute Eosinophil Count	Demonstration	05
12	Determination of Erythrocyte Sedimentation Rate	Demonstration	05
13	Determination of Blood Groups	Performance	05
14	Determination of Bleeding Time and Coagulation Time	Performance	05
BIOCHEMISTRY			
1	Demonstration of Uses Of Instruments Or Equipment	Demonstration	05
2	Qualitative Analysis of Carbohydrates, Proteins And Lipids	Performance	10
3	Normal Characteristics of Urine	Performance	04
4	Abnormal Constituents of Urine	Performance	10
5	Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood	Performance	05
6	Liver Function Tests	Demonstration	04
7	Kidney Function Tests	Demonstration	04
8	Lipid Profile	Demonstration	04
9	Interpretation and Discussion of Results of Biochemical Tests	Demonstration	04
	Total		**140**

CLINICAL PHYSIOLOGY			
1	Case Taking & Approach to pt	Performance	05
2	General Concept Of Examination	Performance	10
3	Examination of muscles, joints,	Performance	10
4	Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination	Performance	15
5	Nervous System- Clinical Examination	Performance	15
6	Respiratory System- Clinical Examination, Spirometry, Stethography	Performance	15
7	Special Senses- Clinical Examination	Performance	15
8	Reproductive System- Diagnosis of Pregnancy	Performance	05
9	Gastrointestinal System- Clinical Examination	Performance	10
	Total		**100**
OPD – APPLIED PHYSIOLOGY			
1	OPD (Applied Physiology)	Demonstration & Performance	90
	TOTAL		**90**

Semester Wise Distribution of Theory, Practical, Clinical Physiology & OPDs

Sr No./ Duration	Wk	Physiology	Total Hrs
SEMESTER - 1			
Module 1. Organization of the human body	**16 Wks**	• General physiology • Bio Physics Science • Skin & The integumentary System **Clinical Physiology :** • Case Taking & Approach to Patient • General concept of examination.	Lectures – 100 Hrs Non – Lectures – 115 Hrs.
Module 2 Principals of Support System & Movements with transportation		• Body Fluid & Immune Mechanism • Nerve Muscles Physiology **Practical :** • Study of the Compound Microscope • Collection of Blood Samples • Estimation of Haemoglobin Concentration • Determination of Haematocrit • Haemocytometry • Total RBC Count	

		• Determination of RBC Indices • Total Leucocytes Count (TLC) • Preparation And Examination Of Blood Smear • Differential Leucocyte Count (DLC) • Absolute Eosinophil Count • Determination of Erythrocyte Sedimentation Rate • Determination of Blood Groups • Determination of Bleeding Time and Coagulation Time **Clinical Physiology :** • Examination of muscles, joints,	
	4th Month – 5 days PA 6th Month – 10 days TT – including Viva Voce		
SEMESTER - 2			
Module 3. Vital Maintenance of the human body	**16 Wks**	• Cardiovascular System • Respiratory & Environmental Physiology **Clinical Physiology :-** • Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination • Respiratory System- Clinical Examination, Spirometry, Stethography • OPD (Applied Physiology)	Lectures – 110 Hrs Non – Lectures – 110 Hrs.
Module 4.		• Central Nervous System	

Control system of the human body with continuity		• Endocrinology **Clinical Physiology :** • Nervous System- Clinical Examination • Special Senses- Clinical Examination • Reproductive System – Diagnosis of pregnancy • OPD (Applied Physiology)	
	9th Month – 5 days PA 12th Month – 10 days TT – including Viva Voce		
SEMESTER - 3			
Module 5. **Energy maintenance of human body**	**16 wks**	• Reproductive System • Special Senses • Digestion System & Nutrition • Renal Physiology • Bio-Chemistry **Practical : -** • Demonstration of Uses Of Instruments Or Equipment • Qualitative Analysis of Carbohydrates, Proteins And Lipids • Normal Characteristics of Urine • Abnormal Constituents of Urine • Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood	Lectures – 115 Hrs Non – Lectures – 105 Hrs.

		• Liver Function Tests • Kidney Function Tests • Lipid Profile • Interpretation and Discussion of Results of Biochemical Tests **Clinical Physiology :-** • Gastrointestinal System- Clinical Examination • OPD (Applied Physiology)	
	14th Month – 5 days PA 18th Month – 12 days TT – including Viva Voce – University exam		

5. COURSE CONTENT

1. The purpose of a course in physiology is to enable the students to learn the functions, processes and inter-relationship of the different organs and systems of the normal disturbance in disease so that the student is familiar with normal standards of reference while diagnosing deviations from the normal, and while treating the patients.
2. There can be no symptoms of disease without vital force animating the human organism and it is primarily the vital force which is maintaining state of health
3. Physiology shall be taught from the stand point of describing physical processes underlying them in health;
4. Applied aspect of every system including the organs is to be stressed upon while teaching the subject.
5. Correlation with Organon and philosophy especially the concept of health and its derangement the interplay of different cell, tissue organ and system, their representation in repertory and integration in HMM
6. There should be close co-operation between the various departments while teaching the different systems;

7. There should be joint courses between the two departments of anatomy and physiology so that there is maximum co-ordination in the teaching of these subjects;
8. Seminars should be arranged periodically and lecturers of anatomy, physiology and bio-chemistry should bring home the point to the students that the integrated approach is more meaningful.

THEORY:-

1. **GENERAL PHYSIOLOGY:**

   Introduction to cellular physiology

   Cell Junctions

   Transport through cell membrane and resting membrane potential Body fluids compartments

   Homeostasis

2. **BIO-PHYSICAL SCIENCES**

   Filtration Ultra-filtration Osmosis

   Diffusion Adsorption Hydrotropy, Colloid

   Donnan Equilibrium Tracer elements Dialysis

   Absorption Assimilation Surface tension

3. **SKIN &THE INTEGUMENTARY SYSTEM**

   Skin & Integumentary System

Layers of Skin

Function of Skin

Sweat

Body temperature and its regulation

4. BODY FLUID & IMMUNE MECHANISM

Blood

Plasma Proteins

Red Blood Cells

Erythropoiesis

Haemoglobin and Iron Metabolism

Erythrocyte Sedimentation Rate

Packed Cell Volume and Blood Indices

Haemolysis and Fragility of Red Blood Cells

White Blood Cell

Immunity

Platelets

Haemostasis

Coagulation of Blood

Blood groups

Blood Transfusion

Blood volume

Reticulo-endothelial System and Tissue Macrophage Lymphatic System and Lymph

Tissue Fluid and Oedema

5. **NERVE MUSCLE PHYSIOLOGY**

Physiological properties of nerve fibres

Nerve fibre- types, classification, function, Degeneration and regeneration of peripheral nerves

Neuro-Muscular junction

Physiology of Skeletal muscle

Physiology of Cardiac muscle

Physiology of Smooth muscle

EMG

6. **CARDIO-VASCULAR SYSTEM**

Introduction to cardiovascular system Properties of cardiac muscle

Cardiac cycle

General principles of circulation Heart sounds

Regulation of cardiovascular system

Normal and abnormal Electrocardiogram (ECG)

Cardiac output

Heart rate

Arterial blood pressure

Radial Pulse

Regional circulation- Cerebral, Splanchnic, Capillary, Cutaneous & skeletal muscle circulation.

Cardiovascular adjustments during exercise

7. RESPIRATORY SYSTEM AND ENVIRONMENTAL PHYSIOLOGY

Physiological anatomy of respiratory tract

Mechanism of respiration: Ventilation, diffusion of gases

Transport of respiratory gases Regulation of respiration Pulmonary Function Test

High altitude and space physiology Deep sea physiology

Artificial respiration

Effects of exercise on respiration

8. CENTRAL NERVOUS SYSTEM

Introduction to nervous system Neuron

Neuroglia

Receptors

Synapse

Neurotransmitters

Reflex

Spinal cord

Somato-sensory system and somato-motor system Physiology of pain

Brain stem, Vestibular apparatus

Cerebral cortex

Thalamus

Hypothalamus

Internal capsule

Basal ganglia

Limbic system

Cerebellum – Posture and equilibrium

Reticular formation

Proprioceptors

Higher intellectual function Electroencephalogram (EEG)

Physiology of sleep

Cerebro-spinal fluid (CSF) Autonomic Nervous System (ANS)

9. ENDOCRINOLOGY

Introduction of endocrinology and importance of PNEI axis Hormones and hypothalamo- hypophyseal axis

Pituitary gland

Thyroid gland

Parathyroid

Endocrine functions of pancreas Adrenal cortex

Adrenal medulla

Endocrine functions of other organs

10. REPRODUCTIVE SYSTEM

Male reproductive system-testis and its hormones; seminal vesicles, prostate gland, semen.

Introduction to female reproductive system

Menstrual cycle

Ovulation

Menopause

Infertility

Pregnancy and parturition Placenta

Pregnancy tests

Mammary glands and lactation Fertility

Foetal circulation

11. SPECIAL SENSES

Eye: Photochemistry of vision, Visual pathway, Pupillary reflexes, Colour vision, Errors of refraction

Ear: Auditory pathway, Mechanism of hearing, Auditory defects

Sensation of taste: Taste receptors, Taste pathways

Sensation of smell: Olfactory receptors, olfactory, pathways Sensation of touch

12. DIGESTIVE SYSTEM & NUTRITION

Introduction to digestive system

Composition and functions of digestive juices

Physiological anatomy of Stomach, Pancreas, Liver and Gall bladder, Small intestine, Large intestine

Movements of gastrointestinal tract

Gastrointestinal hormones

Digestion and absorption of carbohydrates, proteins and lipids

13. RENAL PHYSIOLOGY

Physiological anatomy of kidneys and urinary tract

Fluid & electrolyte with acid base balance need to be include

Renal circulation

Urine formation: Renal clearance, glomerular filtration, tubular reabsorption, selective secretion, concentration of urine, acidification ofurine

Renal functions tests

Micturition

14. BIO-CHEMISTRY THEORY

Carbohydrates: (Chemistry, Metabolism, Glycolysis, TCA, HMP, Glycogen synthesis and degradation, Blood glucose regulation)

Lipids: (Chemistry, Metabolism, Intestinal uptake, Fat transport, Utilization of stored fat,Activation of fatty acids, Beta oxidation and synthesis of fatty acids)

Proteins: (Chemistry, Metabolism, Digestion of protein, Transamination, Deamination Fate of Ammonia, Urea cycle, End products of each amino acid and their entry into TCA cycle

Enzymes: (Definition, Classification, Biological Importance, Diagnostic use, Inhibition)

Vitamins: (Daily requirements, Dietary source, Disorders and physiological role)

Minerals (Daily requirement, Dietary Sources, Disorders and physiological role) mineral metabolism

Organ function tests

PRACTICAL & CLINICAL PHYSIOLOGY:-

No	**Practical**	**Demonstration / Performance**
HAEMATOLOGY		

1	Study of the Compound Microscope	Performance
2.	Collection of Blood Samples	Performance
3	Estimation of Haemoglobin Concentration	Performance
4	Determination of Haematocrit	Demonstration
5	Hemocytometry	Performance
6	Total RBC Count	Performance
7	Determination of RBC Indices	Demonstration
8	Total Leucocytes Count (TLC)	Performance
9	Preparation And Examination Of Blood Smear	Performance
10	Differential Leucocyte Count (DLC)	Performance
11	Absolute Eosinophil Count	Demonstration
12	Determination of Erythrocyte Sedimentation Rate	Demonstration
13	Determination of Blood Groups	Performance
14	Determination of Bleeding Time and Coagulation Time	Performance
BIOCHEMISTRY		
1	Demonstration of Uses Of Instruments Or Equipment	Demonstration
2	Qualitative Analysis of Carbohydrates, Proteins And Lipids	Performance

3	Normal Characteristics of Urine	Performance
4	Abnormal Constituents of Urine	Performance
5	Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood	Performance
6	Liver Function Tests	Demonstration
7	Kidney Function Tests	Demonstration
8	Lipid Profile	Demonstration
9	Interpretation and Discussion of Results of Biochemical Tests	Demonstration
CLINICAL PHYSIOLOGY & OPD		
1	Case Taking & Approach to pt	Performance
2	General Concept Of Examination	Performance
3	Examination of muscles, joints,	Performance
4	Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination	Performance
5	Respiratory System- Clinical Examination, Spirometry, Stethography	Performance
6	Nervous System- Clinical Examination	Performance
7	Special Senses- Clinical Examination	Performance
8	Reproductive System- Diagnosis of Pregnancy	Performance
9	Gastrointestinal System- Clinical Examination	Performance

10	OPD (Applied Physiology)	Demonstration & Performance

6. TEACHING LEARNING METHODS

Different teaching-learning methods must be apply for understanding holistic and integrated way of physiology. There has to be classroom lectures, small group discussions, case discussion where case based learning (CBL) and problem based learning (PBL). In the applied physiology, Case discussion (CBL-PBL) methods are helpful for students. AV – Methods for demonstration of physiological processes will be very helpful. In process of Clinical Physiology – DOAP (Demonstration – Observation – Assistance – Performance) is very well applicable.

Practical & Clinics are the best medium to demonstrate all physiological processes in objective ways. They help us to understand and explain the physiological signs. Haematological& Biochemistry practicals are done in laboratory, where one can apply the DOAP (Demonstration – Observation – Assistance – Performance) & OSPE (Objective Structured Practical Examination) methods. All this should be recorded in the journal.

In the clinics / OPD / IPD / Bed side there shall be exposure of Clinical & Applied Physiology. These can be demonstratedby DOAP (Demonstration – Observation – Assistance – Performance) & OSCE (Objective Structured Clinical Examination) methods. These methods are more objective, and t will help students to develop the attitude as clinicians.

Other Innovative methods include preparation of charts and models.

7. CONTENT MAPPING (COMPETENCY TABLE)

SEMESTER – 1

Topic No	**1**
Theory	**General Physiology**
Practical	**-**
Clinical Physiology	**Case Taking & Approach to Patient**

Learning Outcome: -

At the end of the chapter General Physiology, the student must be able to –

- Discuss the principles of cellular physiology.
- Classify cell junctions.
- Explain the process of transport through cell membrane
- Describe the resting membrane potential.
- Categorise body fluids compartments.
- Explain the concept of homeostasis

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
HomUG-PB 1.1	Integration Of Information (K-1)	Introduction & Cell	Knows	Definition & general introduction	Define Physiology.	Cognitive	Level 1 (Remember/ recall)	Must know	Lecture, Small group discussion	MCQs	_	
HomUG-PB 1.2			Knows How		Discuss the importance of learning physiology in a homoeopathic course	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	Viva Voce	Organon
HomUG-PB 1.3			Knows How		Discuss the Internal & external environm	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	

					ent of Body							
HomUG-PB 1.4	Integration Of Information (K-1)	Homeostasis	Knows How W	Describe and discuss the principles of homeostasis	Explain the regulation of internal environment	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology Organon
HomUG-PB 1.5			Knows How		Explain homoeostasis & it's control	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	
HomUG-PB 1.6	Integration Of Information (K-1)	The Cellular Level Organisation	Knows How	Describe the structure and functions of a mammalian cell	Describe the structure of cell	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Pathology
HomUG-PB 1.7			Knows How		Describe the	Cognitive	Level 2	Must know	Lecture, Small group	SAQs	SAQs, Viva Voce	Pathology Organon

					functions of cell		Understand / interpret		discussion			
HomUG-PB 1.8			Knows		List the organelles present in cell	Cognitive	Level 1 (Remember/ recall)	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
HomUG-PB 1.9			Knows		Enumerate the functions of organelles	Cognitive	Level 1 (Remember/ recall)	Desirable to Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology
HomUG-PB 1.10			Knows		List the name of intracellular junction	Cognitive	Level 1 (Remember/ recall)	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 1.11			Knows How		Discuss the importance of intracellul	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy

					ar Junction							
HomUG-PB 1.12	Integration Of Information (K-1)		Knows How	To understand transport mechanisms across cell membranes	Explain Passive transportation	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 1.13			Knows How		Explain Active Transportation	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 1.14			Knows How		Explain Vesicular Transportation	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 1.15	Information Gathering,	Clinical & Applied Physiology	Shows How	To conduct History taking	Demonstrate history	Affective	Level 1 Observe / Imitate	Must know	Demonstration, Role Play	Observation	DOPS	

	Integration Of information, Problem Integration (K-2)				taking process							

Topic No	**2**
Theory	**Bio Physics Science**
Practical	**-**
Clinical Physiology	**-**

Learning Objectives: -

At the end of the chapter Bio Physics Science, the student must be able to –

- Define biophysics.
- Illustrate the biophysical activity across the cell membrane.
- Explain membrane potential.
- Describe the chemical bond & solution.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration -Horizontal / Vertical / Spiral
HomUG-PB 2.1	Integration Of Information (K-1)	Bio Physics Science	Knows	To understand the bio-Physical science of cell membrane	Define the terms Filtration& Ultrafiltration	Cognitive	Level 1 (Remember/ recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 2.2			Knows		Define intra cellular communication	Cognitive	Level 1 (Remember/ recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 2.3			Knows		Define the terms adsorption & Absorption	Cognitive	Level 1 (Remember/ recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 2.4			Knows		Define the terms Hydrotrophy,	Cognitive	Level 1 (Remember/ recall)	Nice to know	Lecture, Small group	SAQs	SAQs, Viva Voce	Biochemistry Medicine

					Dialysis & Assimilation				discussion			
HomUG-PB 2.5			Knows		Define Surface Tension	Cognitive	Level 1 (Remember/ recall)	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry Medicine
HomUG-PB 2.6	Integration Of Information (K-1)		Knows How	Discuss the Membrane Physiology &Membrane Potential	Explain Action Potential	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 2.7			Knows		Define Donnan Equilibrium	Cognitive	Level 1 (Remember/ recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 2.8			Knows		Define Transmembrane Potential	Cognitive	Level 1 (Remember/ recall)	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry

HomUG-PB 2.9			Knows How		Explain nerve action potential	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 2.10			Knows		Define Tracer Elements	Cognitive	Level 1 (Remember/ recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 2.11			Knows		Define Rhythmicity of some excitable tissues	Cognitive	Level 1 (Remember/ recall)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 2.12	Integration Of Information (K-1)	The Chemical Level Organisation	Knows How	Understand the chemical bonds	Describe the Ionic Bond	Cognitive	Level 2 (Understand and interpret)	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 2.13			Knows How		Describe the covalent bond	Cognitive	Level 2	Nice to know	Lecture, Small group	SAQs	SAQs, Viva Voce	Biochemistry

							Understand and interpret		discussion			
HomUG-PB 2.14			Knows How		Describe the Hydrogen Bond	Cognitive	Level 2 Understand and interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 2.15	Integration Of Information (K-1)		Knows	Understand the inorganic Compound & Solution	Define the terms Colloid, Solution & Suspension	Cognitive	Level 1 (Remember/ recall)	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 2.16			Knows How		Discuss the characteristics of acids, Base & Salts	Cognitive	Level 2 Understand and interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 2.17			Knows How		Discuss acid - base balance & its	Cognitive	Level 2 (Understand)	Must know	Lecture, Small group	SAQs	SAQs, Viva Voce	Biochemistry

					application to the concept of pH				discussion			
HomU G-PB 2.18			Knows How		Describe the maintaining of pH: Buffer System	Cognitive	Level 2 (Understand)	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry

Topic No	**3**
Theory	**Skin & The Integumentary System**
Practical	**-**
Clinical Physiology	**Demonstration of General Examination**

Learning Objectives: -

At the end of the chapter Skin & the Integumentary System, the student must be able to –

- Discuss the functions of skin, nail, and hair.

- Conduct examination of the Integumentary System under supervision.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know/ desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
HomUG-PB 3.1	Integration Of Information (K-1)	Skin & The Integumentary System	Knows How	Understand the Structure & function of Skin	Discuss layers of skin with their functions	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine Organon Materia Medica Pharmacy
HomUG-PB 3.2			Knows How		Relate the structure of hair with its function	Cognitive	Level 2 Understand and interpret	Desirable To Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
HomUG-PB 3.3			Knows How		Relate the structure of	Cognitive	Level 2	Desirable To Know	Lecture, Small	SAQs	SAQs, Viva Voce	Anatomy

					nail with its function		Understand and interpret		group discussion			
HomUG-PB 3.4			Knows How		Relate the structure of different glands of skin with their functions	Cognitive	Level 2 (Understand)	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 3.5			Knows How		Describe the glands of skin	Cognitive	Level 2 Understand and interpret	Desirable To Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
HomUG-PB 3.6			Knows How		Explain the regulation of body temperature through skin	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine

HomUG-PB 3.7	Information Gathering , Integration Of information, Problem Integration (K-2)	Clinical & Applied Physiology	Shows How	To demonstrate General examination	Demonstrate the examination of Skin & Mucus Membrane	Psycho Motor	Level 1 Observe / Imitate	Must know	DOAP	Observation	OSCE	Medicine
MedicineHomUG-PB 3.8			Shows How		Demonstrate the examination of Conjunctive, Nail & Glands	Psycho Motor	Level 1 Observe / Imitate	Must know	DOAP	Observation	OSCE	Medicine

Topic No	**4**
Theory	**Nerve Muscle Physiology**
Practical	**-**
Clinical Physiology	**Demonstrate effect of mild, moderate and severe exercise and record changes in cardiorespiratory parameters** **Perform Ergography, Examination of muscles, joints,**

Learning Objectives: -

At the end of the chapter Nerve Muscle Physiology, the student must be able to –

- Discuss the properties and functions of neurons.
- Illustrate a neuromuscular junction.
- Classify muscle fibres.
- Describe the properties of skeletal, cardiac, and smooth muscle fibres.
- Demonstrate effect of mild, moderate and severe exercise and record changes in cardiorespiratory parameters.
- Perform Ergography under supervision.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
HomUG-PB 4.1	Integration Of Information (K-1)	Nerve Muscle Physiology	Knows	To understand the functional anatomy of Nerve fibres	Define Neurone Classify neurons	Cognitive	Level 1 (Remember/ recall)	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 4.2			Knows How		Explain structure and function of neuroglia	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy

HomUG-PB 4.3	Integration Of Information (K-1)		Knows	To understand the physiological properties of nerve fibers	Definethe terms Excitability & Conductivity	Cognitive	Level 1 (Remember/ recall)	Desirable To Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 4.4			Knows How		Discuss graded & action potential	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
HomUG-PB 4.5	Integration Of Information (K-1)		Knows How	To understand the degeneration & regeneration of neurone	Discuss the causes & grade of injury	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
HomUG-PB 4.6			Knows How		Identify the stages of degeneration	Cognitive	Level 2 Understand and interpret	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology

HomUG-PB 4.7			Knows How		Discuss the stages of regeneration	Cognitive	Level 2 Understand and interpret	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 4.8	Integration Of Information (K-1)		Knows How	To describe Neuromuscular Junction	Illustrate the Structure of Neuro-Muscular Junction	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 4.9			Knows How		Discuss the Neuromuscular Transmission	Cognitive	Level 2 Understand and interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 4.10			Knows How		Discuss Disorders of neuromuscular Junction	Cognitive	Level 2 (Understand)	Must know	Lecture, Small group discussion, CBL, PBL	MCQs	SAQs, Viva Voce	Medicine

HomUG-PB 4.11	Integration Of Information (K-1)		Knows How	To understand the physiological properties of Skeletal Muscle	Illustrate the mechanism of skeletal muscle contraction. Describe the general mechanism of muscle contraction.	Cognitive	Level 2 Understand and interpret	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 4.12			Knows How		Discuss Molecular mechanism	Cognitive	Level 2 Understand and interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 4.13			Knows How		Discuss Energetic of muscle contraction	Cognitive	Level 2 Understand and interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	

HomUG-PB 4.14			Knows How		Discuss Excitation of skeletal muscle	Cognitive	Level 2 Understand and interpret	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 4.15	Integration Of Information (K-1)		Knows How	To understand the physiological properties of Smooth Muscle	Explain Contraction of smooth muscle	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 4.16			Knows How		Explain Nervous & hormonal control of smooth muscle contraction	Cognitive	Level 2 Understand and interpret	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 4.17	Integration Of Information (K-1)		Knows How	To understand the physiological properties	Illustrate Functional Anatomy of cardiac Muscle	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy

HomUG-PB 4.18			Knows How	of Cardiac Muscle	Explain process of excitability & contractility	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy
HomUG-PB 4.19			Knows How		Explain properties of cardiac muscle	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
HomUG-PB 4.20			Knows How		Discuss the disorders of Skeletal Muscles	Cognitive	Level 2 Understand and interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 4.21	Information Gathering, Integration Of informat	Clinical & Applied Physiology Of Muscle	Shows How	Demonstrate effect of mild, moderate and severe exercise and record	Measure the parameters of cardio-pulmonary changes during exercise	Psycho Motor	Level 2 Control	Nice to know	Demonstration	Observation	OSCE	Medicine

	ion, Problem Integration (K-2)			changes in cardiorespiratory parameters								
HomUG-PB 4.22			Shows How	Perform Ergography	Demonstrate the sequence of performing ergography.	Psycho Motor	Level 1 Observe / Imitate	Nice to know	Demonstration	Observation	OSCE	Medicine

Topic No	**5**
Theory	**Body Fluid& Immune Mechanism**
Practical	**Hematology**
Clinical Physiology	

Learning Objectives: -

At the end of the chapter on Body Fluid & Immune System & Hematology, the student must be able to –

- Describe the composition and functions of blood components

- Describe the origin, Forms, Variations and functions of plasma Protein
- Illustrate the synthesis of Haemoglobin
- Describe RBC formation (erythropoiesis) and its regulation
- Describe WBC formation (granulopoiesis) and its regulation
- Classify Anaemias & Jaundice
- Explain the role of lymphoid tissues in immune responses
- Classify different types of immunity
- Describe the development and regulation of immunity.
- Explain the formation and functions of platelets.
- Illustrate the physiological basis of haemostasis
- Describe different blood groups
- Discuss the clinical importance of blood grouping
- Describe blood transfusion
- Estimate Hb, RBC, TLC, RBC indices, DLC, Blood groups, BT/CT

S.No	**Generic competency**	**Subject area**	**Miller's Level**	**Specific competency**	**Specific Learning Objectives / outcomes**	**Bloom's domain**	**Guilbert's level**	**Must know / desirable to know / nice to know**	**TL method / media**	**Formative Assessment**	**Summative Assessment**	**Integration - Horizontal / Vertical / Spiral**
HomUG-PB 5.1	Integration Of	Blood Fluid and It's	Knows How	Describe the compositi	Discuss the composition of Blood	Cognitive	Level 2	Must know	Lecture, Small group	MCQs	LAQs, Viva Voce	

	Information (K-1)	Constituents		on and functions of blood components			Understand and interpret		discussion			
HomUG-PB 5.2			Knows How		Describe the function of blood	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 5.3			Knows		Define serum	Cognitive	Level 1 recall	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 5.4			Knows How		Explain the difference between serum & Plasma	Cognitive	Level 2 Understand and interpret	Desirable to Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry

HomUG-PB 5.5	Integration Of Information (K-1)		Knows How	Describe the origin, Forms, Variations and functions of plasma Protein	Discuss the origin of plasma protein	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 5.6			Knows How		Explain the forms and functions of plasma proteins	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology
HomUG-PB 5.7			Knows How		Identify the relation of diet to plasma protein	Cognitive	Level 2 Understand and interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 5.8	Integration Of Information (K-1)		Knows How	Describe and discuss the synthesis and	Illustrate the structure of Haemoglobin	Cognitive	Level 2 Understand and interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry

HomUG-PB 5.9			Knows How	functions of Haemoglobin	Discuss the synthesis of Haemoglobin	Cognitive	Level 2 Understand and interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 5.10			Knows		Define Normal function of Haemoglobin	Cognitive	Level 1 recall	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Biochemistry Materia Medica
HomUG-PB 5.11			Knows		State normal Value of different varieties of Haemoglobin	Cognitive	Level 1 recall	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
HomUG-PB 5.12			Knows How		Explain Iron metabolism	Cognitive	Level 2 Understand and interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry

HomUG-PB 5.13	Integration Of Information (K-1)		Knows How	Describe RBC formation (erythropoiesis & its regulation) and its functions	Discuss the normal structure of RBC with its morphology	Cognitive	Level 2 Understand and interpret	Desire to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Pathology Medicine
HomUG-PB 5.14			Knows How		discuss stages and regulation of erythropoiesis	Cognitive	Level 2 Understand and interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 5.15			Knows How		Discuss the fate of RBC	Cognitive	Level 2 Understand and interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 5.16			Knows How		Discuss the haemolysis	Cognitive	Level 2 Understand and interpret	Desirable to Know	Lecture, Small group discussion, CBL	SAQs	SAQs, Viva Voce	Medicine FMT

HomUG-PB 5.17	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe different types of anaemias & Jaundice	Classify the anaemias according to their morphology & aetiology	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion, CBL, PBL	MCQs	LAQs, Viva Voce	Medicine, Pathology
HomUG-PB 5.18			Knows How		Discuss the different anaemia	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion, CBL, PBL	MCQs	LAQs, Viva Voce	Medicine, Pathology Materia Medica Repertory
HomUG-PB 5.19			Knows How		Enumerate the different abnormal functions in anaemia	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion, CBL, PBL	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 5.20			Knows How		Discuss the fate of bilirubin	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion, CBL	SAQs	SAQs, Viva Voce	Medicine, Pathology Materia Medica Repertory

HomUG-PB 5.21			Knows How		Explain Physiological Jaundice	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion, CBL	SAQs	SAQs, Viva Voce	Materia Medica Repertory
HomUG-PB 5.22			Knows How		Explain Jaundice in new-born	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion, CBL	SAQs	SAQs, Viva Voce	Medicine Materia Medica Repertory
HomUG-PB 5.23	Integration Of Information (K-1)		Knows How	Describe WBC formation (granulopoiesis) and its regulation	Explain different condition of leucocyte count in our body	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine Pathology
HomUG-PB 5.24			Knows How		Classify different type of WBCs	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology

HomUG-PB 5.25			Knows How		Discuss the function of WBCs as per their classification	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 5.26			Knows How		Discuss the phagocytosis	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology
HomUG-PB 5.27			Knows How		Discuss the stages of leucopoiesis with its regulation	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 5.28			Knows How		Discuss the conditions that cause abnormal value of leucocyte	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Surgery Pathology

HomUG-PB 5.29	Integration Of Information (K-1)		Knows How	Describe the formation of platelets, functions and variations.	Discuss the structure & function of Platelets	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology
HomUG-PB 5.30			Knows How		Describe the Thrombopoiesis	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 5.31			Knows How		Discuss its count & variation of platelets	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
HomUG-PB 5.32	Integration Of Information (K-1)		Knows How	Describe the physiological basis of	Describe the process of coagulation	Cognitive	Level 2 (Understand / interpret)	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology Materia Medica

HomUG-PB 5.33			Knows How	haemostasis	Discuss the mechanism of haemostasis	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 5.34			Knows How		Explain stages of clotting mechanism	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology Medicine
HomUG-PB 5.35	Integration Of Information (K-1)		Knows How	Describe the clinical importance of blood coagulation	Discuss haemorrhagic disorder	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion, CBL	MCQs	SAQs, Viva Voce	Medicine
HomUG-PB 5.36	Integration Of Information (K-1)		Knows	Describe different blood groups	Classify the ABO blood group system	Cognitive	Level 1 Recall	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology

HomUG-PB 5.37			Knows How		Discuss Landsteiner's Law	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 5.38	Integration Of Information (K-1)		Knows How	Discuss the clinical importance of blood grouping	Describe Rhesus Blood Group	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 5.39			Knows How		Discuss Rh Incompatibility	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine, Pathology Obstetrics & Gynaecology
HomUG-PB 5.40	Integration Of Information (K-1)		Knows How	Describe blood transfusion	Discuss the importance of Blood transfusion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery Medicine

HomUG-PB 5.41			Knows		List causes for Blood transfusion reaction	Cognitive	Level 1 Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 5.42	Integration Of Information (K-1)	Immune Mechanism	Knows How	Explain the role of lymphoid tissues in immune responses	Discuss Tissue Macrophage system	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology Medicine
HomUG-PB 5.43			Knows How		Describe the morphology and functions of Lymphocytes & Plasma cell	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology
HomUG-PB 5.44			Knows How		Explain the functions of spleen	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	

HomUG-PB 5.45			Knows How		Discuss the formation and functions of Lymph	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 5.46	Integration Of Information (K-1)		Knows	Define and classify different types of immunity.	Define Immunity	Cognitive	Level 1 (Remember/ recall)	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
HomUG-PB 5.47			Knows How		Explain different type of immunity	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	
HomUG-PB 5.48	Integration Of Information (K-1)		Knows How	Describe the development of immunity	Discuss development of immune response	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	

HomUG-PB 5.49			Knows How	and its regulation	Discuss Autoimmunity & Hypersensitivity	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 5.50			Knows How		Discuss Immunodeficiency Diseases	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 5.51	Information Gathering ,Integration Of information, Problem Integration (K-2)	Haematology Practical	Shows How	Estimate Hb, RBC, TLC, RBC indices, DLC, Blood groups, BT/CT	Estimate Hb in the given sample	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observation	Check list	Pathology Medicine
HomUG-PB 5.52			Knows How		Interpret results of Hb estimation	Cognitive	Level 2 Understand / interpret	Desirable to know	DOAP	Observation	Check list	Pathology Medicine

HomUG-PB 5.53			Shows How		Perform RBC Total Count Estimation	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observation	Check list	Pathology
HomUG-PB 5.54			Knows How		Interpret the results of RBC Total Count Estimation	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observation	Check list	Pathology
HomUG-PB 5.55			Shows How		Perform WBC Total Count Estimation	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observation	Check list	Pathology Medicine
HomUG-PB 5.56			Knows How		Interpret the results of WBC Total Count Estimation	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observation	Check list	Pathology Medicine
HomUG-PB 5.57			Shows How		Perform WBC DC estimation	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observation	Check list	Pathology

HomUG-PB 5.58			Knows How		Interpret the results of WBC DC estimation	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observation	Check list	Pathology
HomUG-PB 5.59			Shows How		Record RBC indices	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observation	Check list	Pathology Medicine
HomUG-PB 5.60			Knows How		Evaluate RBC indices	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observation	Check list	Pathology Medicine
HomUG-PB 5.61			Shows How		Perform Blood Group identification	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observation	Check list	Pathology
HomUG-PB 5.62			Shows How		Perform BT / CT	Psycho Motor	Level 2 (Control)	Must know	DOAP	Observation	Check list	Pathology
HomUG-PB 5.63			Knows How		Interpret the results of BT / CT	Cognitive	Level 2	Must know	DOAP	Observation	Check list	Pathology

							Understand / interpret					
HomUG-PB 5.64			Shows How		Record ESR	Psycho Motor	Level 2 (Control)	Must know	Demonstration	Observation	Check list	Pathology
HomUG-PB 5.65			Knows How		Interpret the results of ESR estimation	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observation	Check list	Pathology
HomUG-PB 5.66	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Describe steps for reticulocyte and platelet count	Record Reticulocyte count	Psycho Motor	Level 1 (Observe / Imitate)	Nice to know	Demonstration	Observation	Observation	Pathology
HomUG-PB 5.67			Knows How		Interpre the results of Reticulocyte count	Cognitive	Level 2 Understand / interpret	Must know	DOAP	Observation	Check list	Pathology Medicine
HomUG-PB 5.68			Shows How		Record Platelet Count	Psycho Motor	Level 1 (Observe / Imitate)	Nice to know	Demonstration	Observation	Observation	Pathology

HomU G-PB 5.69			Knows How		Interpret the results of Platelet Count	Cogniti ve	Level 2 Understan d / interpret	Must know	DOAP	Obser vation	Check list	Pathology Medicine

SEMESTER – 2

Topic No	**6**
Theory	**Cardio Vascular System**
Practical	
Clinical Physiology	**Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination**

Learning Objectives: -

At the end of chapter on Cardio Vascular System&itsexamination,the student must be able to –

- Describe the functional anatomy of the heart, with respect to its chambers, valves, input and output vessels, AV ring and electrical discontinuity, Conducting system, Coronary supply.
- Describe the properties of cardiac muscle including its morphology, electrical, mechanical and metabolic functions.
- Discuss the events occurring during the cardiac cycle
- Illustrate the hemodynamics of circulatory system

- Explain the regulation of cardiac output
- Describe the normal mode of conduction of the cardiac impulse
- Explain coronary, cerebral, capillary, pulmonary& splanchnic circulation
- List the major diseases of cardiovascular system,
- Record Pulse, blood pressure, and ECG
- Perform the clinical examination of cardiovascular system

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
HomUG -PB 6.1	Integration Of Information (K-1)	Cardio Vascular System	Knows How	Describe the functional anatomy of heart including chambers, Sounds	Describe the chambers of heart	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Human Anatomy
HomUG -PB 6.2			Knows How		Discuss the valves & the walls of heart	Cognitive	Level 2Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Human Anatomy

HomUG-PB 6.3	Integration Of Information (K-1)		Knows How	Describe Pacemakertissueandconductingsystem.	Explain the pacemaker of heart.	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine – Cardiology
HomUG-PB 6.4			Knows How		Describe the conducting system	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
HomUG-PB 6.5	Integration Of Information (K-1)		Knows How	Describethe propertiesof cardiacmuscleincluding itsmorphology, electrical,mechanicalandmetabolicfunctions	Discuss the Morphological Properties of heart	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
HomUG-PB 6.6			Knows How		Discuss the electrical properties of heart	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 6.7			Knows How		Discuss the mechanical & metabolic	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group	SAQs	Viva Voce	Anatomy

					Properties of heart				discussion			
HomUG-PB 6.8	Integration Of Information (K-1)		Knows	Discussstheeventsoccuringduringthecardiaccycle	Define Cardiac cycle	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
HomUG-PB 6.9			Knows How		Discuss the events of cardiac cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 6.10			Knows How		Explain the pressure changes during cardiac cycle	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 6.11			Knows How		Explain the ECG changes during each cardiac cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine

HomUG-PB 6.12	Integration Of Information (K-1)		Knows	Discuss heart sounds	Define Heart Sound	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
HomUG-PB 6.13			Knows How		Explain different heart sounds with their measurement technique	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	
HomUG-PB 6.14			Knows How		Discuss the clinical importance of Murmurs& Triple heart sound	Cognitive	Level 2 Understand / interpret	Must know	Lecture, PBL, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Surgery
HomUG-PB 6.15	Integration Of Information (K-1)		Knows How	Describe the physiology of electrocardiogram (E.C.G),	Discuss normal ECG with it'swaves and intervals	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine

HomUG-PB 6.16			Knows How		Explain in electrocardiography with unipolar & bipolar recording.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 6.17	Information Gathering ,Integration Of informationProblem Integration (K-2)		Knows How	Discussarrhythmia, heartblockandmyocardial Infarction	Classify arrythmias	Cognitive	Level 2 Understand / interpret	Must know	Lecture, PBL, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 6.18			Knows How		Explain Different degree of heart block. Explain Myocardial Infarction	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, PBL , Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology Materia Medica Repertory
HomUG-PB 6.19	Integration Of Information (K-1)		Knows	Describehaemodynamicsofcirculatorysystem	List the functions of circulation	Cognitive	Level 1 Recall	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy

HomUG-PB 6.20			Knows		State the functions of heart	Cognitive	Level 1 Recall	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 6.21			Knows How		Discuss the pressure changes in vascular system	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
HomUG-PB 6.22			Knows		Recall the structure of the blood vessels	Cognitive	Level 1Recall	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Human Anatomy
HomUG-PB 6.23	Integration Of Information (K-1)		Knows How	Describethe factorsaffectingheartrate,	Identify the factors affecting heart rate and how it affects	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 6.24			Knows How		Discuss the mechanism	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group	SAQs	SAQs, Viva Voce	

					of control of heart rate				discussion			
HomUG-PB 6.25	Integration Of Information (K-1)		Knows	Describe the regulationofcardiacoutput	Define cardiac output	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs	LAQs Viva Voce	Materia Medica Repertory
HomUG-PB 6.26			Knows How		Discuss the distribution of cardiac output	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
HomUG-PB 6.27			Knows How		Discuss the factors affecting cardiac output	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 6.28			Knows How		Discuss in detail the Control mechanism of cardiac output	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	

HomUG-PB 6.29	Integration Of Information (K-1)		Knows How	Understand the bloodpressure regulation	Discuss the importance of blood pressure	Cognitive	Level 2 Understand / interpret	Must know	Lecture, PBL, Smallgroup discussion	SAQs	LAQs, Viva Voce	Medicine
HomUG-PB 6.30			Knows		State the factors affecting arterial blood pressure	Cognitive	Level 1 Recall	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
HomUG-PB 6.31			Knows How		Discuss the determinants of arterial blood pressure	Cognitive	Level 2 Understand / interpret	Desirable To Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
HomUG-PB 6.32			Knows How		Describe regulation of arterial blood pressure	Cognitive	Level 2 Understand / interpret	Must know	PBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine

HomUG-PB 6.33	Integration Of Information (K-1)		Knows How	Describe coronary, cerebral, capillary, pulmonary &splanchniccirculation	Discuss the capillary circulation	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 6.34			Knows How		Discuss the Coronary circulation	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology
HomUG-PB 6.35			Knows How		Discuss the Cerebral circulation	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology
HomUG-PB 6.36			Knows How		Discuss the Splenic circulation	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 6.37			Knows How		Discuss Pulmonary circulation	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group	SAQs	SAQs, Viva Voce	Medicine

									discussion			
HomUG-PB 6.38	Information Gathering ,Integration Of information,Problem Integration (K-2)		Knows How	Describethe mechanism of shock,syncope& Hypertension	Explain mechanism responsible for shock & syncope	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology
HomUG-PB 6.39			Knows How		Discuss the mechanism of hypertension	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Pathology Materia Medica Organon
HomUG-PB 6.40	Information Gathering ,Integration Of information,Problem Integration (K-2)		Shows How	Recordblood dpressureat restandindifferentgrade sof exerciseand postures	Measure the blood pressure in resting &different grade of exercise	Psycho-motor	Level 2(Control)	Must know	Demonstration	Observation	Check list	Medicine
HomUG-PB 6.41			Knows How		Discuss the variation between	Cognitive	Level 2 (Understanding)	Must know	CBL, Lecture, Small	Observation	Check list	Medicine

					different blood pressure values after measuremen t				group discussio n			
HomU G-PB 6.42	Informatio n Gathering ,Integration Of informatio n, Problem Integration (K-2)		Show s How	Recordpuls eatrestandi ndifferentg radesof exerciseand postures	Measure pulse at rest and in different grades of exercise	Psycho-motor	Level 2 (Control)	Must know	Demonst ration	Observ ation	Check list	Medicine
HomU G-PB 6.43			Know s How		Discuss the variation between different arterial pulse value after measuremen t	Cognitiv e	Level 2 (Understan d)	Must know	CBL, Lecture, Small group discussio n	Observ ation	Check list	Medicine
HomU G-PB 6.44	Informatio n Gathering, Integration of		Show s How	Record ECG	Record ECG in a volunteer.	Psycho-motor	Level 2 (Control)	Desirable to know	Demonst ration	Observ ation	Check list	Medicine

	information, Problem Integration (K-2)		Knows		Identify the features of a normal ECG.	Cognitive	Level 1 (Recall)	Nice to Know	CBL, Lecture, Small group discussion			
HomUG-PB 6.45	Information Gathering,Integration Of information, Problem Integration (K-2)		Shows How	Demonstrat ethecorrect clinicalexa minationoft hecardiovas cular system	Locate the Apex beat	Psycho-motor	Level 2 (Control)	Must know	Demonst ration	Observ ation	Check list	Human Anatomy
HomUG-PB 6.46			Shows How		Auscultate forheart sound	Psycho-motor	Level 2 (Control)	Must know	Demonst ration	Observ ation	Check list	Medicine
HomUG-PB 6.47			Shows How		Identify different heart sounds	Psycho-motor	Level 2 (Control)	Must know	Demonst ration	Observ ation	Check list	Medicine

Topic No	**7**
Theory	**Respiratory & Environmental Physiology**
Practical	
Clinical Physiology	**Respiratory System- Clinical Examination, Spirometry, Stethography**

Learning Objectives: -

At the end of the chapter ofRespiratory & Environmental Physiology, the student must be able to –

- Describe the functional anatomy of respiratory tract.
- Describe the mechanics of normal respiration
- Describe pressure changes during ventilation
- Describe lung volume and capacities
- Describe the transport of respiratory gases
- Describe the regulation of respiration
- Demonstrate the correct clinical examination of the respiratory system in a normal volunteer.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know /	TL method / media	Formative Assessment	Summative Asses	Integration - Horizontal / Vertical / Spiral

								nice to know			**smen t**	
Hom UG-PB 7.1	Integration Of Information (K-1)	Respiratory & Environmental Physiology	Knows How	Describethe functionalanatomyofrespiratorytract	Identify the different parts of upper respiratory tract	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 7.2			Knows How		Describe the importance of different parts of lower respiratory tract	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 7.3			Knows How		Identify the different parts oftracheo – bronchial tree, Respiratory membrane & pleura	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy

Hom UG-PB 7.4			Knows How		Explain the properties of Gases	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 7.5			Knows How		Discuss non-respiratory function of respiratory system	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.6	Integration Of Information (K-1)		Knows How	Describethe mechanicsofnormalrespiration	Discuss the mechanism of Inspiration	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 7.7			Knows How		Discuss the mechanism of Expiration	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
Hom UG-PB 7.8	Integration Of Information (K-1)		Knows How	Describe pressurechangesduring ventilation	Discuss intra-pulmonary pressure	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.9			Knows How		Discuss intra pleural pressure	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine

Hom UG-PB 7.10	Integration Of Information (K-1)		Knows How	Describe lungvolume andcapacities,	Discuss static lung volume & capacities	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.11			Knows How		Discuss dynamic lung volume and capacities	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.12	Integration Of Information (K-1)		Knows How	Describe alveolar surface tension	Define surface tension	Cognitive	Level 1 (Remember / recall)	Desirable To Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.13			Knows How		Discuss the significance of lung surfactant	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 7.14	Integration Of Information (K-1)		Knows How	Describethe transport ofrespiratorygases	Describethe Oxygen transportation	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 7.15			Knows How		Explainthe carbon dioxide transportation	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	

Hom UG-PB 7.16	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe the regulation of respiration	Discuss the nervous regulation of respiration	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 7.17			Knows How		Discuss the Chemical regulation of respiration	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
Hom UG-PB 7.18			Knows How		Discuss the physio clinical aspect of Apnea	Cognitive	Level 2 Understand / interpret	Must know	PBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.19			Knows How		Discuss the physio clinical aspect of Dyspnoea, Asphyxia, Oxygen toxicity	Cognitive	Level 2 Understand / interpret	Must know	PBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine FMT Materia Medica
Hom UG-PB 7.20	Information Gathering ,Integrati		Know	Describethe physio clinical aspect of	Define Hypoxia	Cognitive	Level 1 (Recall)	Must know	PBL, Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Medicine

Hom UG-PB 7.21	on Of information, Problem Integration (K-2)		Knows	hypoxia	Classify hypoxia. Define Cyanosis	Cognitive	Level 1Recall	Must know	PBL, Lecture, Small group discussion	MCQS, SAQs	SAQs, Viva Voce	Pathology Medicine
Hom UG-PB 7.22	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe the principles and methods of artificialrespiration,	Discuss the principles of artificial respiration	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.23			Knows How		Discuss the Methods of artificial respiration	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.24	Integration Of Information (K-1)		Knows How	Describethe physiologyofhighaltitudeanddeepsea diving	Discuss the pressure changes during high altitude	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
Hom UG-PB 7.25			Knows How		Discuss the effect during Rapid & slow ascent on high altitude	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	

Hom UG-PB 7.26			Knows How		Discuss the pressure changes during Deep sea diving	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
Hom UG-PB 7.27	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Performthec linicalexami nationofther espiratorysy steminanor malvolunte er	Perform the technique to assess normal respiratory rate, expansion of chest, in resting as well as exercise condition through inspection and palpation	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Check list	Medicine
Hom UG-PB 7.28			Shows How		Perform percussion on the chest	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Check list	Medicine

Hom UG-PB 7.29			Shows How		Perform the auscultation on different parts of lungs.	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Medicine

Topic No	**8**
Theory	**Central Nervous System**
Practical	
Clinical Physiology	**Nervous System- Clinical Examination**

Learning Objectives:-

At the end of chapter ofCentral Nervous System, the student must be able to –

- Map the organization of nervous system.
- State the functions and properties of synapse.
- Explain the functions and properties of receptors
- Describe the functions and properties of reflex.
- Discuss the mechanism of chemical transmission in the nervous system.
- Describe somatic sensations & sensory tracts.
- Describe and discuss motor tracts & mechanism of maintenance of muscle tone.
- Describe the physiology of vestibular apparatus, Control of body movements, posture and equilibrium.
- Describe structure and functions of autonomic nervous system
- Explain the functions, lesion & sensory disturbance of Spinal cord
- Describe functions of cerebral cortex, basal ganglia, thalamus, hypothalamus, cerebellum and limbic system
- Describe behavioural and EEG characteristic during Sleep.
- Describe the physiological basis of memory, learning and speech
- Perform the clinical examination of the nervous system in a volunteer or on a simulator.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration -Horizontal / Vertical / Spiral

HomUG-PB 8.1	Integration Of Information (K-1)	Nervous System	Knows	Describetheorganizationofnervoussystem	Identify the parts of central nervous system – brain & spinal cord with its function	Cognitive	Level 1Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 8.2			Knows How		Discuss the developmental aspect of central nervous system	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 8.3			Knows		Classify nervous system	Cognitive	Level 1Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 8.4	Integration Of Information (K-1)		Knows How	Describethefunctionsandpropertiesofsynapse.	Illustrate the physiological anatomy of synapse	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 8.5			Knows How		Discuss the electrical events	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group	SAQs	SAQs, Viva Voce	

					occurring at synapses				discussion			
HomUG-PB 8.6			Knows How		Discuss the properties of synapse.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 8.7	Integration Of Information (K-1)		Knows	Describethefunctionsandpropertiesofreceptors	Define receptor	Cognitive	Level 1 (Remember/ recall)	Nice to know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
HomUG-PB 8.8			Knows		Classify the sensory receptors.	Cognitive	Level 1Recall	Desirable to Know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Anatomy
HomUG-PB 8.9			Knows How		Describe the Cutaneous receptor	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	

HomUG-PB 8.10			Knows How		explain the properties of receptor	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 8.11	Integration Of Information (K-1)		Knows How	Describethefunctionsandpropertiesofreflex.	Discuss reflex arc	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 8.12			Knows		Classify reflexes	Cognitive	Level 1Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 8.13			Knows How		Discuss the properties of reflex	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 8.14	Integration Of		Knows	Describe the mechanism of chemical	Classify neurotransmitters	Cognitive	Level 1 Recall	Must know	Lecture, Small group	MCQs	SAQs, Viva Voce	Medicine

	Information (K-1)			transmission inthenervous system.					discussion			
HomUG-PB 8.15			Knows How		Explain the different types of neurotransmitter	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 8.16	Integration Of Information (K-1)		Knows	Describes omatic sensations & sensory tracts	Define sensory system	Cognitive	Level 1 (Remember / recall)	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 8.17			Knows How		Discuss different sensory tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQ, Viva Voce	Anatomy
HomUG-PB 8.18			Knows How		Describethe sensory tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine

HomUG-PB 8.19			Knows How		Explain the somato-sensory cortex	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine
HomUG-PB 8.20			Knows How		Explain the somatic sensation – touch, pressure, pain, temperature, proprioception	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion Demonstration	SAQs	SAQs, Viva Voce	Anatomy Medicine Materia Medica Repertory
HomUG-PB 8.21	Information Gathering ,Integration Of information, Problem		Knows How	Describe motor tracts & mechanism of maintenance of muscle tone	Discuss motor areas	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
HomUG-PB 8.22			Knows How		Discuss different motor tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine

HomUG-PB 8.23	Integration (K-2)		Knows How		Discuss the motor tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine
HomUG-PB 8.24			Knows How		Discuss the clinical significance of Motor tracts of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine Materia Medica
HomUG-PB 8.25	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe the physiology of vestibular apparatus, Control ofbodymovements,posture and equilibrium	Discuss the physiological anatomy of vestibular apparatus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine
HomUG-PB 8.26			Knows How		Explain the functions of vestibular apparatus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine Materia Medica
HomUG-PB 8.27			Knows How		Discuss the common	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group	SAQs	LAQs, Viva Voce	Medicine Materia Medica

					vestibular dysfunctions				discussion			
HomUG-PB 8.28	Integration Of Information (K-1)		Knows How	Describestructureandfunctions of autonomicnervoussystem(ANS)	Differentiate between somatic and autonomic nervous system	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 8.29			Knows How		Describe the divisions of Autonomic nervous system	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 8.30			Knows How		Discuss the responses of effector organ to autonomic nerve impulse	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 8.31	Information Gathering ,Integrati		Knows	Explain the functions,lesion&sensory disturbanc	List the functions of Spinal cord	Cognitive	Level 1Recall	Nice to know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine

HomUG-PB 8.32	on Of information, Problem Integration (K-2)		Knows How	e of Spinal cord	Illustrate the transection of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine, Surgery
HomUG-PB 8.33			Knows How		Describethe sensory disturbances of spinal cord	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 8.34	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe functions of cerebral cortex, basal ganglia, thalamus, hypothalamus,cerebellum and limbic system and their abnormalities	Discuss the connections& functions of cerebral cortex	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine – Psychiatry Repertory
HomUG-PB 8.35			Knows How		Discuss the connections& functions of Basal Ganglia	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine – Psychiatry Repertory
HomUG-PB 8.36			Knows How		Explain the connections& functions of Thalamus	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group	SAQs	SAQs, Viva Voce	Anatomy Medicine – Psychiatry

									discussion			Repertory
HomUG-PB 8.37			Knows How		Explain the connections& functions of Hypothalamus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine – Psychiatry Materia Medica Repertory
HomUG-PB 8.38			Knows How		Discuss the connections& functions of Limbic system	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy, Psychology, Medicine – Psychiatry Materia Medica
HomUG-PB 8.39			Knows How		Explain the connections& functions of Cerebellum	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine – Psychiatry Materia Medica

HomUG-PB 8.40			Knows How		Explain the cerebellar lesions	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology Medicine – Psychiatry Materia Medica Repertory
HomUG-PB 8.41	Integration Of Information (K-1)		Knows How	Describebehavioural and EEG characteristic during sleepand mechanismresponsibleforitsproduction	Discuss the importance of EEG	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 8.42			Knows How		Explain the Physiological Basis of EEG	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 8.43			Knows How		Discuss the factors affecting sleep	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine

HomUG-PB 8.44			Knows How		Describe the Physiological changes during sleep	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 8.45			Knows		Classify the types of sleep	Cognitive	Level 1Recall	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 8.46			Knows How		Discuss the factors controlling sleep cycle	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine
HomUG-PB 8.47	Information Gathering ,Integration Of information, Problem		Knows How	Describethephysiologicalbasisofmemory,learning andspeech	Discuss the mechanism and development of speech	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine
HomUG-PB 8.48			Knows How		Describe the physiological basis of learning	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group	SAQs	SAQs, Viva Voce	Anatomy Medicine Materia Medica

	Integration (K-2)								discussion			Repertory
HomUG-PB 8.49			Knows How		Discuss the physiological basis of memory.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 8.50			Knows How		Discuss the applied physiology of memory	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Materia Medica Repertory
HomUG-PB 8.51	Information Gathering ,Integration Of information, Problem		Shows How	Perform theclinicale xamination ofthenervous system:Higherfunctions,sensory system,motorsystem, reflexes, cranialnerv	Perform examination of cranial nerves	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Anatomy Medicine
HomUG-PB 8.52			Shows How		Perform examination for speech	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Anatomy Medicine
HomUG-PB 8.53			Shows How		Conduct the assessment of muscle tone	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Anatomy Medicine

HomUG-PB 8.54	Integration (K-2)		Shows How	esinanormalvolunteerorsimulatedenvironment	Conduct the assessment of muscle power	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Anatomy Medicine
HomUG-PB 8.55			Shows How		Perform the clinical examination foe reflexes	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Anatomy Medicine
HomUG-PB 8.56			Shows How		Perform Cutaneous sensory examination	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Anatomy Medicine
HomUG-PB 8.57			Shows How		Perform the clinical examination of gait and posture	Psycho-motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Anatomy Medicine

Topic No	**9**
Theory	**Endocrine System**

Practical	
Clinical Physiology	**Reproductive System – Diagnosis of pregnancy**

Learning Objectives: -

At the end of chapter of Endocrine System & Diagnosis of pregnancy, the student must be able –

- Explain the mechanism of action of steroid, protein and amine hormones.
- Describe the regulation of secretion of hormones by hypothalamus.
- Discuss the synthesis, secretion, Transport, Physiological action, regulation & effect of altered secretion of-Pituitary gland; Thyroid gland; Para Thyroid glands; Adrenal glands; and Pancreatic Gland.
- Explain the physiology of Thymus &Pineal Glands, and the local hormones.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration-Horizontal / Vertical / Spiral
HomU G-PB 9.1	Integration Of Information (K-1)	Endocrine system	Knows	Describethe mechanism ofactionofsteroid,protein	Define hormones	Cognitive	Level 1 (Remember/ recall)	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	

HomUG-PB 9.2			Knows How	andamineh ormones	Discuss the characteristic of hormones	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Psychology
HomUG-PB 9.3			Knows How		Classify the hormones as per their chemistry	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 9.4	Integration Of Information (K-1)		Knows How	Describe the regulation of secretion of hormones by hypothalamus	Discuss the regulation of hormone from the hypothalamus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine
HomUG-PB 9.5			Knows How		Discuss the homoeostatic mechanism of secretion of hormone through Hypothalamus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine

HomUG-PB 9.6	Integration Of Information (K-1)		Knows How	Discuss the synthesis, secretion, Transport, Physiological action, regulation & effect of altered secretion of Pituitary gland	Discuss the physiological anatomy of pituitary gland	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Materia Medica
HomUG-PB 9.7			Knows How		Explain the secretion of anterior pituitary hormone	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Materia Medica
HomUG-PB 9.8			Knows How		Explain the secretion of growth hormone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 9.9			Knows How		Describe the functions of growth hormone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 9.10			Knows		List the factors affecting growth hormone	Cognitive	Level 1Recall	Nice to know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	

HomUG-PB 9.11			Knows How		Discuss the effects of altered secretion of growth hormone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine
HomUG-PB 9.12			Knows How		Explain the actions and control of secretion ofprolactin	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Obstetrics & Gynaecology
HomUG-PB 9.13			Knows How		Discuss the secretion of posterior Pituitary hormones	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 9.14			Knows How		Explain the functions of ADH	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 9.15			Knows How		Discuss the functions of Oxytocin	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine Obstetrics &

												Gynaecology
HomUG-PB 9.16			Knows How		Describe pituitary insufficiency	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine
HomUG-PB 9.17	Integration Of Information (K-1)		Knows How	Describe the synthesis, secretion, Transport, Physiological action, regulation & effect of altered secretion of Thyroid gland	Discuss the physiological anatomy of Thyroid gland	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Materia Medica Repertory
HomUG-PB 9.18			Knows How		Describe the formation & secretion of thyroid hormone	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 9.19			Knows How		Explain the transport & metabolism of thyroid hormone	Cognitive	Level 2 Understand / interpret	Desirable to Know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	

HomUG-PB 9.20			Knows How		Discuss the regulation and action of thyroid hormone	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 9.21			Knows How		Explain the effect of altered secretion of Thyroid hormone	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
HomUG-PB 9.22	Integration Of Information (K-1)		Knows How	Explainthe synthesis, secretion, Transport, Physiological action, regulation & effect of altered secretion of Para Thyroid gland.	Discuss the calcium & phosphate metabolism	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry Medicine Materia Medica
HomUG-PB 9.23			Knows How		Discuss the action of parathormone	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 9.24			Knows How		Describe the action of Calcitonin	Cognitive	Level 2 Underst	Desirable to Know	Lecture, Small	SAQs	SAQs, Viva Voce	Biochemistry

							and / interpret		group discussion			
HomUG-PB 9.25			Knows How		Discuss the role ofCalcitonin in the maintenance of calcium homoeostasis in body	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Biochemistry Medicine Materia Medica
HomUG-PB 9.26			Calcitonin		Discuss the effect of altered secretion of para thyroid hormone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 9.27	Integration Of Information (K-1)		Calcitonin	Describe the synthesis, secretion, Transport, Physiological action, regulation & effect of altered secretion of Adrenal gland	Discuss the physiological anatomy of Adrenal Cortex gland	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 9.28			Calcitonin		Describe the formation, secretion, and functions	Cognitive	Level 2 Understa	Must know	Lecture, Small	SAQs	LAQs, Viva Voce	

					of Glucocorticoid hormone		nd / interpret		group discussion			
HomUG-PB 9.29			Knows How		Describe the formation, secretion, and functions of Mineralocorticoid hormone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 9.30			Knows How		Describe the formation, secretion, and functions of Sex hormones	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 9.31			Knows How		Explain the effects of altered secretion of Adrenal cortex hormone	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine

HomUG-PB 9.32			Knows How		Discuss the physiological anatomy of Adrenal Medullary gland	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 9.33	Integration Of Information (K-1)		Knows How	Describe the synthesis, secretion, Transport, Physiological action, regulation & effect of altered secretion of Pancreatic Gland	Explain the physiological anatomy of Pancreatic gland	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Materia Medica
HomUG-PB 9.34			Knows How		Discuss the action and regulation of Glucagon	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 9.35			Knows How		Discuss the action and regulation of Insulin	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine Materia Medica
HomUG-PB 9.36			Knows How		Describe the effects of altered secretion of	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Pathology Medicine

					Pancreatic Hormone							
HomUG-PB 9.37	Integration Of Information (K-1)		Knows How	Describethe physiology ofThymus& PinealGland	Describe the functions of hormone of thymus gland	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 9.38			Knows How		Discuss the functions of hormone of pineal gland	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 9.39			Knows How	Describe the Physiology of Local hormones	State the functions of Local hormones	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 9.40	Information Gathering ,Integration Of information, Problem		Shows How	Describe the diagnosis of pregnancy	Demonstrate the diagnosis of pregnancy through Urine pregnancy Strip	Psycho Motor	Level 2 (Control)	Must know	Demonstration	Observation	Check list	Obs&Gynec

	Integration (K-2)											

SEMESTER – 3

Topic No	**10**
Theory	**Reproductive System**
Practical	
Clinical Physiology	

Learning Objectives: -

At the end of the chapter onReproductive System, the student must be able to –

- Describe the onset, progression, and stages puberty.
- Describe the structure and functions of male reproductive system.
- Describe the physiological effects of male sex hormone.
- Describe female reproductive system & functions of ovary and its Control.
- Describe menstrual cycle with hormonal, uterine and ovarian changes.
- Describe the physiological effects of female sex hormones.
- Discuss the contraceptive methods for male and female.
- Discuss the physiology of pregnancy, parturition & lactation.

S.No	Generic competency	Subject area	Miller's Level	Specific competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
HomUG-PB 10.1	Integration Of Information (K-1)	Reproductive System	Knows	Describe the onset, progression, and stages puberty.	Define puberty	Cognitive	Level 1 (Remember/ recall)	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Psychology Obstetrics & Gynaecology
HomUG-PB 10.2			Knows How	List causes and expressions of earlyand delayed puberty	Discuss the role of LH & FSH in development of puberty	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Psychology Obstetrics & Gynaecology
HomUG-PB 10.3			Knows How		Explain puberty for its onset, and stages. Describe the causes for delayed &	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Psychology Obstetrics & Gynaecology

					precocious puberty.							
HomUG-PB 10.4	Integration Of Information (K-1)		Knows How	Describe the structure and functions of malereproductive system.	Describe the structure of male reproductive system	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 10.5			Knows How		Explain the function of male reproductive system.	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 10.6	Integration Of Information (K-1)		Knows How	Describe the physiological effects of male sex hormone	Explain the functions of testis as an endocrine gland.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	SAQs, Viva Voce	Psychology Medicine
HomUG-PB 10.7			Knows How		Discuss the role of testosterone	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine Obstetrics & Gynaecology

HomUG-PB 10.8	Integration Of Information (K-1)		Knows How	Describe the functionsof testisandcontrolof spermatogenesis&factorsmodifyingit	Discuss the process of spermatogenesis	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy Medicine
HomUG-PB 10.9			Knows How		Discuss the factors affecting spermatogenesis	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 10.10	Integration Of Information (K-1)		Knows How	Describefemalereproductivesystem&functionsofovaryandits Control.	Describe structure the female reproductive tract	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Obstetrics & Gynaecology
HomUG-PB 10.11			Knows How		Discuss the functions of female reproductive tract	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Obstetrics & Gynaecology
HomUG-PB 10.12			Knows How		Discuss the role of ovary as an	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group	SAQs MCQs	LAQs, Viva Voce	Obstetrics & Gynaecology

					endocrine gland. List the hormones secreted by ovary.				discussion			
HomUG-PB 10.13	Integration Of Information (K-1)		Knows How	Describe menstrual cycle with hormonal,uterineandovarianchanges	Discuss the ovarian changes during menstrual cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Obstetrics & Gynaecology
HomUG-PB 10.14			Knows How		Discuss the Uterine changes during menstrual cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs MCQs	LAQs, Viva Voce	Obstetrics & Gynaecology
HomUG-PB 10.15			Knows How		Discuss the Vaginal changes during menstrual cycle	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Obstetrics & Gynaecology

HomUG-PB 10.16	Integration Of Information (K-1)		Knows How	Describethe physiological effectsof female sexhormones	Discuss the Gonadotrophin changes during menstrual cycle	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Obstetrics & Gynaecology Materia Medica
HomUG-PB 10.17			Knows How		Discuss the changes during menopause	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Obstetrics & Gynaecology
HomUG-PB 10.18			Knows How	Discuss thecontraceptivemethodsformaleandfemale.	Describe the contraceptive methods for male	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Obstetrics & Gynaecology Community Medicine
HomUG-PB 10.19			Knows How		Describe the contraceptive methods for female	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Obstetrics & Gynaecology Community Medicine

HomUG-PB 10.20	Integration Of Information (K-1)		Knows How	Discussthephysiologyof pregnancy, parturition & lactation.	Discuss the fertilization & implantation of ovum	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Obstetrics & Gynaecology
HomUG-PB 10.21			Knows How		Explain the role of placentaas an endocrine organ. List the placental hormones	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Obstetrics & Gynaecology
HomUG-PB 10.22			Knows How		Discuss the process of parturition	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Obstetrics & Gynaecology Materia Medica
HomUG-PB 10.23			Knows How		Describe the role of prolactin Hormone	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Obstetrics & Gynaecology

HomU G-PB 10.24			Know s How		Explain the process of lactation	Cognitive	Level 2 Understa nd / interpret	Nice to know	Lecture, Small group discussio n	SAQs	SAQs, Viva Voce	Obstetrics & Gynaecology Community Medicine Materia Medica

Topic No	**11**
Theory	**Special Senses**
Practical	
Clinical Physiology	**Special Senses – Clinical Examination**

Learning Objectives: -

At the end of the chapter on Special senses, the student must be able to –

- Discuss perception of smell and taste sensation
- Discuss patho-physiology of altered smell and taste sensation
- Discuss functional anatomy of ear and auditory pathways & physiology of hearing
- Discuss functional anatomy of eye, physiology of image formation, physiology of vision including colour vision, refractive errors, colour blindness, physiology of pupil and light reflex
- Discuss the physiological basis of lesion in visual pathway

- Demonstrate the testing of visual acuity, colour and field of vision; hearing; smell; and taste sensation in volunteer or simulated environment

S.No	Generic competency	Subject area	Miller's Level	Specific Competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
HomUG-PB 11.1	Integration Of Information (K-1)	Special Senses	Knows How	Describethe perception ofsmellsensation	Discuss the sensation of olfaction	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Surgery - ENT
HomUG-PB 11.2			Knows How		Discuss the olfactory receptor, olfactory pathway	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQ, Viva Voce	Anatomy
HomUG-PB 11.3			Knows How		Discuss the physiology of olfaction	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 11.4			Knows How		Discuss the altered	Cognitive	Level 2 Understan	Must know	CBL, Lecture, Small	MCQs	SAQs, Viva Voce	Medicine

					sensation of smell		d interpret		group discussion			
HomUG-PB 11.5	Integration Of Information (K-1)		Knows How	Describeperceptionof taste sensation	Discuss the sensation of Taste	Cognitive	Level 2 Understand interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Surgery – ENT Materia Medica Repertory
HomUG-PB 11.6			Knows How		Discuss the taste receptor.	Cognitive	Level 2 Understand interpret	Must know	Lecture, Small group discussion	SAQs	LAQ, Viva Voce	Anatomy
			Shows How		Draw the taste pathway	Psychomotor	Level 2 Control	Must Know	Demonstration	Observation	DOPS	Anatomy
HomUG-PB 11.7			Knows How		Discuss the physiology of Taste	Cognitive	Level 2 Understand interpret	Must to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 11.8			Knows How		Discuss the altered sensation of Taste	Cognitive	Level 2 Understand interpret	Desirabletoknow	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine Materia Medica

HomUG-PB 11.9	Integration Of Information (K-1)		Knows How	Describe the functional anatomy of ear & auditory pathways	Describe the physiological anatomy of ear	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Surgery – ENT Materia Medica
HomUG-PB 11.10			Shows How		Map the Auditory Pathway	Psychomotor	Level 2 Control	Must Know	Demonstration	Observation	Check list	Anatomy ENT
HomUG-PB 11.11			Knows How		Describe the mechanism of hearing	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Surgery - ENT
HomUG-PB 11.12			Knows How		Discuss the altered sensation of Hearing	Cognitive	Level 2 Understand / interpret	Must know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine Surgery – ENT Materia Medica
HomUG-PB 11.13	Integration Of Information (K-1)		Knows How	Describe the functional anatomy of eye	Explain the structure & function of eye.	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Surgery - Ophthalmology

HomUG-PB 11.14	Integration Of Information (K-1)		Knows How	Describe the physiology of image formation	Describe the visual pathway	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 11.15			Knows How		Discuss the principles of optics, visual acuity, Visual reflex	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Surgery – Ophthalmology
HomUG-PB 11.16	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe the physiology of vision including colour vision	Discuss the photochemistry of vision	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Surgery – Ophthalmology
HomUG-PB 11.17			Knows How		Discuss the photopic & scotopic vision	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery – Ophthalmology
HomUG-PB 11.18			Knows How		Discuss the visual adaptation, visual accommodation & night blindness	Cognitive	Level 2 Understand / interpret	Desirable to know	PBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery – Ophthalmology Materia Medica

HomUG-PB 11.19	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe the refractive errors and colour blindness	Discuss the different types of refractive errors	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Surgery – Ophthalmology Materia Medica Repertory
HomUG-PB 11.20			Knows How		Discuss the colour blindness	Cognitive	Level 2 Understand / interpret	Desirabletoknow	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Surgery – Ophthalmology Materia Medica
HomUG-PB 11.21			Knows		List the causes of Nystagmus	Cognitive	Level 1Recall	Nice toknow	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery – Ophthalmology Materia Medica
HomUG-PB 11.22	Information Gathering ,Integration Of information, Problem		Shows How	DemonstrateTestingofvisualacuity, colourandfieldofvision in a volunteer	Perform the testing of visual acuity, colour and field of vision	Psycho Motor	Level 2(Control)	Desirableto know	Demonstration	Observation	Check list	Surgery – Ophthalmology
HomUG-PB 11.23			Knows How		Interpret the testing of visual acuity,	Cognitive	Level 2 Understand / interpret	Nice to know	CBL, Lecture, Small	SAQs	SAQs, Viva Voce	Surgery – Ophthalmology

	Integration (K-2)				colour and field of vision				group discussion			Materia Medica
HomUG-PB 11.24	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Demonstrate testing of hearing in a volunteer	Perform the testing of hearingin a volunteer	Psycho Motor	Level 2 (Control)	Nice to know	Demonstration	Observation	Check list	Surgery – ENT
HomUG-PB 11.25			Knows How		Interpret the testing of hearing in a volunteer	Cognitive	Level 2 Understand / interpret	Nice to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery – Ophthalmology Materia Medica
HomUG-PB 11.26	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Demonstrate testingforsmellin a volunteer	Perform testing for smell in a volunteer	Psycho Motor	Level 2 (Control)	Nice to know	Demonstration	Observation	Check list	Surgery – ENT
HomUG-PB 11.27			Knows How		Interpret testing for smell in a volunteer	Cognitive	Level 2 Understand / interpret	Nice to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Surgery – Ophthalmology Materia Medica

HomUG-PB 11.27	Information Gathering,Integration Of information, Problem Integration (K-2)		SHOW HOW	Demonstrate testingfortastesensationin volunteer	Perform testing for taste sensation in volunteer	Psycho Motor	Level 2 (Control)	Must know	Demonstration	Observation	Checklist	Anatomy Surgery – ENT
HomUG-PB 11.29			Knows How		Interpret testing for taste sensation in volunteer	Cognitive	Level 2 Understand / interpret	Nice to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Surgery – ENT

Topic No	**12**
Theory	**Digestive System & Nutrition**
Practical	**Liver Function Test**
Clinical Physiology	**Gastrointestinal system clinical examination**

Learning Objectives: -

At the end of the chapter Digestive system & Nutrition, the student must be able to –

- Describe the structure, Function & Innervation of digestive system.
- Describe the composition, mechanism of secretion, function & regulation of saliva.
- Describe the movement of oesophagus.
- Describe the composition, mechanism of secretion, function & regulation of gastric juice.
- Describe the composition, mechanism of secretion, function & regulation of pancreatic juice.

- Describe the structure & function of liver & Gall bladder.
- Describe the composition, mechanism of secretion, function & regulation of Bile.
- Describe the composition, mechanism of secretion, function & regulation of Small Intestine.
- Describe the movement of gastrointestinal tract, it's regulation & function.
- Describe the movement of large intestine & defecation as a process.
- Describe the physiology of digestion and absorption of nutrients.
- Observe the procedure for Liver Function Test.
- Perform examination for gastrointestinal system on a volunteer.

S.No	**Generic competency**	**Subject area**	**Miller's Level**	**Specific competency**	**Specific Learning Objectives / outcomes**	**Bloom's domain**	**Guilbert's level**	**Must know / desirable to know / nice to know**	**TL method / media**	**Formative Assessment**	**Summative Assessment**	**Integration - Horizontal / Vertical / Spiral**
HomUG-PB 12.1	Integration Of Information (K-1)	Digestive System & Nutrition	Knows How	Describe the structure, Function & Innervation of digestive system	Discuss the importance of digestive system	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 12.2			Knows		Recall the structure of digestive system	Cognitive	Level 1Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy

HomUG-PB 12.3			Knows		Recognise the structure of small intestine	Cognitive	Level 1Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 12.4			Knows		Identify the structure of large intestine	Cognitive	Level 1 Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 12.5	Integration Of Information (K-1)		Knows	Describe the composition, mechanism of secretion, function & regulation of saliva	Classify salivary glands. Mention the innervation of salivary glands.	Cognitive	Level 1Recall	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Materia Medica
HomUG-PB 12.6			Knows How		Discuss composition of saliva	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Smallgroup discussion	MCQs	LAQs, Viva Voce	Biochemistry
HomUG-PB 12.7			Knows How		Discuss functions of saliva	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine Materia Medica

HomUG-PB 12.8			Knows How		Describe mechanism of salivary secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 12.9			Knows How		Discuss the control of salivary secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 12.10			Knows How		Explain the clinical relevance of salivary gland & salivary secretion	Cognitive	Level 2 Understand / interpret	Desirable to Know	PBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Materia Medica
HomUG-PB 12.11	Integration Of Information (K-1)		Knows How	Describe the movement of oesophagus	Describe the process of mastication.	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 12.12			Knows How		Explain the stages of swallowing	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Anatomy Medicine

HomUG-PB 12.13			Knows How		Discuss the role of upper & lower oesophageal sphincter	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 12.14			Knows		List the common oesophageal motility disorders	Cognitive	Level 1 Recall	Nice to Know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Surgery
HomUG-PB 12.15	Integration Of Information (K-1)		Knows	Describe the composition, mechanism of secretion, function & regulation of Gastric Juice	Recall the macro and micro structure of stomach	Cognitive	Level 1Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 12.16			Knows How		Discuss the functions of stomach	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
HomUG-PB 12.17			Knows How		Discuss the composition & functions of gastric juice	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Biochemistry

HomUG-PB 12.18			Knows How		Discuss the mechanism & regulation of gastric juice secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
HomUG-PB 12.19			Knows How		Discuss the process of digestion in stomach	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 12.20			Knows How		Discuss the movements of stomach	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 12.21			Knows		Mention the three phases of vomiting	Cognitive	Level 1Recall	Nice to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Materia Medica Repertory
HomUG-PB 12.22	Integration Of Information (K-1)		Knows	Describe the composition, mechanism	Recall the macro and micro structure of Pancreas	Cognitive	Level 1Recall	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy

HomUG-PB 12.23			Knows How	of secretion, function & regulation of Pancreatic Juice	Discuss the composition & functions of pancreatic juice	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Biochemistry
HomUG-PB 12.24			Knows How		Discuss the mechanism & regulation of pancreatic juice secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
HomUG-PB 12.25			Knows How		Describe exocrine pancreatic insufficiency	Cognitive	Level 2 Understand / interpret	Desirable to Know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine Materia Medica Repertory
HomUG-PB 12.26	Integration Of Information (K-1)		Knows How	Describe the structure & function of liver & Gall bladder	Discuss the structure & functions of Liver	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 12.27			Knows How		Explain the signs of liver insufficiency	Cognitive	Level 2 Understand / interpret	Desirable to Know	CBL, Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Medicine

HomUG-PB 12.28			Knows How		Describe the structure & functions of gall bladder	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Repertory
HomUG-PB 12.29	Integration Of Information (K-1)		Knows How	Describe the composition, mechanism of secretion, function & regulation of Bile	Discuss the composition & function of liver bile	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 12.30			Knows How		Discuss the composition & function of gall bladder bile	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Biochemistry
HomUG-PB 12.31			Knows How		Describe the control & mechanism of bile secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 12.32			Knows How		Describe the clinical significance of liver functions.	Cognitive	Level 2 Understand / interpret	Desirable to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Materia Medica

HomUG-PB 12.33			Knows How		Describe the clinical significance of Gall Bladder functions	Cognitive	Level 2 Understand / interpret	Desirable know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Surgery
HomUG-PB 12.34	Integration Of Information (K-1)		Knows	Describe the composition, mechanism of secretion, function & regulation of Small intestine	Recognise the macro and micro structure ofSmall intestine	Cognitive	Level 1Recall	Desirable to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Repertory
HomUG-PB 12.35			Knows How		Discuss the composition & functions of Succus Entericus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Biochemistry
HomUG-PB 12.36			Knows How		Discuss the mechanism & regulation of secretions of Succus Entericus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	

HomUG-PB 12.37			Knows How		Describe the process of digestion in small intestine	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 12.37			Knows How		Describe the Malabsorption Syndrome	Cognitive	Level 2 Understand / interpret	Nice to Know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine Materia Medica
HomUG-PB 12.39	Integration Of Information (K-1)		Knows How	Describe the movement of gastrointestinal tract, it's regulation & function.	Explainperistalsis as intestinal movement	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Materia Medica
HomUG-PB 12.40			Knows How		Describe segmentation as intestinal movement	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 12.41			Knows How		Discuss the clinical importance of small intestine	Cognitive	Level 2 Understand / interpret	Desirable to Know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine

HomUG-PB 12.42	Integration Of Information (K-1)		Knows How	Describe the movement of large intestine & defecation as a process.	Discuss the movements of large intestine	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 12.43			Knows How		Describe the process of absorption &secretion in large intestine	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Materia Medica
HomUG-PB 12.44			Knows How		Discuss the process of defecation	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Repertory
HomUG-PB 12.45			Knows How		Discuss the clinical significance of large intestine	Cognitive	Level 2 Understand / interpret	Desirable to know	CBL, Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Medicine
HomUG-PB 12.46	Integration Of Information (K-1)		Knows How	Describe the physiology of digestion and	Discuss the digestion & absorption of carbohydrates	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	

HomUG-PB 12.47			Knows How	absorption of nutrients	Discuss the digestion & absorption of Fats	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 12.48			Knows How		Discuss the digestion & absorption of Proteins	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs SAQs	LAQs, Viva Voce	
HomUG-PB 12.49			Knows How		Discuss absorption of water, electrolytes	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
HomUG-PB 12.50			Knows How		Describe the absorption of vitamins & minerals	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
HomUG-PB 12.51	Information Gathering ,Integration Of information, Problem		Shows How	Observe the process of conducting liver function test	Observe the liver function test	Psycho Motor	Level 1 (Observe / Imitate)	Nice to know	Demonstration	Observation	Checklist	Medicine

	Integration (K-2)											
HomUG-PB 12.52	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Demonstrate the Gastrointestinal system examination	Perform the inspection of gastrointestinal system in the clinical examination	Psycho Motor	Level 2(Control)	Desirable to know	Demonstration	Observation	Checklist	Anatomy Medicine
HomUG-PB 12.53			Knows How		Interpret the findings of inspection of gastrointestinal system in clinical examination	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy Medicine
HomUG-PB 12.54			Shows How		Perform the palpation of gastrointestinal system in the clinical examination	Psycho Motor	Level 2 (Control)	Desirable to know	Demonstration	Observation	Checklist	Anatomy Medicine
HomUG-PB 12.55			Knows Ho		Interpret the findings of palpation of gastrointestinal system in	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy Medicine

					clinical examination							
HomUG-PB 12.56			Shows How		Perform the percussion of gastrointestinal system in the clinical examination	Psycho Motor	Level 2 (Control)	Desirable to know	Demonstration	Observation	Checklist	Anatomy Medicine
HomUG-PB 12.57			Knows Ho		Interpret the findings of percussion of gastrointestinal system in clinical examination	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy Medicine
HomUG-PB 12.58			Shows How		Perform the auscultation of gastrointestinal system in the clinical examination	Psycho Motor	Level 2 (Control)	Desirable to know	Demonstration	Observation	Checklist	Anatomy Medicine
HomUG-PB 12.59			Knows How		Interpret the findings of auscultation	Cognitive	Level 2 Understa	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy Medicine

					of gastrointestinal system in clinical examination		nd / interpret					

Topic No	**13**
Theory	**Renal Physiology**
Practical	**Kidney Function Test**
Clinical Physiology	

Learning Objectives: -

At the end of the chapterRenal Physiology, the student must be able to –

- Describe structure & functions of the kidneys.
- Explain the role of renin-angiotensin system.
- Describe the mechanism of urine formation.
- Describe the process of filtration, secretion & reabsorption in kidney.
- Describe the concentration and diluting mechanism in the kidney.
- Describe the renal regulation of acid-base balance.
- Describe the physiology of micturition.
- Describe the Renal Function Tests.

S.No	Generic competency	Subject area	Miller's Level	Specific Competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral
HomUG-PB 13.1	Integration Of Information (K-1)	Renal Physiology	Knows	Describe structure & functions of the kidneys.	Recognise the structure of kidney & nephron	Cognitive	Level 1Recall	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Materia Medica
HomUG-PB 13.2			Knows How		Discuss the functions of kidney	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 13.3			Knows How		Discuss the organization and function of glomerulus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy Medicine
HomUG-PB 13.4			Knows		Classify the type of nephrons	Cognitive	Level 1Recall	Must Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Anatomy

HomUG-PB 13.5			Knows How		Describe the structure and functions of juxtaglomerular apparatus	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
HomUG-PB 13.6	Integration Of Information (K-1)		Knows How	Explain the role of renin – angiotensin system	Explain the secretions from juxtaglomerular apparatus & their regulation	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
HomUG-PB 13.7	Integration Of Information (K-1)		Knows How	Describe the mechanism of urine formation	Explain the process of glomerular filtration	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 13.8			Knows How		Describe the regulation of Glomerular Filtration Rate	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 13.9			Knows How		Discuss the mechanism of GFR.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group	SAQs	LAQs, Viva Voce	

					Explain the factors affecting GFR				discussion			
HomUG-PB 13.10	Integration Of Information (K-1)		Knows How	Describe the process of filtration, secretion & reabsorption in kidney	Discuss the general considerations of reabsorption & secretion	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	MCQs	LAQs, Viva Voce	Medicine Biochemistry
HomUG-PB 13.11			Knows How		Describe the renal transport mechanisms throughout the tubular segments	Cognitive	Level 2 Understand / interpret	Desirable to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 13.12			Knows How		Describe the transport of individual substances in different segments of renal tubule	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	

HomUG-PB 13.13	Integration Of Information (K-1)		Knows How	Describe the concentration and diluting mechanism in the kidney	Discuss the general consideration of urine concentration mechanism	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Medicine
HomUG-PB 13.14			Knows How		Describe the counter current multipliers	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	Biochemistry
HomUG-PB 13.15			Knows How		Discuss the counter current exchangers	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	MCQs	SAQs, Viva Voce	
HomUG-PB 13.16	Information Gathering ,Integration Of information, Problem Integration (K-2)		Knows How	Describe the renal regulation of acid – base balance	Discuss the renal regulation of acid-base balance	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Biochemistry
HomUG-PB 13.17			Knows How		Describe the buffer system in the kidney	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Biochemistry

HomUG-PB 13.18	Integration Of Information (K-1)		Knows	Describe the physiology of micturition	Define micturition	Cognitive	Level 1 (Remember/ recall)	Desirable to Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 13.19			Knows How		Discuss the nerve supply of urinary bladder	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Anatomy
HomUG-PB 13.20			Knows How		Describe the micturition reflex	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Anatomy
HomUG-PB 13.21	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Describe the Kidney function teste	Perform the physical, chemical, and microscopical examination of urine	Psycho Motor	Level 2 (Control)	Must know	Demonstration	Observation	OSCE	Biochemistry
HomUG-PB 13.22			Knows How		Recognise the normal values of physical, chemical,	Cognitive	Level 2 Understand / interpret)	Must know	Lecture, Small group	SAQs	LAQ, Viva Voce	Biochemistry

					and microscopical examination of urine				discussion			
HomUG-PB 13.23			Shows How		Perform examination for the abnormal constituents of urine	Psycho Motor	Level 3 (Control)	Must know	Demonstration	Observation	Checklist	Biochemistry Medicine
HomUG-PB 13.24			Knows How		Interpret the results of examination for the abnormal constituents of urine	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQ, Viva Voce	Biochemistry Medicine
HomUG-PB 13.25			Knows How		Interpret the renal clearance test for glomerular function	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	LAQ, Viva Voce	Biochemistry Medicine
HomUG-PB 13.26			Knows How		Interpret the renal clearance test for	Cognitive	Level 2 Understan	Must know	Lecture, Small group	SAQs	LAQ, Viva Voce	Biochemistry Medicine

					Tubular function.		d / interpret		discussio n			

Topic No	**14**
Theory	**Biochemistry**
Practical	**Biochemistry Practical of carbohydrate, lipid, protein, Urine normal & abnormal constituents**
Clinical Physiology	

Learning Objectives: -

At the end of the chapter Biochemistry, the student must be able to –

- Describe the lipid, carbohydrate, and proteinmetabolisms.
- Describe the enzymes and their activities.
- Describe the role of Vitamins.
- Perform the quantitative estimation of Glucose, Total Proteins, Uric Acid in Blood.
- Perform the Lipid Profile.

S.No	Generic competency	Subject area	Miller's Level	Specific Competency	Specific Learning Objectives / outcomes	Bloom's domain	Guilbert's level	Must know / desirable to know / nice to know	TL method / media	Formative Assessment	Summative Assessment	Integration - Horizontal / Vertical / Spiral

HomUG-PB 14.1	Integration Of Information (K-1)	Biochemistry	Knows How	Describe the lipid Metabolism.	Explain the biosynthetic and catabolic pathways	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 14.2			Knows How		Explain the importance of lipids in the body.	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 14.3			Knows How		Explain the different properties of lipids.	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 14.4	Integration Of Information (K-1)		Knows How	Describe the Carbohydrate metabolism	Discuss different types of carbohydrates.	Cognitive	Level 2 Understand / interpret	Must know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 14.5			Knows		List major functions of carbohydrates.	Cognitive	Level 1Recall	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 14.6			Knows How		Discuss the food sources of	Cognitive	Level 2 Understa	Desirable to Know	Lecture, Small	SAQs	SAQs, Viva Voce	

					carbohydrates.		nd / interpret		group discussion			
HomUG-PB 14.7			Knows How		Explain the processes of glycolysis	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 14.8			Knows How		Explain the process of gluconeogenesis	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 14.9			Knows How		Describe the process of ATP production through oxidative phosphorylation	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 14.10	Integration Of Information (K-1)		Knows How	Describe the Protein Metabolism	Discuss the special features of protein Metabolism	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	

HomUG-PB 14.11			Knows How		Discuss the functions of intact amino acid	Cognitive	Level 2 Understand / interpret	Nice to know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 14.12			Knows How		Discuss the oxidation of amino acid	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	
HomUG-PB 14.13			Knows How		Discuss the synthesis of proteins	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Physiology
HomUG-PB 14.14			Knows How		Discuss the function of nitrogenous part	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 14.15			Knows How		Discuss the exogenous & endogenous protein metabolism	Cognitive	Level 2 Understand / interpret	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 14.16	Integration Of		Knows How	Describe the enzymes	Discuss the concept of enzyme,	Cognitive	Level 2 Understa	Nice to know	Lecture, Small	SAQs	SAQs, Viva Voce	Physiology

	Information (K-1)			and their activities.	chemical reactions, catalyst and substrates.		nd / interpret		group discussion			
HomUG-PB 14.17			Knows		Mentionthe major functions of enzymes.	Cognitive	Level 1Recall	Must Know	Lecture, Small group discussion	SAQs	LAQs, Viva Voce	Physiology
HomUG-PB 14.18			Knows How		Discuss the importance of enzymes in the body.	Cognitive	Level 2 Understand / interpret	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Physiology
HomUG-PB 14.19	Integration Of Information (K-1)		Knows	Describe the role of Vitamins	Define vitamin	Cognitive	Level 1 (Remember/ recall)	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Physiology Community Medicine
HomUG-PB 14.20			Knows		Classify vitamins	Cognitive	Level 1Recall	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 14.21			Knows		Mentioncommon vitamin deficiencies		Level 1Recall	Desirable to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Physiology Medicine

												Community Medicine
HomUG-PB 14.22	Information Gathering , Integration Of information, Problem Integration (K-2)		Knows	Demonstration of Uses Of Instruments Or Equipment	List the use of different instruments in biochemistry experiments	Cognitive	Level 1 Recall	Must Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	
HomUG-PB 14.23			Shows How	Demonstrate the Qualitative Analysis of Carbohydrates, Proteins And Lipids	Perform the qualitative analysis of carbohydrate	Psycho Motor	Level 2 (Control)	Must Know	Demonstration	Observation	Check list	Pathology
HomUG-PB 14.24			Knows How		Interpret the results of Qualitative analysis of carbohydrate	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology
HomUG-PB 14.25			Shows How		Observe the qualitative analysis of Protein	Psycho Motor	Level 1 (Observe / Imitate)	Desirable to Know	Demonstration	Observation	Check list	Pathology
HomUG-PB 14.26			Knows How		Interpret the results of Qualitative	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology

					analysis of Protein							
HomUG-PB 14.27			Shows How		Perform the qualitative analysis of Lipid	Psycho Motor	Level 2 (Control)	Nice to Know	Demonstration	Observation	Check list Check list	Pathology
HomUG-PB 14.28			Knows How		Interpret the results of Qualitative analysis of Lipid	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology
HomUG-PB 14.29	Information Gathering ,Integration Of information, Problem Integration (K-2)		Shows How	Perform the quantitative estimation of Glucose, Total Proteins, Uric Acid in Blood	Perform the Quantitative estimation of glucose	Psycho Motor	Level 3 (Automatism)	Must Know	Demonstration	Observation	Check list	Pathology
HomUG-PB 14.30			Knows How		Interpret the results of Qualitative analysis of glucose	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology
HomUG-PB 14.31			Shows How		Perform the Quantitative estimation of	Psycho Motor	Level 3 (Automatism)	Must Know	Demonstration	Observation	Check list	Pathology

					Total proteins							
HomUG-PB 14.32			Knows How		Interpret the results of Qualitative analysis of total protein	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology
HomUG-PB 14.33			Shows How		Observe the Quantitative estimation of Uric Acid	Psycho Motor	Level 1 (Observe / Imitate)	Nice to Know	Demonstration	Observation	Check list	Pathology
HomUG-PB 14.34			Knows How		Interpret the results of Quantitative estimation of Uric acid	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology
HomUG-PB 14.35			Shows How	Perform the Lipid Profile	Observe the laboratory testing for Lipid profile	Psycho Motor	Level 1 (Observe / Imitate)	Must Know	Demonstration	Observation	OSCE	Pathology
HomUG-PB 14.36			Knows How		Interpret the results of Lipid profile testing done	Cognitive	Level 2 Understand / interpret	Nice to Know	Lecture, Small group discussion	SAQs	SAQs, Viva Voce	Pathology

					in a laboratory							

8. PRACTICAL TOPICS

PRACTICAL & CLINICAL PHYSIOLOGY:-

No	**Practical**	**Demonstration / Performance**
HAEMATOLOGY		
1	Study of the Compound Microscope	Performance
2.	Collection of Blood Samples	Performance
3	Estimation of Haemoglobin Concentration	Performance
4	Determination of Haematocrit	Demonstration
5	Hemocytometry	Performance
6	Total RBC Count	Performance
7	Determination of RBC Indices	Demonstration

8	Total Leucocytes Count (TLC)	Performance
9	Preparation And Examination Of Blood Smear	Performance
10	Differential Leucocyte Count (DLC)	Performance
11	Absolute Eosinophil Count	Demonstration
12	Determination of Erythrocyte Sedimentation Rate	Demonstration
13	Determination of Blood Groups	Performance
14	Determination of Bleeding Time and Coagulation Time	Performance
BIOCHEMISTRY		
1	Demonstration of Uses Of Instruments Or Equipment	Demonstration
2	Qualitative Analysis of Carbohydrates, Proteins And Lipids	Performance
3	Normal Characteristics of Urine	Performance
4	Abnormal Constituents of Urine	Performance
5	Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood	Performance
6	Liver Function Tests	Demonstration
7	Kidney Function Tests	Demonstration
8	Lipid Profile	Demonstration
9	Interpretation and Discussion of Results of Biochemical Tests	Demonstration

CLINICAL PHYSIOLOGY & OPD		
1	Case Taking & Approach to pt	Performance
2	General Concept Of Examination	Performance
3	Examination of muscles, joints,	Performance
4	Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination	Performance
5	Respiratory System- Clinical Examination, Spirometry, Stethography	Performance
6	Nervous System- Clinical Examination	Performance
7	Special Senses- Clinical Examination	Performance
8	Reproductive System- Diagnosis of Pregnancy	Performance
9	Gastrointestinal System- Clinical Examination	Performance
10	OPD (Applied Physiology)	Demonstration & Performance

9. ASSESSMENT

PHYSIOLOGY THEME TABLE

PAPER – 1

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	General Physiology	I	07	Yes	Yes	No
B	Biophysics Science	I	07	Yes	Yes	No
C	Body fluids& Immune Mechanism	I	16	Yes	Yes	Yes
D	Cardiovascular system	II	16	Yes	Yes	Yes
E	Respiratory system	II	16	Yes	Yes	Yes
F	Excretory system	III	16	Yes	Yes	Yes
G	Skin & The Integumentary System	I	11	Yes	Yes	No
H	Nerve Muscle physiology system	I	11	Yes	Yes	No

PAPER – 2

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	Endocrine system	II	21	Yes	Yes	Yes
B	Central Nervous System	II	21	Yes	Yes	Yes

C	Digestive system and Nutrition	III	21	Yes	Yes	Yes
D	Reproductive system	III	17	Yes	Yes	Yes
E	Sense organs	III	12	Yes	Yes	Yes
F	Biochemistry	III	08	Yes	Yes	No

QUESTION PAPER BLUE PRINT

UNIVERSITY EXAM PAPER-I – 100 MARKS

MCQs – 10 Marks. **SAQs – 50 Marks.** **FAQs – 40 Marks**

Question Serial Number	**Type of Question**	**Question Paper Format (Refer Theme table for themes)**

Q1	Multiple choice Questions (MCQ) 10 Questions 1 mark each All questions compulsory	1. Theme A 2. Theme A 3. Theme B 4. Theme B 5. Theme C 6. Theme D 7. Theme E 8. Theme F 9. Theme G 10. Theme H
Q2	Short answer Questions(SAQ) All questions compulsory 5 Marks Each	1. Theme A 2. Theme B 3. Theme C 4. Theme D 5. Theme E 6. Theme F 7. Theme G 8. Theme G 9. Theme H 10. Theme H
Q3	Long answer Questions (LAQ) All questions compulsory 10 marks each	1. Theme C 2. Theme D 3. Theme E 4. Theme F

UNIVERSITY EXAM PAPER-II – 100 MARKS

MCQs – 10 Marks. SAQs – 50 Marks. FAQs – 40 Marks

Question Serial Number	**Type of Question**	**Question Paper Format** **(Refer Theme table for themes)**
Q1	Multiple choice Questions (MCQ) 10 Questions 1 mark each All questions compulsory	1) Theme A 2) Theme B 3) Theme C 4) Theme D 5) Theme D 6) Theme E 7) Theme E 8) Theme F 9) Theme F 10) Theme F
Q2	Short answer Questions (SAQ) All questions compulsory 5 Marks Each	1) Theme A 2) Theme A 3) Theme B 4) Theme B 5) Theme C 6) Theme C 7) Theme D

		8) Theme D 9) Theme E 10) Theme F
Q3	Long answer Questions (LAQ) All questions compulsory 10 marks each	1) Theme A 2) Theme B 3) Theme C 4) Theme E

Distribution of Marks for Practical Exam:

Practical Exam: 100 Marks	
Hematology	20 marks
Bio-chemistry	20 marks
Clinical Physiology	20 marks
Spotters	30 marks
Journal	10 marks
Viva: 80 Marks	

Viva Voce	80 marks
Internal Assessment: 20	
IA	20

The Pass Marks in Each Component of the Examination shall be 50%.

10. LIST OF RECOMMENDED BOOKS

THEORY

TEXT BOOKS

1. John N A (2023) Chatterjee C C. Text Book of Physiology 14th Edition. CBS Publication. (CBDC based)
2. Tortora G (2020). Principles of Anatomy & Physiology. Wiley Publication.
3. Jain A (2021). Text Book of Physiology Vol – 1 & 2. Avichal Publishing Company.
4. Glynn M (2022). Hutchion's Clinical Method, Elsevier Publication.
5. Reddy L P (2023) Fundamentals of Medical Physiology. CBS Publishers and Distributors(CBDC based)

REFERENCE BOOKS

1. Hall J. (2020). Guyton & Hall Text book of Medical Physiology. Elsevier Publication.
2. Khurana I (2021). Essential Medical Physiology. Elsevier Publication.

PRACTICAL & CLINICAL PHYSIOLOGY:-

1. Varshney VP, Bedi M, (2019) Practical Physiology: A Student's Workbook. 1st Edition. Jaypee Brothers Medical Publisher
2. Varshney VP, Bedi M, (2023) Ghai's Textbook of Practical Physiology: 10th Edition. Jaypee Brothers Medical Publisher (CBDC based)
3. John N Aet al (2021) C C Chatterjee's Manual of Practical Physiology:CBS Pubklishers and Distributors(CBDC based)

4. Jain A. (2019) Manual of Practical Physiology. 6th ed. Arya Publications.
5. Glynn M., William D. (2017). Hutchison's Clinical methods. 24th edition Elsevier Publication

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Course-Homoeopathic Pharmacy

Course code: Hom-UG-HP

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1. PREAMBLE

Pharmacy holds a unique place in Homoeopathic practice and education. It involves knowledge of sources of drugs and the process through which these are processed to obtain dynamic, potent homoeopathic drugs for use at the bedside. It encompasses knowledge of drug action, drug proving, methods of Quality testing, standardization & storage with up to date information of changing drug laws related to Homoeopathic Pharmaceutical Industry & Homoeopathy.

We all know the travails which Master went through while establishing the right to manufacture and dispense what he had so painfully discovered. The challenges have not lessened in the modern era when 'scientific' evidence has been gathered for dubbing Homoeopathic medicines as nothing more than a placebo. It is important that the entrant to our science is introduced to the scientific nature of the process employed to prepare our medicines and he develops confidence in the soundness of the practices as well as its efficacy. The student should also appreciate the more than 250 year advance that Hahnemann was able to establish of Homoeopathic science. We now know that Homoeopathy is the 'greenest' of all medical systems in existence and that is sustainable, eco-friendly and the most economic while being effective over a wide range of conditions.

The way that this can be conveyed is by adopting an integrated approach to Pharmacy education and training. Effective linkages with the subjects of Homoeopathic Philosophy and Materia Medica will be able to convey the strong roots that the practice of Pharmacy has not only in the philosophical approach but also the experimental results as seen through the proving from which the world of Materia Medica has evolved.

Simultaneously, the recent advances in the bio-physical and quantum physics has opened new avenues to address the age-old question of how homoeopathic medicines act. A host of researchers are already doing work which the student needs to be made conversant with. That will produce an insight of the way new researches and developments in related fields of the 21st century are able to start explaining Hahnemann's insights of the 18th! This will also firmly root the student in the first year itself to being a participant in ongoing research related to the discipline

which will be his own. Hence the teacher of Pharmacy has a crucial role to play in being abreast of the developments in the field and lend to the student the excitement that becomes a part of teaching-learning.

2. PROGRAMME OUTCOMES

At the end of BHMS program, a student must

1. Develop the competencies essential for primary health care in clinical diagnosis and treatment of diseases through the judicious application of homoeopathic principles

2. Recognize the scope and limitation of homoeopathy and to apply the Homoeopathic Principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community.

3. Discern the relevance of other systems of medical practice for rational use of cross referral and life saving measures, so as to address clinical emergences

4. Develop capacity for critical thinking and research aptitude as required for evidence based homoeopathic practice.

5. Demonstrate aptitude for lifelong learning and develop competencies as and when conditions of practice demand.

6. Be competent enough to practice homoeopathy as per the medical ethics and professionalism.

7. Develop the necessary communication skills to work as a team member in various healthcare setting and contribute towards the larger goals of national policies such as school health, community health, environmental conservation.

8. Identify and respect the socio-demographic, psychological, cultural, environmental & economic factors that affect health and disease and plan homoeopathic intervention to achieve the sustainable development Goal.

3. COURSE OUTCOMES

At the end of the course of Homoeopathic Pharmacy, I BHMS Student will be able to

1. Explain the principles that govern homoeopathic pharmacy.
2. Discuss the pharmacognosical basis of homoeopathic drugs with respect to their identification, nomenclature, source, part used, method of collection and preparation.
3. Prepare homoeopathic medicines from their respective sources according to the different scales & methods of potentisation on a small scale in the laboratory.
4. Describe the pharmacology of homoeopathic drugs with respect to the types of drug action, sphere of action and pharmacological action of homoeopathic drugs integrated with Homoeopathic Materia Medica, Anatomy and physiology.
5. Relate the methodology of Homoeopathic Drug Proving integrated with Organon of Medicine.
6. Apply the principles of Homoeopathic Posology in different health care setting like OPD/IPD integrated with Organon of Medicine and Homoeopathic Materia Medica.
7. State the methods of standardization and quality control of homoeopathic medicines to ensure the genuineness of homoeopathic medicines.
8. Explain the principles of pharmaconomy, dispensing and preservation of homoeopathic medicines.
9. Engage the principles of pharmaco-vigilance, and adverse drug reaction in relation to homoeopathic medicines.
10. Write an ideal prescription.
11. Evaluate the scope for research in homoeopathic pharmacy in the context of the recent advancements in pharmaceutical sciences

3. TEACHING HOURS

Sr No.	Subject	Theoretical Lecture	Practical + Posting at IPD/OPD/Hospital Dispensing Section
01	Homeopathic Pharmacy	100 hrs.	110 hrs.

Teaching Hours (Theory)

A List of Topics		**B.Term**	**C.Teaching Hours**
a) General Concepts and Orientation:			
History of Pharmacy with emphasis on emergence of Homoeopathic Pharmacy.	Definition of Pharmacy & Homoeopathic Pharmacy Concept of Drug substance, Drug, Medicine & Remedy Forming Basic concept of other AYUSH Schools of Pharmacy (Ayurveda, Siddha, Sowa Rigpa& Unani Pharmacy)	I	03
Homoeopathic Pharmacy Basics	Sources of Homoeopathic Pharmacy Branches of Pharmacy Scope of Homoeopathic Pharmacy	I	04

	Specialty and originality of Homoeopathic Pharmacy The Principles of Homoeopathy Law of Similia, Simplex & Minimum Theory of Chronic Disease & Vital Force Doctrine of Drug Proving & Drug Dynamisation		
Homoeopathic Pharmacopoeia	The Evolution, History & Development of Homoeopathic Pharmacopoeias throughout the world (year wise Publications) – GHP, BHP, HPUS, FHP Official –(HPI) &Unofficial Pharmacopoeias – (M Bhattacharya & Co's Homoeopathic Pharmacopoeia Encyclopaedia of Homoeopathic Pharmacopoeia – P N Verma, Homoeopathic Pharmaceutical Codex) Monograph, Contents of Monograph with its individual importance	I	04
Ideal laboratory	Pre requisites of ideal Laboratory (General Laboratory), Laboratory safety Rules Role of Laboratory in Homoeopathic Pharmacy Education	I	02

Weights and measurements.	Metrology Basics & Units of Apothecary System, British Imperial System, Metric System Interrelationship between various systems of Weight & Measure Concept on Domestic Measures with Metric Equivalents	I	01
Nomenclature	The Basic Rules of Nomenclature Nomenclature of Homoeopathic Drugs Important terminologies like scientific names, common names, synonyms Anomalies in Nomenclature	I	02
Pioneers of Homoeopathic Pharmacy	Role & contributions of Pioneers in development of Homoeopathic Pharmacy	I	02
b) Raw Material: Drugs and Vehicles			
Source of drugs in Homoeopathy	Different sources - Plant kingdom, Animal kingdom, Mineral kingdom, Nosodes, Sarcodes, Imponderabilia, Synthetic source, New Sources - Allersode, Isodes with reference to their clinical utility Introduction to Bowel Nosodes, Tissue remedies	I	07

Collection of drug substances	General and Specific guidelines for collecting drugs from all available sources	I	03
Vehicles.	Definition, classification, General Use Source, Properties & Particular use of Vehicles with respect to List Provided in Appendix D Preparation – Commercial Lactose, Alcohol Purity tests – Water, Alcohol, Sugar of Milk	I	06
c) Homoeopathic Pharmaceutics:			
Mother tincture and its preparation	Extraction – Principles & Various Methods Old Method (Based on Class I to IX) Concept of Uniform Drug Strength Estimation of Moisture Content - Necessity New Method/Modern Approach of Homoeopathic Drug Preparation	II	07
Various Scales of Potentization in Homoeopathic pharmacy.	History of development, Introducer, Designation, Preparation, Administration & Application with respect to - Centesimal Scale, Decimal Scale & 50 Millesimal Scale	II	03
Drugs Dynamisation	The Evolution of Dynamisation Concept in Homoeopathy Potentisation& its types	II	06

	The Merits of Potentisation Succussion & Trituration Various types of Potency– Fluxion Potency, Jumping Potency, Back Potency, Single Vial Potency, Multiple Vial Potency, Mixed Vial Potency Post-Hahnemannian Potentization Techniques		
External applications	Scope of administration of External Applications in Homoeopathic Practice Dr Hahnemann's View as per Organon (5^{th}& 6^{th} Ed) Preparation & Uses of lotion, glycerol, liniment and ointment. Commercial Preparation of Ointment	II	05
Posology	Basic principles of Homoeopathic Posology Related aphorisms of Organon of medicine. Criteria for Selection of Potency & Repetition of Dose Various Kinds of Dose, Emphasis on Minimum Dose	III	06

Prescription	Prescription Writing Important Abbreviations Parts & Contents of Prescription Merits & Demerits of Prescription Writing	III	02
Dispensing of Homoeopathic Medicines	Various Dosage Forms – Solid, Liquid Dosage Forms, Methods of Dispensing	II	02
Placebo.	Concept of Homoeopathic Placebo The Philosophy of administration of placebo Concept of Placebo Effect	II	01
Pharmaconomy	Routes of Homoeopathic drug administration.	II	02
Preservation	Preservation Rules – Raw Materials Drug Substance, Mother Preparations, Finished products & Vehicles	II	02
d) Pharmacodynamics			
▪ Doctrine of Signature.	Basic Concept, Its Evolution & Application in Ancient Medical System Supporters of the Doctrine Dr Hahnemann's view on the Doctrine	II	01
▪ Drug Proving.	Homoeopathic Pharmacodynamics	III	06

	With reference to aphorisms 105 – 145 of Organon of Medicine – 6th Ed) Post Hahnemannian Drug Proving Homoeopathic Pathogenetic Trial (HPT) CCRH & Other Protocols on HPT Other Noted Provers & their work on Drug Proving		
▪ Adverse Drug Reactions	Basic Idea, Reporting of ADE Drug safety with Ref to HPI Medication errors, Causality Assessment Incompatible Remedies	II	02
▪ Pharmaco-vigilance.	Pharmacovigilance in Homoeopathy Activities of Pharmacovigilance Centres Awareness on Medicinal Preparations against Homoeopathic Principles – Patents, Combinations	II	02
▪ Pharmacological study of drugs	listed in Appendix-A (Any 15)	III	05
e) Quality Control:			

• Standardisation in Homoeopathy	Different Methods of Standardisation Quality Control of Raw Materials – Various Evaluation techniques In Process Quality Control Quality Control of finished products – Various standard parameters	II	02
• Industrial pharmacy.	Good Manufacturing Practices (GMP) Schedule M1	II	02
• Homoeopathic pharmacopoeia laboratory (HPL)	Functions and Activities of HPL relating to quality control of drugs. Pharmacopoeia Commission for Indian Medicines	II	01
f) Legislations pertaining to Homoeopathic Pharmacy:		**III**	**04**
The Drugs and Cosmetics Act, 1940 (23 to 1940)			
Drugs and Cosmetics Rules, 1945			
Medicinal and Toilet Preparations (Excise Duties) Act, 1955 (16 of 1955)			
Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 (21 of 1954)			
The Narcotic Drugs and Psychotropic Substances Act, 1985 (61 of 1985)			
Dangerous Drug Act, 1930			

g) Recent Advances in Homoeopathic Pharmacy	**III**	**02**
Modern theories related with Homoeopathic Drug action ▪ Principles of Drug action ▪ Introduction to Nanomedicine ▪ Molecular Mechanism of Drug Action ▪ Mechanism of Action of Homoeopathic Medicines		
Scope of Research in Homoeopathic Pharmacy ▪ Drug Discovery ▪ Principles of New Drug discovery ▪ Clinical evaluation of New Drugs ▪ Pre-Clinical Research in Homoeopathic Pharmacy	III	01
h) Homoeopathic Pharmacy - Relationships	III	02
Relation of Homoeopathic Pharmacy with Anatomy		
Relation of Homoeopathic Pharmacy with Physiology		
Relation of Homoeopathic Pharmacy with Materia Medica With reference to Source of Drugs, Identification, Common Name of Drugs, Role of Drug Proving & Other Types of Proving in construction of Materia Medica, Clinical Verification Family wise study of Sphere of action – Solanaceae, Loganiaceae, Compositae, Liliaceae, Anacardiaceae, Rubiaceaeetc		

Teaching Hours (Practical)

Homoeopathic Pharmacy Practicals		**Teaching Hours**	**Peyton's 4 step assessment criteria**
	Particulars of Experiments		
1	Estimation of size of globules	2	Execution
2	Medication of globules (Small Scale)	2	Execution
3	Purity test of Sugar of milk	2	Comprehension & Execution
4	Purity test of water	2	Comprehension & Execution
5	Purity test of Ethyl alcohol	2	Comprehension & Execution
6	Determination of Specific gravity of a given liquid Vehicle & identifying the same.	2	Execution
7	Preparation of dispensing alcohol from strong alcohol.	1	Comprehension & Execution
8	Preparation of dilute alcohol from strong alcohol.	1	Comprehension & Execution
9	Trituration of drug in Old Method (One each of Class VII, VIII & IX)	3	Execution
10	Trituration of one drug as per HPI	1	Execution
11	Succussion in decimal scale from Mother Tincture (Prepared in Old Method) to 3X potency.	2	Execution
12	Succussion in decimal scale from Mother Tincture (Prepared in New Method) to 3X potency	2	Execution

13	Succussion in centesimal scale from Mother Tincture (Prepared in Old Method) to 3C	2	Execution
14	Succussion in centesimal scale from Mother Tincture (Prepared in New Method) to 3C	2	Execution
15	Conversion of Trituration to liquid potency: Decimal scale 6X to 8X potency.	1	Execution
16	Conversion of Trituration to liquid potency: Centesimal scale 3C to 4C potency.	1	Execution
17	Preparation of 0/2 potency (Solid form) (LM scale) of 1 Drug from 3rd Degree Trituration.	2	Execution
18	Preparation of external applications – Lotion	1	Execution
19	Preparation of external applications – Glycerol	1	Execution
20	Preparation of external applications – Liniment	1	Execution
21	Preparation of external applications – Ointment	1	Execution
22	Writing of prescription & Dispensing the Medicine in Water with preparation of Doses	1	Execution
23	Writing of prescription & Dispensing the Medicine in Sugar of Milk with Preparation of Doses	1	Execution
24	Preparation of mother tinctures according to Old Hahnemannian method (Class I, II, III, IV)	8	Execution
25	Preparation of mother solutions according to Old Hahnemannian method (Class Va, Vb, VIa, VIb)	4	Execution

5. **COURSE CONTENT**

A. THEORY

Table 4: Homoeopathic Pharmacy Theory	
a) General Concepts and Orientation:	
History of Pharmacy with emphasis on emergence of Homoeopathic Pharmacy.	Definition of Pharmacy & Homoeopathic Pharmacy Concept of Drug substance, Drug, Medicine & Remedy Forming Basic concept of other AYUSH Schools of Pharmacy (Ayurveda, Siddha, Sowa Rigpa& Unani Pharmacy)
Homoeopathic Pharmacy Basics	Sources of Homoeopathic Pharmacy Branches of Pharmacy Scope of Homoeopathic Pharmacy Specialty and originality of Homoeopathic Pharmacy The Principles of Homoeopathy Law of Similia, Simplex & Minimum Theory of Chronic Disease & Vital Force Doctrine of Drug Proving & Drug Dynamisation

Homoeopathic Pharmacopoeia	The Evolution, History & Development of Homoeopathic Pharmacopoeias throughout the world (year wise Publications) – GHP, BHP, HPUS, FHP Official –(HPI) &Unofficial Pharmacopoeias – (M Bhattacharya & Co's Homoeopathic Pharmacopoeia Encyclopaedia of Homoeopathic Pharmacopoeia – P N Verma, Homoeopathic Pharmaceutical Codex) Monograph, Contents of Monograph with its individual importance
Ideal laboratory	Pre requisites of ideal Laboratory (General Laboratory), Laboratory safety Rules Role of Laboratory in Homoeopathic Pharmacy Education
Weights and measurements.	Metrology Basics & Units of Apothecary System, British Imperial System, Metric System Interrelationship between various systems of Weight & Measure Concept on Domestic Measures with Metric Equivalents
Nomenclature	The Basic Rules of Nomenclature Nomenclature of Homoeopathic Drugs Important terminologies like scientific names, common names, synonyms Anomalies in Nomenclature
Pioneers of Homoeopathic Pharmacy	Role & contributions of Pioneers in development of Homoeopathic Pharmacy

b) Raw Material: Drugs and Vehicles	
Source of drugs in Homoeopathy	Different sources - Plant kingdom, Animal kingdom, Mineral kingdom, Nosodes, Sarcodes, Imponderabilia, Synthetic source, New Sources - Allersode, Isodes with reference to their clinical utility Introduction to Bowel Nosodes, Tissue remedies
Collection of drug substances	General and Specific guidelines for collecting drugs from all available sources
Vehicles.	Definition, classification, General Use Source, Properties & Particular use of Vehicles with respect to List Provided in Appendix D Preparation – Commercial Lactose, Alcohol Purity tests – Water, Alcohol, Sugar of Milk
c) Homoeopathic Pharmaceutics:	

Mother tincture and its preparation	Extraction – Principles & Various Methods Old Method (Based on Class I to IX) Concept of Uniform Drug Strength Estimation of Moisture Content - Necessity New Method/Modern Approach of Homoeopathic Drug Preparation
Various Scales of Potentization in Homoeopathic pharmacy.	History of development, Introducer, Designation, Preparation, Administration & Application with respect to - Centesimal Scale, Decimal Scale & 50 Millesimal Scale
Drugs Dynamisation	The Evolution of Dynamisation Concept in Homoeopathy Potentisation& its types The Merits of Potentisation Succussion & Trituration Various types of Potency– Fluxion Potency, Jumping Potency, Back Potency, Single Vial Potency, Multiple Vial Potency, Mixed Vial Potency Post-Hahnemannian Potentization Techniques
External applications	Scope of administration of External Applications in Homoeopathic Practice Dr Hahnemann's View as per Organon (5^{th}& 6^{th} Ed) Preparation & Uses of lotion, glycerol, liniment and ointment. Commercial Preparation of Ointment

Posology	Basic principles of Homoeopathic Posology Related aphorisms of Organon of medicine. Criteria for Selection of Potency & Repetition of Dose Various Kinds of Dose, Emphasis on Minimum Dose
Prescription	Prescription Writing Important Abbreviations Parts & Contents of Prescription Merits & Demerits of Prescription Writing
Dispensing of Homoeopathic Medicines	Various Dosage Forms – Solid, Liquid Dosage Forms, Methods of Dispensing
Placebo.	Concept of Homoeopathic Placebo The Philosophy of administration of placebo Concept of Placebo Effect
Pharmaconomy	Routes of Homoeopathic drug administration.
Preservation	Preservation Rules – Raw Materials Drug Substance, Mother Preparations, Finished products & Vehicles
d) Pharmacodynamics	

▪ Doctrine of Signature.	Basic Concept, Its Evolution & Application in Ancient Medical System Supporters of the Doctrine Dr Hahnemann's view on the Doctrine
▪ Drug Proving.	Homoeopathic Pharmacodynamics With reference to aphorisms 105 – 145 of Organon of Medicine – 6th Ed) Post Hahnemannian Drug Proving Homoeopathic Pathogenetic Trial (HPT) CCRH & Other Protocols on HPT Other Noted Provers & their work on Drug Proving
▪ Adverse Drug Reactions	Basic Idea, Reporting of ADE Drug safety with Ref to HPI Medication errors, Causality Assessment Incompatible Remedies
▪ Pharmaco-vigilance.	Pharmacovigilance in Homoeopathy Activities of Pharmacovigilance Centres Awareness on Medicinal Preparations against Homoeopathic Principles – Patents, Combinations
▪ Pharmacological study of drugs	listed in Appendix-A (Any 15)
e) Quality Control:	

• Standardisation in Homoeopathy	Different Methods of Standardisation Quality Control of Raw Materials – Various Evaluation techniques In Process Quality Control Quality Control of finished products – Various standard parameters
• Industrial pharmacy.	Good Manufacturing Practices (GMP) Schedule M1
• Homoeopathic pharmacopoeia laboratory (HPL)	Functions and Activities of HPL relating to quality control of drugs. Pharmacopoeia Commission for Indian Medicines
f) Legislations pertaining to Homoeopathic Pharmacy:	
The Drugs and Cosmetics Act, 1940 (23 to 1940)	
Drugs and Cosmetics Rules, 1945	
Medicinal and Toilet Preparations (Excise Duties) Act, 1955 (16 of 1955)	
Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 (21 of 1954)	
The Narcotic Drugs and Psychotropic Substances Act, 1985 (61 of 1985)	
Dangerous Drug Act, 1930	
g) Recent Advances in Homoeopathic Pharmacy	

Modern theories related with Homoeopathic Drug action 1. Principles of Drug action 2. Introduction to Nanomedicine 3. Molecular Mechanism of Drug Action 4. Mechanism of Action of Homoeopathic Medicines
Scope of Research in Homoeopathic Pharmacy 1. Drug Discovery 2. Principles of New Drug discovery 3. Clinical evaluation of New Drugs 4. Pre-Clinical Research in Homoeopathic Pharmacy
h) Homoeopathic Pharmacy - Relationships
Relation of Homoeopathic Pharmacy with Anatomy
Relation of Homoeopathic Pharmacy with Physiology
Relation of Homoeopathic Pharmacy with Materia Medica With reference to Source of Drugs, Identification, Common Name of Drugs, Role of Drug Proving & Other Types of Proving in construction of Materia Medica, Clinical Verification Family wise study of Sphere of action – Solanaceae, Loganiaceae, Compositae, Liliaceae, Anacardiaceae, Rubiaceaeetc

B. Practical – Lab Work – Field – Clinical Hospital Work

1. **Laboratory Work –**

Practical Class (Experiments) - Maintaining Record of Experiments Conducted

(Principle, Requirements, Calculation if applicable, Process, Label, Conclusion/Inference)

Practical Class (Demonstration) – Maintaining Records of Practical Demonstrated

(Principle, Requirements, Calculation if applicable, Process, Label, Conclusion/Inference)

Field Visits-

A) **Maintain File/Report on Visit to GMP Compliant Large Scale Medicine Manufacturing Unit (Format should be as per Appendix – E)**

B) **Maintain File/Report on Visit to Medicinal Plant Garden (Format should be as per Appendix - F)**

Activity –

(a) Clinical Hospital Work – Maintain Record (Activities/Posting in Dispensing Section, Prescriptions based on Homoeopathic Principles in IPD/OPD) – Record to be maintained as per format in Appendix G

(b) Seminar – Maintain Record on Seminar Presentation on Topics of Homoeopathic Pharmacy as assigned – Record to be maintained as per Appendix - H

(c) Herbarium – Maintenance of 30 Plant Drug Substances Samples

B. PRACTICALS

Table 5 : Homoeopathic Pharmacy Practicals	
Sr No.	**Particulars of Experiments**
1	Estimation of size of globules
2	Medication of globules (Small Scale)
3	Purity test of Sugar of milk
4	Purity test of water
5	Purity test of Ethyl alcohol
6	Determination of Specific gravity of a given liquid Vehicle & identifying the same.
7	Preparation of dispensing alcohol from strong alcohol.
8	Preparation of dilute alcohol from strong alcohol.
9	Trituration of drug in Old Method (One each of Class VII, VIII & IX)
10	Trituration of one drug as per HPI
11	Succussion in decimal scale from Mother Tincture (Prepared in Old Method) to 3X potency.
12	Succussion in decimal scale from Mother Tincture (Prepared in New Method) to 3X potency
13	Succussion in centesimal scale from Mother Tincture (Prepared in Old Method) to 3C
14	Succussion in centesimal scale from Mother Tincture (Prepared in New Method) to 3C

15	Conversion of Trituration to liquid potency: Decimal scale 6X to 8X potency.
16	Conversion of Trituration to liquid potency: Centesimal scale 3C to 4C potency.
17	Preparation of 0/2 potency (Solid form) (LM scale) of 1 Drug from 3rd Degree Trituration.
18	Preparation of external applications – Lotion
19	Preparation of external applications – Glycerol
20	Preparation of external applications – Liniment
21	Preparation of external applications – Ointment
22	Writing of prescription & Dispensing the Medicine in Water with preparation of Doses
23	Writing of prescription & Dispensing the Medicine in Sugar of Milk with Preparation of Doses
24	Preparation of mother tinctures according to Old Hahnemannian method (Class I, II, III, IV)
25	Preparation of mother solutions according to Old Hahnemannian method (Class Va, Vb, VIa, VIb)

Demonstration

1. Homoeopathic pharmaceutical instruments and appliances with their cleaning (List provided in Appendix C)

2. Estimation of moisture content using water bath

3. Paper chromatography & TLC of any mother tincture

4. Laboratory methods – Sublimation, distillation, decantation, filtration, crystallization.

5. Preparation of mother tincture – Maceration and Percolation

6. Study & demonstration of Drug Substances (listed in Appendix B)-

i) Macroscopic Characteristic (Any 15)

ii) Microscopic characteristic (Any 05)

7. Study & demonstration of vehicles (Solid, Liquid & Semi solid – as available)
8. Microscopical study of Trituration (One drug up to 3X Potency)
9. Medication of Globule (Large Scale)

Activities

1. Collection of 30 drugs for herbarium
2. Visit to a Large-scale manufacturing unit of Homoeopathic medicine (GMP compliant).
3. Visit to a Medicinal Plant /Botanical Garden & shall keep details Visit report
4. Clinical Class: Visit to IPD, OPD to take note on prescriptions as per Homoeopathic Principles &keep record
5. Visit to Hospital dispensing section to observe & gain knowledge on Dispensing techniques & Keep Records

Demonstration

1. Homoeopathic pharmaceutical instruments and appliances with their cleaning (List provided in Appendix C)-06 Hours
2. Estimation of moisture content using water bath-02 Hours
3. Paper chromatography & TLC of any mother tincture-04 Hours
4. Laboratory methods – Sublimation, distillation, decantation, filtration, crystallization.-04 Hours
5. Preparation of mother tincture – Maceration and Percolation- 04 Hours

6. Study & demonstration of Drug Substances (listed in Appendix B)- 10 Hours

i)Macroscopic Characteristic (Any 15)

ii) Microscopic characteristic (Any 05)

7. Study & demonstration of vehicles (Solid, Liquid & Semi solid – as available)- 02 Hours

8. Microscopical study of Trituration (One drug up to 3X Potency)-02 Hours

9. Medication of Globule (Large Scale)-1 Hour

Clinical Hospital Work – Maintain Record (Activities/Posting in Dispensing Section, Prescriptions based on Homoeopathic Principles in IPD/OPD) – Record to be maintained as per format in Appendix G- 20 Hours

Seminar – Maintain Record on Seminar Presentation on Topics of Homoeopathic Pharmacy as assigned- 07 Hours

6. TEACHING LEARNING METHODS

The Teaching Learning activities in Homoeopathic Pharmacy requires change in structure & process in order to be more skill based & providing hands on experience. The Teaching Learning methods with respect to Homoeopathic Pharmacy may be covered in the following manner –

a) **Class Room Lectures** – Oral Presentation, Board Work, Power point Presentation

b) **Tutorials** – Special Classes on Doubt Clearing of Completed topics/Chapters, Special Classes for Slow Learners (involving Students in Groups comprising 5-10)

c) **Practical Class** – Demonstration & Explanation of the Experiments, this would follow by conduction of the Experiment by the students on their own, write up of the Experiment conducted

d) **Clinical Class** – Visit **to** IPD/OPD for gaining Knowledge on Prescription writing, Administration of Homoeopathic medicines based on Homoeopathic Posology, Visiting Hospital Pharmacy to observe & Gain Knowledge on dispensing techniques

e) **Field Visit** – Visit to One GMP Compliant Homoeopathic Manufactory.

Visit to One Medicinal Plant Garden

f) **Student Activities –** Working out the Assignments, Projects, Power point presentations as assigned

7.**CONTENT MAPPING (COMPETENCY TABLE)**

Topic: History of Pharmacy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to –

Interpret the difference in concept of Pharmacy in different AYUSH systems of medicine

Sr. No	Generic Comp	Subject Area	Miller's Level Does/	Specific Comp	Specific Learning Objectives	Bloom's	Guilbert's	Must to	Teaching - Learning Method	Assessment /Evaluation		Integration
										Formative	Type (Sum	

	etencies		Shows how/ Knows how/ Know	etencies		Domain	Levels	know/ desirable to know/ Nice to know			mative)	
HomUG-HP-1.1.1	Integration of Knowledge Synthesis and application	History of Pharmacy with emphasis to emergence of Homoeopathic Pharmacy	Knows	Must be able to interpret the difference in concept of Pharmacy among various systems of AYUSH	Define Pharmacy	Cognitive	Lvel1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ 3.Peer teaching (Think-Pair-Share, Jigsaw Strategy) 4. Quiz 5. Student Seminars 6. Integrated Teaching with Organon of Medicine	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's	Theory & Viva Voce	Horizontal with Organon of Medicine
HomUG-			Knows		Define Homoeop		Level 1	Must know				

HP-1.1.2	of knowledge				athic Pharmacy		Recall					
HomUG-HP-1.1.3			Knows		Describe the Basic concepts of Different schools of Pharmacy with reference to AYUSH		Level 2 Understand	Nice to Know				
Hom-UG-HP-1.1.4			Knows		Differentiate between Drug-Medicine-Remedy		Level 2 Understand	Must know				

TOPIC: Basics of Homoeopathic Pharmacy

Topic: Basics of Homoeopathic Pharmacy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to –
Enumerate the fundamental Principles of Homoeopathic Pharmacy

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation		Integration
										Formative	Summative	Horizontall ntegration with Organon of Medicine
HomUG-HP-1.2.1	Integration of Knowledge Synthesis and Application of	Basics of Homoeopathic Pharmacy	Knows	Must be able to state the fundamental Principles governing Homoeopathic Pharmacy	1.Enumerate the Sources of Homoeopathic Pharmacy	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions / Peer teaching (Think-Pair-Share, Jigsaw Strategy)	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's	SAQ MCQ LAQ Viva Voce	
HomUG-HP-			Knows		2.Explain the Branches of Homoe		Level 2 Understanding	Must Know				

1.2.2	knowledge				opathic Pharmacy				3. Quiz 4. Student Seminars 5. Guest Lecture 6. Problem based learning	5. 2 marks question 6.SAQ's and LAQ's		
HomUG-HP-1.2.3			Knows		3.Illustrate the Scope of Homoeopathic Pharmacy		Level 2 Understanding	Must Know				
Hom-UGHP-1.2.4			Knows		4.Describe the Originality & Specialty of Homoeopathic Pharmacy		Level 2 Understanding	Must Know				
HomUG-HP-			Knows		5.Explain the Fundamental Principl		Level 2 Understanding	Must Know				

1.2.5					es, Laws & Doctrines related to Homoeopathic Pharmacy							

TOPIC: Nomenclature of Homoeopathic Medicines

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to –
State the basic rules of Nomenclature of Homoeopathic medicines
.

Sr. No	Generic Competencies	Subject Area	Miller'sLevel Does / Shows	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative

			how/ Knows how/ Know					to know/ Nice to know			
Hom UG-HP-1.3.1	Integration of Knowledge Synthesis and Application of knowledge	Nomenclature of Homoeopathic Medicines	Knows	Must be able to describe the principles followed in nomenclature of Homoeopathic medicines	1.State the Basic rules of Nomenclature	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question	SAQ MCQ LAQ Viva Voce
Hom UG-HP-1.3.2			Knows		2.Describe the nomenclature of Homoeopathic Drugs		Level 2 Understanding	Must Know			
Hom UG-HP-1.3.3			Knows		3.Enumerate the important terminologies related		Level 1 Recall	Must Know			

					to Nomenclature				6. Problem based learning		
Hom UG-HP-1.3.4			Knows		4.Define Scientific Name		Level 1 Recall	Must Know			
Hom UG-HP-1.3.5			Knows		5.Define Common Name		Level 1 Recall	Must Know			
Hom UG-HP-1.3.6			Knows		6.Enumerate the advantages of Scientific Name	Cognitive	Level 1 Recall	Must Know			
Hom UG-HP-1.3.7			Knows		7.Enumerate the Advantages of Common Name	Cognitive	Level 1 Recall	Must know			

Hom UG-HP-1.3.8			Knows		8.Identify the existing anomalies in Nomenclature of Homoeopathic Medicines	Cognitive	Level 3 Problem Solving	Nice to know	1.Lecture Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning		

TOPIC: Pioneers of Homoeopathic Pharmacy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to.-
State the Contribution of various Pioneers in the field of Homoeopathic Pharmacy

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative

			how/ Know					know			
HomUG-HP-1.4.1	Integration of Knowledge Synthesis and Application of knowledge	Pioneers of Homoeopathic Pharmacy	Knows	Must be able to state the contributions of various pioneers in the field of Homoeopathic Pharmacy	1.Outline the contributions of the Pioneers of Homoeopathy in the field of Homoeopathic Pharmacy	Cognitive	Level 1 Recall	Nice to Know	1.Lecture Demonstrations 2. Small Group Discussions/ 3. Quiz 4. Student Seminars	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question	SAQ MCQ LAQ Viva Voce

TOPIC: Pharmacopoeia

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able abide by the homoeopathic pharmacopoeia guidelines for preparation of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
Hom UG-HP-1.5.1	Problem solution Integration of Knowledge Synthesis and application of knowledge	Pharmacopoeia	Knows	Must be able abide by the homoeopathic pharmacopoeia guidelines for preparation of homoeopat	1. Define Pharmacopoeia	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy)	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's	SAQ MCQ LAQ Viva Voce
Hom UG-HP-1.5.2			Knows		2. Enumerate the different types of homoeopathic pharmacopoeia with		Level 1 Recall	Must Know			

				hic medicines.	suitable examples.				3. Quiz 4. Student Seminars	5. 2 marks question 6.SAQ's, LAQ's 7.Projects	
Hom UG-HP.1.5.3			Knows		3. Explain the different types of homoeopathic pharmacopoeia.		Level 2 Understanding	Must Know			
Hom UG-HP-1.5.4			Knows		4. Explain HPI in detail		Level 2 Understanding	Must Know			
Hom UG-HP-1.5.5			Knows		5. Explain what is monograph?		Level 2 Understanding	Must Know			

Hom UG-HP-1.5.6			Knows how		6.Apply the guidelines laid down in the official homoeopathic pharmacopoeia w.r.t. identification, collection, preservation, preparation and dispensing of homoeopathic medicine	Cognitive	Level 3 Problem solving	Nice to know	1. Practical Demonstration 2. Lecture Demonstration 3. Projects 4. Herbarium 5. Journal	1. DOPS 2. OSPE 3. Evaluation of projects 4. Evaluation of Journal & Herbarium	SAQ MCQ LAQ Viva Voce Practical Examination / Check list
Hom UG-HP-1.5.7			Knows how		7.Demonstrate care, professionalism & commitment & follow all the	Affective	Level 1 Receiving	Nice to know	1. Practical Demonstration 2. Lecture Demonstration	1. DOPS 2. OSPE 3. Evaluati	Viva Voce

					guidelines meticulously as given in official homoeopathic pharmacopoeia w.r.t. identification, collection, preservation, preparation and dispensing of homoeopathic medicine				3. Projects 4. Herbarium 5. Journal	on of projects 4. Evaluation of Journal & Herbarium	

TOPIC: Plant Kingdom

Topic: Plant Kingdom

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify the plant drug substances for preparation of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Type **S**ummative
Hom UG-HP-1.6.1	Integration of knowledge Synthesis and application of knowledge Classroom to herbarium and lab transfer	Sources of drugs	Knows	Must be able to identify the plant drug substances for preparation of homoeopathic medicines.	1. Explain in detail the part used and drug prepared from plant kingdom	Cognitive	Level 2 Understanding	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share,	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question	SAQ MCQ LAQ Viva Voce

Hom UG-HP-1.6.2			Knows		2. List any 4 examples of drugs from particular part of the plant.		Level 1 Recall	Must know	Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Problem based learning 7. Flipped Classroom 8. Videos	6.SAQ's and LAQ's 7. Herbarium	
Hom UG-HP-1.6.3			Knows		3. Explain classification of plant kingdom with examples.		Level 2 Understanding	Must know			
Hom UG-HP-1.6.4			Does		4. Identify the plant and its parts used for preparation of homoeopathic medicines	Cognitive	Level 3 Problem solving	Must know	1.Practical Demonstration 2.Procedural Skills Teaching	1.DOPS 2. OSPE 3. Herbarium	Practical Examination / Check list

									3. Herbarium 4. Experiential learning (Projects)		
Hom UG-HP-1.6.5			Shows how		5.Demonstrate care while identifying & collecting the plant drug substances	Affective	Level 1 Receiving	Nice to know	1.Lecture Demonstration 2. Problem Based Learning	1.Herbarium	Practical Examination / Check list

TOPIC: Animal Kingdom

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify the animal drug substances for preparation of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom 'sDomain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
Hom UG-HP-1.7.1	Integration of knowledge Synthesis and application of knowledge Classroom to herbarium and lab transfer	Sources of drugs	Knows	Must be able to identify the animal drug substances for preparation of homoeopathic medicines.	1. Explain the part used and drug prepared from animal kingdom	Cognitive	Level 2 Understanding	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's	LAQ SAQ MCQ Viva Voce

									4. Student Seminars 5. Guest Lecture 6. Problem based learning 7. Flipped Classroom 8. Videos	7. Herbarium	
Hom UG-HP-1.7.2			Knows		2. List any 4 examples of drugs from particular part of the animal.		Level 1 Recall	Must Know			
Hom UG-HP-1.7.3			Knows		3. Explain classification of		Level 2 Understanding	Must Know			

					animal kingdom						
Hom UG-HP-1.7.4			Does		4. Identify the animal and its parts used for preparation of homoeopathic medicines	Cognitive	Level 3 Problem Solving	Must Know	1.Practical Demonstration 2.Procedural Skills Teaching 3. Herbarium 4. Experiential learning (Projects)	1.DOPS 2. OSPE 3. Herbarium	Practical Examination / Checklist
Hom UG-HP-1.7.5			Shows how		5.Demonstrate care while identifying & collecting the	Affective	Level 1 Receiving	Must Know	1.Lecture Demonstration 2. Problem Based Learning	1.Herbarium	Practical Examination / Checklist

					animal drug substances						

TOPIC: Mineral Kingdom

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify the mineral drug substances for preparation of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
Hom UG-HP-1.8.1	Integration of knowledge	Sources of drugs	Knows	Must be able to identify the mineral	1. Explain the part used and drug prepared	Cognitive	Level 2 Understanding	Must know	1.Lecture Demonstrations	1.Structured Oral Examination	LAQ SAQ MCQ

	Synthesis and application of knowledge Classroom to herbarium and lab transfer			drug substances for preparation of homoeopathic medicines.	from mineral kingdom				2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Problem based learning 7. Flipped Classroom 8. Videos	2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's 7. Herbarium	Viva Voce
Hom UG-HP-1.8.2			Knows		2. List any 4 examples of drugs from prepared from minerals.		Level 1 Recall	Must know			
Hom UG-HP-1.8.3			Knows		3. Explain the classification of mineral kingdom		Level 2 Understanding	Must know			

Hom UG-HP-1.8.4			Does		4. Identify the mineral used for preparation of homoeopathic medicines	Cognitive	Level 3 Problem solving	Must know	1.Practical Demonstration 2.Procedural Skills Teaching 3. Herbarium 4. Experiential learning (Projects)	1.DOPS 2. OSPE 3. Herbarium	Practical Examination / Checklist
Hom UG-HP-1.8.5			Shows how		5.Demonstrate care while identifying &collecting the mineral drug substances	Affective	Level 1 Receiving	Nice to know	1.Lecture Demonstration 2. Problem Based Learning	1.Herbarium	Practical Examination / Checklist

TOPIC: Sarcodes &Nosodes

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify the drug substances from nosodes and sarcodes for preparation of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
HomUG-HP-1.9.1	Integration of knowledge Synthesis and applicat	Sources of drugs	Knows	Must be able to identify the drug substances from nosodes and sarcodes	1. Explain the part used and drug prepared from nosodes	Cognitive	Level 2 Understanding	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching	1.Structured Oral Examination 2. Tutorials	LAQ SAQ MCQ Viva Voce

	ion of knowledge			for preparation of homoeopathic medicines					(Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Problem based learning 7. Flipped Classroom 8. Videos	3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's	
HomUG-HP-1.9.2	Classroom to herbarium and lab transfer		Knows		2. List any 4 examples of drugs from prepared from nosodes.		Level 1 Recall	Must Know			
HomUG-HP 1.9.3			Knows		3. Explain classification of nosodes.		Level 2 Understanding	Must Know			
HomUG-HP 1.9.4			Knows		4.Explain the part used and drug prepared from sarcodes		Level 2 Understanding	Must Know			

Ho mU G-HP 1.9.5			Knows		5. List any 4 examples of drugs from prepared from sarcodes		Level 1 Recall	Must Know			
Ho mU G-HP 1.9.6			Knows		6. Explain classification of sarcodes		Level 2 Understanding	Must Know			
Ho mU G-HP 1.9.7			Does		7. Identify the sarcode/nosode used for preparation of homoeopathic medicines	Cognitive	Level 3 Problem solving	Must know	1.Practical Demonstration 2.Procedural Skills Teaching 3. Experiential	1.DOPS 2. OSPE	Practical Examination / Checklist

									learning (Projects)		
Ho mU G-HP 1.9.8			Show s how		8.Demonstrate care while identifying & collecting the diseased part/secretion for preparation of nosodes& healthy part/secretion for preparation of sarcodes	Affectiv e	Level 1 Receiving	Nice to know	1.Lecture Demonstration 2. Problem Based Learning	1.Monographs	Practical Examination / Checklist

TOPIC: Imponderabilia

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify the drug substances from energy sources for preparation of homoeopathic medicines.

Sr. No	Generic Competencies		Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
											Formative	Summative
Hom UG-HP-1.10.1	Integration of knowledge Synthesis and application of knowledge Classroom to herbarium and lab transfer		Sources of drugs	Knows	Must be able to identify the drug substances from energy sources for preparation of homoeopathic	1. Explain the energy used and drug prepared from imponderabilia	Cognitive	Level 2 Understanding	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share,	1.Structured Oral Examination 2. Tutorials 3. Assignments	LAQ SAQ MCQ Viva Voce

Hom UG-HP-1.10.2				Knows	medicines.	2. List any 4 examples of drugs prepared from impondera bilia		Level 1 Recall	Must know	Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Problem based learning 7. Flipped Classroom 8. Videos	4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's	
Hom UG-HP-1.10.3				Knows		3. Explain classification of impondera bilia.		Level 2 Unders tanding	Must know			
Hom UG-HP-1.10.4				Does		4. Identify the energy source used for preparation of homoeopat hic medicines	Cogniti ve	Level 3 Proble m solving	Nice to know	1.Practic al Demonst ration 2.Proced ural Skills Teaching	1.DOPS 2. OSPE	Practi cal Exami nation / Checkl ist

						from impondera bilia				3. Experient ial learning (Projects)		
Hom UG-HP-1.10.5				Shows how		5.Demonstr ate care & commitme nt while identifying & collecting the different energy sources for preparation of impondera bilia medicines	Affectiv e	Level 1 Receivi ng	Nice to know	1.Lecture Demonst ration 2. Problem Based Learning	1.Monog raphs	Practi cal Exami nation / Checkl ist

TOPIC: Allersodes, Isodes, Synthetic Source

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify drug substances of Allersodes, Isodes, Synthetic Source for preparation of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
Hom UG-HP-1.11.1	Integration of knowledge Synthesis and application of knowledge	Sources of drugs	Knows	Must be able to identify drug substances of Allersodes, Isodes, Synthetic Source for preparation	1. Explain the preparation of Allersodes, Isodes& Synthetic Source of homoeopathic medicines	Cognitive	Level 2 Understanding	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-	1.Structured Oral Examination 2. Tutorials	LAQ SAQ MCQ Viva Voce

	Classroom to herbarium and lab transfer			of homoeopathic medicines.					Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Problem based learning 7. Flipped Classroom 8. Videos	3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's	
Hom UG-HP-1.11.2			Knows		2. List any 4 examples of drugs prepared from Allersodes, Isodes& Synthetic Source		Level 1 Recall	Must know			

Hom UG-HP-1.11.3			Does		3. Identify the part used for preparation of Allersodes, Isodes& Synthetic Source.	Cogniti ve	Level 3 Problem solving	Must know	Experienti al learning (Projects)	Proje cts	Practi cal Exami nation / Checkl ist
Hom UG-HP-1.11.4			Shows how		4.Demonstr ate care & commitmen t while identifying & collecting the different parts for preparation of Allersodes, Isodes& Synthetic Source	Affectiv e	Level 1 Receivin g	Nice to know	1.Lecture Demonstr ation 2. Problem Based Learning	1.Proj ects	Practi cal Exami nation / Checkl ist

TOPIC: Collection of Drug Substances

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to collect a particular part/ source for preparation of homoeopathic drugs

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
HomUG-HP-1.12.1	Problem solution Integration of Knowledge	Collection of Drug Substances	Knows	Must be able to collect a particular part/ source for preparation of homoeop	1. Explain the general rules for collecting drugs from vegetable kingdom.	Cognitive	Level 2 Understanding	Must know	1.Lecture Demonstrations 2. Small Group Discussions/	1.Structured Oral Examination 2. Tutorials	LAQ SAQ MCQ Viva Voce

	Synthesis and application of knowledge Classroom to Herbarium transfer Practice based learning and improvement			athic drugs					Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Flipped Classroom 7. Videos	3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's 7.Projects 8. Herbarium	
HomUG-HP-1.12.2			Knows		2. Explain the particular rules for collecting drugs from vegetable kingdom.		Level 2 Understanding	Must know			
HomUG-HP-1.12.3			Knows		3. Explain the general rules for collecting drugs from animal kingdom.		Level 2 Understanding	Must know			
HomUG-HP-1.12.4			Knows		4. Explain the particular rules for collecting drugs from animal kingdom.		Level 2 Understanding	Must know			

HomUG-HP-1.12.5			Knows		5. Explain the collection of drugs from mineral kingdom.		Level 2 Understanding	Must know			
HomUG-HP-1.12.6			Knows		6. Explain collection of Nosodes, Sarcodes & Imponderabilia.		Level 2 Understanding	Must know			
HomUG-HP-1.12.7			Does		7. Collect the drugs from vegetable kingdom.	Psycho motor	Level 3 Automation	Must know	1. Practical Demonstrations 2. Procedural Skills	1.DOPS 2.OSPE 3.Projects	Practical Examination / Che

									Teaching 3.Experiential Learning	4.Spotting 5.Herbarium.	cklist
HomUG-HP-1.12.8			Does		8. Collect the drugs from animal kingdom.		Level 3 Automation	Must know			
HomUG-HP.1.12.9			Does		9. Collect the drugs from nosodes, sarcodes & imponderabilia.		Level 2 Control	Must know			
HomUG-HP-			Shows how		10. Demonstrate care & commitment while collecting	Affective	Level 1 Recieving	Nice to know	1. Lecture Demonstration	Herbarium	Practical Examin

1.12.10					drugs from vegetable kingdom, animal kingdom, nosodes, sarcodes &impondera bilia.				2. Practical Demonstration		ation

TOPIC: Cleansing

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to clean the instruments used in homoeopathic pharmaceutical laboratory.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice toknow	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative

Hom UG-HP-1.13.1	Integration of Knowledge Synthesis and application of knowledge Classroom to Lab transfer Practice based learning and improvement	Cleansing of instruments	Knows	Must be able to clean the instruments used in homoeopathic pharmaceutical laboratory	1. Explain the cleansing of mortar & pestle.	Cognitive	Level 2 Understanding	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Flipped Classroom	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's 7.Projects	LAQ SAQ MCQ Viva Voce
Hom UG-HP-1.13.2			Knows		2. Explain the cleansing of spatula.		Level 2 Understanding	Must know			
Hom UG-HP.1.13.3			Knows		3. Explain the cleansing of glass bottles.		Level 2 Understanding	Must know			
Hom UG-			Knows		4. Explain the		Level 2 Understanding	Must know			

HP.1 .13.4					cleansing of corks.						
Hom UG-HP.1 .13.5			Knows		5. Explain the cleansing of wooden instruments .		Level 2 Understanding	Must know			
Hom UG-HP.1 .13.6			Does		6. Demonstrate the cleansing of mortar & pestle.	Psycho motor	Level 3 Automatism	Must know	1. Practical Demonstrations 2. Procedural Skills Teaching 3.Experiential Learning	1.DOPS 2.OSPE 3.Spotting	Practical Examination / Checklist
Hom UG-HP.1 .13.7			Does		7. Demonstrate the cleansing of spatula		Level 3 Automatism	Must know			

Hom UG-HP-1.13.8			Does		8. Demonstrate the cleansing of glass bottles.		Level 3 Automatism	Must know			
Hom UG-HP-1.13.9			Does		9. Demonstrate the cleansing of corks.		Level 3 Automatism	Must know			
Hom UG-HP-1.13.10			Does		10. Demonstrate the cleansing of wooden instruments.		Level 3 Automatism	Must know			
Hom UG-HP-1.13.11			Shows how		11. Demonstrate care while cleaning the	Affective	Level 1 Receiving	Nice to know	1. Lecture Demonstration	1.DOPS 2.OSPE	Practical Examination / Checklist

					instruments.				2. Practical Demonstration		

TOPIC: Lab Methods

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select and apply a particular lab method for preparation of homoeopathic medicines and for standardization of homoeopathic medicines.

Sr. no	Generic Competencies	Subject Area		Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
											Formative	Summative

Hom .UG-HP-1.14.1	Problem solution Integration of Knowledge Synthesis and application of knowledge Classroom to lab transfer Practice based learning and improvement	Lab Methods		Knows	Must be able to select and apply a particular lab method for preparation of homoeopathic medicines and for standardization of homoeopathic medicines	1. Define decantation, sedimentation, filteration, distillation, sublimation, precipitation.	Cognitive	Level 1 Recall	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Problem based learning 7. Flipped Classroom	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's 7.Projects	LAQ SAQ MCQ Viva Voce

										8. Videos		
Hom .UG-HP-1.14.2				Knows		2. Explain the process of decantation, sedimentation, filteration, distillation, sublimation, precipitation		Level 2 Understanding	Must know			
Hom .UG-HP-1.14.3				Knows		3.Explain the homoeopathic uses of decantatio, sedimentation,filteration, distillation,su		Level 2 Understanding	Must know			

						blimation,precipitation						
Hom.UG-HP-1.14.4				Knows how		4.Differentiate between filteration&distillation		Level 2 Understanding	Must know			
Hom.UG-HP-1.14.5				Knows how		5. Differentiate between decantation &filteration in detail.		Level 2 Understanding	Must know			
Hom.UG-HP-1.14.6				Does		6. Select a specific lab method according to the different processes carried out in		Level 3 Problem solving	Desirable to know			

						a homoeopathic pharmacy laboratory.						
Hom.UG-HP-1.14.7				Does		7. Demonstrate the processes decantation, sedimentation,filteration, distillation,sublimation,precipitation	Psychomotor	Level 2 Control	Desirable to know	1. Practical Demonstrations 2. Procedural Skills Teaching 3.Experiential Learning	1.DOPS 2.OSPE 3.Projects	Practical Examination / Checklist
Hom.UG-HP-1.14.8				Shows how		8.Demonstrate care & commitment while carrying out the different lab methods involved in preparation of	Affective	Level 1 Receiving	Nice to know	1. Lecture Demonstration 2. Practical Demonstration	DOPS	Practical Examination / Checklist

						homoeopathic medicine						

TOPIC: Standardization of homoeopathic drugs

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select an appropriate method for standardization of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom'sDomain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
Hom. UG-HP-1.15.1	Integration of Knowledge Synthesis and application of knowledge	Standardization of homoeopathic drugs	Knows	Must be able to select an appropriate method for standardization of	1. Enumerate the different methods of standardization of	Cognitive	Level 1 Recall	Must know	1.Lecture Demonstrations 2. Small Group Discussions/	1.Structured Oral Examination 2. Tutorials	LAQ SAQ MCQ Viva Voce

	Classroom to Lab transfer			homoeopathic medicines	homoeopathic drugs				Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Flipped Classroom 6. Videos	3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's 7.Projects	
Hom. UG-HP-1.15.2	Practice based learning and improvement		Knows		2. Explain the individual method of standardization of homoeopathic drugs	Cognitive Psychomotor	Level 2 Understanding	Must know			
Hom. UG-HP-1.15.3			Does		3. Estimate the standard of homoeopathic drugs before and after manufacturing of homoeopathic medicines.		Level 2 Control	Desirable to know			

Hom. UG-HP-1.15.4			Does		4. Demonstrate the microscopic study of triturations.	Psycho motor	Level 2 Control	Desirable to know	1. Practical Demonstrations 2. Procedural Skills Teaching 3.Experiential Learning 4. Research Projects	1.Spotting 2. Assessment of research project output	Viva Voce & Practical Examinations / Checklist
Hom. UG-HP-1.15.5			Does		5. Identify the drug specimen applying the different methods of standardization of drugs	Cogniti ve	Level 3 Problem solving	Desirable to know			
Hom. UG-HP-1.15.6			Does		6. Analyze the purity of mother tincture with the help of HPTLC.	Psycho motor	Level 2 Control	Nice to know			

Hom. UG-HP-1.15.7			Does		7. Analyze and identify the purity of mother substances and dilutions with the help of U.V. Spectroscopy.	Psycho motor		Nice to know			
Hom. UG-HP-1.15.8			Shows how		8. Abide by the rules of standardization of homoeopathic drugs laid down by HPL & value the importance of genuine medicine in homoeopathic practice.	Affective	Level 3 Internalizing	Nice to know	1. Lecture Demonstration 2. Monographs	Herbarium Assignments	Viva Voce

TOPIC: Quality Control in Homoeopathy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to conduct the quality control as per the appropriate method

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching-Learning Method	Assessment /Evaluation	
										Formative	Summative
Hom.UG-HP-1.16.1	Integration of Knowledge Synthesis and application of knowledge Classroom to Lab transfer	Quality control	Knows	Must be able to conduct the quality control as per the appropriate method	1. Enumerate the different methods of quality control.	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-	1.Structured Oral Examination 2. Tutorials 3. Assignments	LAQ SAQ MCQ Viva Voce
Hom.UG-HP-1.16.2			Knows		2. Explain the individual method of		Level 2 Understanding	Must Know			

	Practice based learning and improvement				quality control in homoeopathy				Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Flipped Classroom 6. Videos	4. MCQ's 5. 2 marks question 6.SAQ's 7.Projects	
Hom.UG-HP-1.16.3			Knows		3.Explain the functions of HPL in quality control of Homoeopathic medicines		Level 2 Understanding	Must Know			
Hom.UG-HP-1.16.4			Does		4. Determine the quality of homoeopathic medicine based on the parameters of quality control		Level 3 Problem solving	Nice to Know			

Hom.UG-HP-1.16.5			Does		5. Take part in the process of quality control at different stages of preparation of homoeopathic medicines.		Level 3 Problem solving	Nice to Know			
Hom.UG-HP-1.16.6			D oes, shows how		6. Demonstrate the microscopic study of triturations.	Psycho motor	Level 2 Control	Nice to Know	1. Practical Demonstrations 2. Procedural Skills Teaching 3.Experiential Learning	1.Spotting 2.Assessment of the outcome of research projects	Viva Voce & Practical Examinations / Checklist
Hom.UG-HP-1.16.7					7. Analyze the purity of mother tinctures		Level 2 Control	Nice to know			

					with the help of HPTLC.				4. Research Projects		
Hom.UG-HP-1.16.8			Does		8. Analyze and identify the purity of mother substances and dilutions with the help of U.V. Spectroscopy.			Nice to know			
Hom.UG-HP-1.16.9			Does		9. Abide by the rules of quality control laid down by HPL & value the importance of genuine medicine in homoeopathic practice.	Affective	Level 3 Internalizing	Nice to know	1. Lecture Demonstration 2. Practical Demonstration	SAQ/LAQ Projects Assignments	Practical Examination / Checklist

TOPIC: Ideal Laboratory

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to –

1. State the pre requisites of an Ideal Laboratory

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
Hom .UG-			Knows	Must be able to state	List the pre requisites for	Cognitive	Level 2	Must Know		1.Structure	LAQ SAQ

HP-1.17.1	Integration of Knowledge Synthesis and Application of knowledge Problem formulation Classroom to lab transfer	Ideal Laboratory		the pre requisites of an ideal laboratory	an ideal Laboratory		Understanding		1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Problem based learning	d Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's	MCQ Viva Voce
Hom.UG-HP-1.17.2			Knows		Formulate the Laboratory Safety Rules		Level 3 Problem solving	Nice to know			
Hom.UG-HP-1.17.3			Knows		Describe the role of Laboratory in Homoeopathic Pharmacy education		Level 2 Understanding	Desirable to know			

TOPIC: Industrial Pharmacy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to –
Correlate the provisions under Schedule M-I

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative

								know			
Hom. UG-HP-1.18.1	Integration of Knowledge Synthesis and Application of knowledge Problem formulatio Classroom to lab transfer	Industrial Pharmacy	Knows	Must be able to correlate provisions related to Schedule M1	Explain in details the provisions under Schedule M-I	Cognitive	Level 2 Understanding	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Field Visit	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ 's and LAQ's	LAQ SAQ MCQ Viva Voce

TOPIC: Homoeopathic Vehicles- Solid Vehicles

Topic: Homoeopathic Vehicles- Solid Vehicles

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select a particular solid vehicle for preparation or dispensing of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/ Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
Hom.UG-HP-1.19.1	Integration of Knowledge Synthesis and Application	Vehicles	Knows	Selecting a particular solid vehicle for preparation or dispensing of	1.Define Vehicle	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions /	1.Structured Oral Examination	LAQ SAQ MCQ Viva Voce

	of knowledge Problem formulation Classroom to lab transfer			homoeopathic medicines.					Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Problem based learning	2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's	
Hom.UG-HP-1.19.2			Knows		2.Classify vehicles in detail		Level 2 Understanding	Must Know			
Hom.UG-HP-1.19.3			Knows		3. List all the solid vehicles used in homoeopathy.		Level 1 Recall	Must Know			
Hom.UG-HP-1.19.4			Knows		4. Explain the preparation, properties and uses of all solid vehicles		Level 2 Understanding	Must Know			

Hom .UG-HP-1.19.5			Does		5. Select the appropriate solid vehicle for dispensing of homoeopathic medicines, potentisation etc.		Level 3 Problem Solving	Must Know			
Hom .UG-HP-1.19.6			Does		6. Identify the given solid vehicle.	Cognitive	Level 3 Problem solving	Must Know	1.Practical Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning 4. Experiential learning	1.DOPS 2. OSPE	Practical Examination / Checklist
Hom .UG-HP-1.19.7			Show How		7. Estimate the purity of the given solid vehicle.	Psychomotor	Level 2 Control	Must know			

Hom .UG-HP-1.19.8			Shows how		8.Demonstrate care and commitment in preparing & dispensing of homoeopathic medicine with accuracy	Affective	Level 1 Receiving	Nice to know	1.Lecture Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning 4. Experiential learning 5. Practical Demonstration	1.DOPS	Practical Examination / Checklist

TOPIC: Homoeopathic Vehicles- Liquid Vehicles

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select a particular liquid vehicle for preparation or dispensing of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objective	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
Hom. UG-HP-1.20.1	Integration of Knowledge Synthesis and Application of knowledge Problem formulation	Vehicles	Knows	Selecting a particular liquid vehicle for preparation or dispensing of homoeopathic medicines.	1.Define Vehicle	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's	LAQ SAQ MCQ Viva Voce
Hom. UG-HP-1.20.2			Knows		2.Classify vehicles in detail		Level 2 Understanding	Must Know			
Hom. UG-HP-1.20.3			Knows		3. List all the liquid vehicles used in homoeopathy.		Level 1 Recall	Must Know			

Hom. UG-HP-1.20.4	Classroom to lab transfer		Knows		4. Explain the preparation, properties and uses of all liquid vehicles.		Level 2 Understanding	Must Know	4. Student Seminars 5. Guest Lecture 6. Problem based learning	5. 2 marks question 6.SAQ's and LAQ's	
Hom. UG-HP-1.20.5			Does		5. Select the appropriate liquid vehicle for dispensing of homoeopathic medicines, potentisation etc.		Level 3 Problem solving	Must Know			
Hom. UG-HP-1.20.6			Does		6. Identify the given liquid vehicle.	Cognitive	Level 2 Understanding	Must Know	1.Practical Demonstration	1.DOPS 2. OSPE	Practical Examination /

									2.Procedural Skills Teaching 3. Problem Based Learning 4. Experiential learning		Checklist
Hom. UG-HP-1.20.7			Shows how		7. Estimate the purity of the given liquid vehicle.	Psychomotor	Level 2 Control	Must Know			
Hom. UG-HP-1.20.8			Shows how		8.Demonstrate care and commitment in preparing & dispensing of homoeopathic medicine with accuracy	Affective	Level 1 Receiving	Nice to Know	1.Lecture Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning 4. Experiential learning	1.DOPS	Practical Examination / Checklist

									5. Practical Demonstration		

TOPIC: Homoeopathic Vehicles- Semi-solid Vehicles

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select a particular semi solid vehicle for preparation or dispensing of homoeopathic medicines.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
Hom.UG-HP-	Integration of	Semisolid Vehicles	Knows	Selecting a particular semi-solid	1.Define Vehicle	Cognitive	Level 1 Recall	Must know	1.Lecture Demonstrations	1.Structured Oral Examination	LAQ SAQ MCQ

1.21.1	Knowledge Synthesis and Application of knowledge Problem formulation Classroom to lab transfer			vehicle for preparation or dispensing of homoeopathic medicines.					2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Problem based learning	2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's	Viva Voce
Hom.UG-HP-1.21.2			Knows how		2.Classify vehicles		Level 2 Understanding	Must Know			
Hom.UG-HP-1.21.3			Knows		3. List all the semi-solid vehicles used in homoeopathy		Level 2 Understanding	Must Know			
Hom.UG-HP-1.21.4			Knows		4. Explain the preparation, properties and uses of all semi-solid vehicles		Level 2 Understanding	Must Know			
Hom.UG-HP-			Does		5. Select the appropriate semi-solid vehicle for dispensing of		Level 3 Problem solving	Must Know			

1.21.5					homoeopathic medicines, preparation of external applications etc.						
Hom.UG-HP-1.21.6			Does		6. Identify the given semi-solid vehicle.	Cognitive	Level 3 Problem solving	Must know	1.Practical Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning 4. Experiential learning	1.DOPS 2. OSPE	Practical Examination / Checklist
Hom.UG-HP-1.21.7			Shows how		7. Estimate the purity of the given semisolid vehicle.	Psychomotor	Level 2 Control	Must know			
Hom.UG-HP-1.21.8			Shows how		8.Demonstrate care and commitment in preparing & dispensing of homoeopathic	Affective	Level 1 Receiving	Nice to know	1.Lecture Demonstration 2.Procedural Skills Teaching	1.DOPS	Practical Examination Checklist

					medicine with accuracy				3. Problem Based Learning 4. Experiential learning 5. Practical Demonstration		

TOPIC: External Applications

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to prescribe an external application as per the scope and limitations of external applications.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom'sDomain	Guilbert's levels	Must to know/ desirable	Teaching - Learning Method	Assessment /Evaluation		Integration
										Formative	Summative	

								to know/Nice to know				
Hom.UG-HP-1.22.1	Integration of Knowledge Synthesis and Application of knowledge Problem formulation	External Applications	Knows	Prescribing an external application as per its scope and limitations	1.Define External Application	Cognitive	Level 1 Recall	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's	LAQ SAQ MCQ Viva Voce	Horizontal with Organon of Medicine

Hom .UG-HP-1.22.2	Classroom to lab transfer		Knows		2. List all the external applications used in homoeopathy		Level 1 Recall	Must know	6. Problem based learning 7. Flipped Classroom			
Hom .UG-HP-1.22.3			Knows		3. Explain the preparation &uses of specific homoeopathic external applications		Level 2 Understanding	Must know				

Hom.UG-HP-1.22.4			Knows		4. Explain the scope & limitations of external applications in homoeopathy		Level 2 Understanding	Must know			
Hom.UG-HP-1.22.5			Does		5. Select the appropriate vehicle for preparation of external application.		Level 3 Problem solving	Must know			

Hom.UG-HP-1.22.6			Does		6. Select appropriate external application as per the case.		Level 3 Problem solving	Desirable to Know				
Hom.UG-HP.1.22.7			Does Shows how		7.Demonstrate the preparation of specific external applications	Psychomotor	Level 2 Control	Must know	1.Practical Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning 4. Experiential learning	1.DOPS 2. OSPE	Practical Examination / Checklist	

Hom .UG-HP-1.22.8			Shows how Does		8.Demonstrate care and commitment in preparing & dispensing of external application with accuracy	Affective	Level 1 Receiving	Nice to know	1.Lecture Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning 4. Experiential learning 5. Practical Demonstration	1.DOPS	Practical Examination / Checklist	

TOPIC: Metrology

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select appropriate scale of measurement in the homoeopathic pharmaceutical laboratory.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
Hom.UG-HP-1.23.1	Problem solving Problem formulation Integration of	Metrology	Knows	Must be able to select appropriate scale of measurement in the homoeopathic pharmaceutical	1. Enumerate the different scales of measurement for preparation of homoeopathic drugs	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's	LAQ SAQ MCQ Viva Voce

	Knowledge Synthesis and application of knowledge Classroom to lab tyransfer			laboratory.					4. Problem Based learning 5. Flipped classroom	5. 2 marks question 6.SAQ's	
Hom.UG-HP-1.23.2			Knows		2. Explain the different scales of measurement for preparation of		Level 2 Understanding	Must Know			

					homoeopathic drugs						
Hom.UG-HP-1.23.3			Does		3. Select appropriate scale of measurement for preparation of homoeopathic drugs.		Level 3 Problem solving	Must Know			
Hom.UG-HP-1.23.4			Does		4. Measure the given quantity of the drug substance and vehicle for preparation of homoeopathic medicines	Psycho motor	Level 3 Automatism	Must know	1. Practical Demonstrations 2.Experiential Learning	1. DOPS 2. OSPE	Viva Voce & Practical Examinations / Checklist

Hom .UG-HP-1.23.5			Shows how		5.Show care while measuring the drugs for preparation of homoeopathic medicines	Affective	Level 2 Respond	Must know	1. Lecture Demonstration 2. Practical Demonstration	1.DOPS 2.OSPE	Theory & Practical Examination / Checklist

TOPIC: Potentisation& Scales of Potentisation

Learning Outcomes (LO): At the end of the topic of Potentisation, I-BHMS student must be able to:

10. Prepare Homoeopathic Medicine according to the scale.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's level	Must to know/ desirable toknow /Nice to know	Teaching - Learning Method	Assessment /Evaluation		Integration
										Formative	Summative	

Hom .UG-HP-1.24.1	Problem solution Integration of knowledge Practice based learning and improvement Synthesis and Application of	Potentisation	Knows	Prepare Homoeopathic Medicine according to the scale.	1. Explain the different scales of potentisation	Cognitive	Level 2 Understanding	Must Know	1.Lecture Demonstrations 2.Practical Demostrations 3. Small Group Discussions/Peer teaching (Think-Pair-Share, Jigsaw Strategy) 4. Problem based learning 5. Student Seminars 6.Study Tour (Field Visit) 7. Integrated Teaching with Organon of Medicine	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. SAQ's and LAQ's 5. MCQ's	LAQ SAQ MCQ Viva Voce	Organon of Medicine-Horizontal
Hom .UG-HP-1.24.2			Knows		2.Explain the two methods potentisation	Cognitive	Level 2 Understanding	Must Know		1.Structured Oral Examination 2. Tutorials 3. Assignments		

	knowledge Classroom to lab Practical skills									4. SAQ's and LAQ's 5. MCQ's		
Hom.UG-HP-1.24.3			Does		3. Select the appropriate vehicles used for potentisation.	Cognitive	Level 3 Problem solving	Must Know		DOPS Spotting OSPE Assessment of PBL		
Hom.UG-HP-1.24.4			Shows How		4. Demonstrate trituration according to the scale of potentisation.	Psycho motor	Level 3 AUTOMATISM	Must Know	1. Practical Demonstration 2.Procedural Skills Teaching	1.DOPS 2. OSPE	Practical Examination / Checklist	
Hom.UG-HP-			Shows How		5. Demonstrate succussion according	Psycho motor	Level 3 AUTOMATISM	Must Know	1. Practical Demonstration 2.Procedural Skills Teaching	1.DOPS 2. OSPE		

1.24.5					to the scale of potentisation.							
Hom.UG-HP-1.24.6			Shows How		6. Prepare 8X (Liq) potency from 6X (Triturate) (Jumping Potency)	Psycho motor	Level 3 AUTOMATISM	Must Know	1. Practical Demonstration 2.Procedural Skills Teaching	1.DOPS 2. OSPE		
Hom.UG-HP-1.24.7			Knows how Shoes how		7.Demonstrate care and commitment in preparing medicine with accuracy	Affective	Level 1 RECIEVING	Nice to Know	Practical Demonstration	DOPS	Practical Examination / Checklist	

TOPIC: Old Methods of Preparation of Homoeopathic Drugs

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to prepare the homoeopathic medicines as per the old methods.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/ Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Method	Type (Formative /Summative)
Hom.UG-HP-1.25.1	Problem solution Integration of Knowledge Synthesis and applicatio	Old Methods of Preparation of Homoeopathic Drugs	Knows	Must be able to prepare the homoeopathic medicines as per the	1. Classify Old Methods of preparation of homoeopathic drugs.	Cognitive	Level 2 Understanding	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question	LAQ SAQ MCQ, Viva Voce(Formative & Summative)

Hom.UG-HP-1.25.2	n of knowledge Classroom to lab transfer Practice based learning and improvement		Knows	old methods	2.Enlist the fundamental rule, drug strength, drug: vehicle ratio nature of drug substances & 5 examples of drugs under Class I-IX according to Old methods.		Level 1 Recall	Must know	4. Student Seminars 5. Guest Lecture 6. Problem based learning 7. Flipped Classroom	6.SAQ's and LAQ's 7.Projects	
Hom.UG-HP-1.25.3			Knows		3. Explain the preparation &potentisation of mother tinctures under class I-IV according to the scale.		Level 2 Understanding	Must know			

Hom.UG-HP-1.25.4			Knows		4.Explain the preparation &potentisation of mother solutions under Class V & VI according to the scale.		Level 2 Understanding	Must know			
Hom.UG-HP-1.25.5			Knows		5.Explain the potentisation of mother substances under Class VII, VIII & IX according to the scale.		Level 2 Understanding	Must know			
Hom.UG-HP-1.25.6			Does		6. Demonstrate the preparation of mother tincture under Class I-IV according	Psycho motor	Level 3 Automatism	Must know	1. Practical Demonstrations 2. Procedural Skills Teaching	1. DOPS 2. OSPE	Practical Examination / Checklist (Formative/Summative)

					to Old Methods.						
Hom.UG-HP.1.25.7			Does		7. Demonstrate the potentisation of mother tincture according to the scale under Class I-IV according to Old Method.		Level 3 Automatism	Must Know			
Hom.UG-HP-1.25.8			Does		8. Demonstrate the preparation of mother solution under Class V-VI according to Old Methods.		Level 3 Automatism	Must Know			

Hom.UG-HP-1.25.9			Does		9. Demonstrate the potentisation of mother solution according to the scale under Class V-VI according to Old Method		Level 3 Automatism	Must Know			
Hom.UG-HP-1.25.10			Does		10. Demonstrate the potentisation of mother substances according to the scale under Class VII, VIII & IX according to Old Method.		Level 3 Automatism	Must Know			

Hom.UG-HP-1.25.11			Shows how		11.Demonstrate care & commitment in preparing and dispensing medicine with accuracy according to the scale and Class under Old Methods.	Affective	Level 1 Receiving	Nice to know	1. Practical Demonstration	DOPS	Practical Examination / Checklist (Formative/Summative)

TOPIC: New Methods of Preparation of Homoeopathic Drugs

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to prepare the homoeopathic medicines as per the new methods.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative

			s how/ Know					to know/Nice to know			
HomUG-HP-1.26.1	Problem solution Integration of Knowledge Synthesis and application of knowledge	New Methods of Preparation of Homoeopathic Drugs	Knows	Must be able to prepare the homoeopathic medicines as per the new methods	1. Define Maceration & Percolation.	Cognitive	Level 1 Recall	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Problem based learning 7. Flipped Classroom	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's 7.Projects	LAQ SAQ MCQ Viva Voce
HomUG-HP-1.26.2			Knows		2. Explain the process of maceration		Level 2 Understanding	Must know			
HomUG-HP-1.26.3			Knows		3.Explain the process of percolation		Level 2 Understanding	Must know			

HomUG-HP-1.26.4	Classroom to lab transfer Practice based learning and improvement		Knows how		4.Differentiate between old & new methods of preparation of homoeopathic drugs		Level 2 Understanding	Must know	8. Videos		
HomUG-HP-1.26.5			Knows how		5.Differentiate between maceration & percolation in detail.		Level 2 Understanding	Must know			
HomUG-HP-1.26.6			Knows		6. Define the terms-merc, magma, menstrum		Recall	Must know			
HomUG-HP-1.26.7			Does		7. Demonstrate the preparation of	Psychomotor	Level 2 Control		1. Practical Demonstrations	1.DOPS 2.OSPE 3.Projects	Practical Examination / Checklist

					mother tincture by maceratio n			Must know	2. Procedural Skills Teaching 3.Experiential Learning		
HomU G-HP-1.26.8			Does		8.Demonst rate the preparatio n of mother solution by percolation		Level 2 Control	Must know			
HomU G-HP-1.26.9			Does		9. Demonstra te the towing of a percolator		Level 2 Control	Desirab le to know			
HomU G-HP-1.26.1 0			Show s how		10.Demons trate care &commit ment in preparing	Affective	Level 1 Receiving	Nice to know	1. Lecture Demonstration 2. Practical Demonstration	DOPS	Practical Examina tion / Checklist

					of homoeopathic medicine with accuracy according to the New methods of preparation of homoeopathic drugs.						

TOPIC: Pharmaconomy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to select appropriate route of administration of homoeopathic medicines.

						Bloom's		Must to		Assessment /Evaluation

Sr. No	Generic Competencies	Subject Area	Miller's Level Does / Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Domain	Guilbert's Levels	know/ desirable to know/Nice to know	Teaching - Learning Method	Formative	Summative
Hom UG-HP-1.27.1	Integration of Knowledge Synthesis and applicat	Pharmaconomy	Knows	Must be able to select appropriate route of administration of homoeop	1. Enumerate the different routes of administration of homoeopathic medicines.	Cognitive	Level 1 Recall	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-	1.Structured Oral Examination 2. Tutorials 3. Assignments	LAQ SAQ MCQ Viva Voce

Hom UG-HP-1.27.2	ion of knowledge Classroom to Clinic transfer		Knows	athic medicines	2. Explain the different routes of administration of homoeopathic medicines.		Level 2 Understanding	Must know	Share, Jigsaw Strategy) 3. Quiz 4. Flipped Classroom 6. Videos	4. MCQ's 5. 2 marks question 6.SAQ's 7.Projects	
Hom UG-HP-1.27.3			Does		3. Select appropriate route of administration of homoeopathic medicines according to the case		Level 3 Problem solving	Desirable to know			
Hom UG-HP-1.27.4			Shows how		4. Administer the homoeopathic medicine through appropriate route of administrati	Psycho motor	Level 2 Control	Nice to know	1. Practical Demonstrations 2.Experiential Learning 3. Projects	1. Case based assessment 2. Simulation based assessment	Viva Voce

					on according to the case				4. Case based Learning 5. Simulation teaching		
Hom UG-HP-1.27.5			Knows how		5.Show care while administering homoeopathic medicine via different routes	Affective	Level 2 Respond	Desirable to know	1. Lecture Demonstration 2. Practical Demonstration 3. Case based Learning 4. Simulation teaching	Case based assessment 2. Simulation based assessment	LAQ SAQ MCQ Viva Voce

TOPIC: Dispensing of Medicines

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be to

1. Select an appropriate dosage form for dispensing of homoeopathic medicines.
2. Dispense homoeopathic medicine to patients.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
Hom UG-HP-1.28.1	Problem solution Integration of Knowledge Synthesis and Applicati	Dispensing of homoeopathic medicines	Knows	Select an appropriate dosage form for dispensing of homoeopathic medicines.	1. Enumerate the different dosage forms.	Cognitive	Level 1 Recall	Must know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's	LAQ SAQ MCQ Viva Voce

Hom UG-HP-1.28.2	on of Knowledge Classroom to OPD/IPD/ Pharmacy transfer		Knows	Dispense homoeopathic medicine to patients	2. Explain the various modes for dispensing of solid dosage forms		Level 2 Understanding	Must know	4. Student Seminars 5. Problem based learning 6. Guest Lecture	5. 2 marks question 6.SAQ's and LAQ's	
Hom UG-HP-1.28.3			Knows		3. Explain the various modes for dispensing of liquid dosage forms		Level 2 Understanding	Must know			
Hom UG-HP-1.28.4			Knows		4. Enlist the vehicles used for dispensing of various dosage forms		Level 1 Recall	Must know			
Hom UG-HP-1.28.5			Knows		5. Explain the quality assurance while dispensing homoeopathic medicines.		Level 2 Understanding	Nice to know			

Hom UG-HP-1.28.6			Shows how Does		6. Demonstrate the dispensing of liquid dosage forms	Psycho motor	Level 2 Control	Must know	1.Practical Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning 4. Experiential learning	1.DOPS 2. OSPE	Practical Examination / Checklist
Hom UG-HP-1.28.7			Shows how Does		7. Demonstrate the dispensing of solid dosage forms		Level 2 Control	Must know			
Hom UG-HP-1.28.8			Does		8. Demonstrate care and commitment while dispensing of homoeopathic medicines.	Affective	Level 1 Receiving	Nice to know	1.Lecture Demonstration 3. Problem Based Learning	1.DOPS	Practical Examination / Checklist

TOPIC: Placebo

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to indicate placebo in a particular case

								Must to		Assessment /Evaluation

Sr. No	Generic Competencies	Subject Area	Miller's Level Does / Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's levels	know/ desirable to know/Nice to know	Teaching - Learning Method	Formative	Summative
Hom UG-HP-1.29.1	Problem solution Integration of Knowledge	Placebo	Knows	Must be able to indicate placebo in a particular case	1. Define Placebo	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Case based learning	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's, 7.Projects	LAQ SAQ MCQ Viva Voce
Hom UG-HP-	Synthesis and applicat		Knows		2. Enumerate the vehicles		Level 1 Recall	Must Know			

1.29.2	ion of knowledge				used as placebo						
Hom UG-HP-1.29.3	Classroom to clinic transfer		Knows		3. Explain the indications of placebo		Level 2 Understanding	Must Know			
Hom UG-HP-1.29.4			Does		4.Select a placebo for a particular case		Level 3 Problem solving	Must Know			

TOPIC: Preservation of Homoeopathic Medicines

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to preserve homoeopathic medicines for long shell life.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable	Teaching - Learning Method	Assessment /Evaluation	
										Method	Type (Formative /Summative)

			Knows how/ Know					to know/Nice to know			
Hom UG-HP-1.30.1	Integration of Knowledge Synthesis and application of knowledge Classroom to Clinic transfer Practice based learnin	Preservation of Homoeopathic medicine	Knows	Must be able to preserve homoeopathic medicines for long shell life	1. Enumerate the different methods of preservation of homoeopathic medicines	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's 7.Projects	LAQ SAQ MCQ Viva Voce(Formative &Summative)
Hom UG-HP-1.30.2			Knows		2. Explain the individual method of preservation of homoeopathic medicine.		Level 2 Understanding	Must Know			
Hom UG-HP-1.30.3			Does		3. Select an appropriate mode of preservation of homoeopathic medicines.		Level 3 Problem solving	Must Know			

	g and improvement										
Hom UG-HP-1.30.4			Does		4. Demonstrate the method of preservation of mother substances & preparations	Psycho motor	Level 2 Control	Desirable to Know	1. Practical Demonstrations 2. Procedural Skills Teaching 3.Experiential Learning 4. Projects	Viva Voce Practical Examination	(Formative/ Summative)
Hom UG-HP-1.30.5			Does		5. Demonstrate the method of preservation of potentised homoeopathic medicines			Desirable to Know			
Hom UG-HP-1.30.6			Does		6. Demonstrate the method of preservation of homoeopathic mother tinctures			Desirable to Know			

Hom UG-HP-1.30.7			Shows how		7.Show care & commitment while preserving homoeopathic preparations and potentised medicine.	Affective	Level 2 Respond	Nice to know	1. Lecture Demonstration 2. Practical Demonstration	SAQ, 2 marks question Projects Assignments Tutorials Viva Voce Practical Examination	(Formative/ Summative)

TOPIC: Pharmacovigilance and adverse drug reaction

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to identify any adverse drug reaction and comprehend the necessity of pharmacovigilance in homoeopathy

						Bloom's		Must to		Assessment /Evaluation

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Domain	Guilbert's levels	know/ desirable to know/Nice to know	Teaching - Learning Method	Formative	Summative
Hom UG-HP-1.31.1	Problem solution Integration of Knowledge Synthesis and application of knowledge	Pharmacovigilance and adverse drug reaction	Knows	Must be able to identify any adverse drug reaction Comprehend the of pharmacovigilance in homoeopathy	1. Define adverse drug reaction	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Case based learning	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's, 7.Projects	LAQ SAQ MCQ Viva Voce
Hom UG-HP-1.31.2			Knows		2. Enumerate the types of adverse drug reactions		Level 1 Recall	Must Know			
Hom UG-HP-1.31.3			Knows		3. Explain the management of adverse drug reactions in homoeopathy		Level 2 Understanding	Must Know			

Hom UG-HP-1.31.4	Classroom to clinic transfer		Knows		4.Define pharmacovigilance		Level 1 Recall	Desirable to Know			
Hom UG-HP-1.31.5			Knows		5.Explain in detail the process of pharmacovigilance in Homoeopathy		Level 2 Understanding	Desirable to know			

TOPIC: Doctrine of Signature

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to apply doctrine of signature while selecting a Homoeopathic simillimum.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Domain	Guilbert's Levels	Must to know/ desirable to know/Nice toknow	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative

Hom UG-HP-1.32.1	Problem formulation Integration of Knowledge Synthesis and application of knowledge	Doctrine of Signature	Knows	Must be able to apply doctrine of signature while selecting a Homoeopathic similimum	1. Define Doctrine of Signature	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Case based learning 6.Case Simulation 7. Experiential Learning	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's 7.Projects 8.Assessment of case 9. Simulation assessment	LAQ SAQ MCQ Viva Voce
Hom UG-HP-1.32.2			Knows		2. Explain doctrine of signature with suitable examples		Level 2 Understanding	Must Know			
Hom UG-HP-1.32.3			Knows how		3. Apply the logic behind doctrine of signature in patients showing the same signs particularly in one sided case.		Level 3 Problem solving	Nice to know			
Hom UG-HP-1.32.4			Shows how		4.Select a remedy for a one -sided case based on the doctrine of signature		Level 3 Problem solving	Nice to know			

Hom UG-HP-1.32.5			Shows hows		5.Demonstrate care, professionalism &commitment while prescribing on the basis of doctrine of signature	Affectiv e	Level 2 Respo nd	Nice to know	1. Case based learning 2. Case Simulation 3.Experiential Learning	1. Assessment of case 2. Simulation assessment	Viva Voce

TOPIC: Drug Proving

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to prove a given drug on healthy human being

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's level	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation		Integration
										Method Formative	Type (Summative)	
HomUG-HP-1.33.1		Drug	Knows	Proving a given drug on healthy	1. Define Drug Proving.	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations	1.Structured Oral	LAQ SAQ MCQ	Horizontal with Organo

	Problem Solution Integration of Knowledge Synthesis and application of knowledge Problem solving	Proving		human being					2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 4. Quiz 5. Student Seminars 6. Guest Lecture 7. Integrated Teaching with Organon of Medicine	Examination 2. Tutorials 3. Assignments 4. MCQ's 5.SAQ's and LAQ's 6. 2 marks questions	Viva Voce	n of Medicine
HomUG-HP-1.33.2			Knows		2. Illustrate the qualities of an ideal prover.	Cognitive	Level 1 Recall	Must Know				
HomUG-HP-1.33.3			Shows how		3. Apply the selection criteria (inclusion & exclusion) for provers during drug proving.	Cognitive	Level 3 Problem Solving	Desirable to know				
HomUG-HP.1.33.4			Knows		4. Explain the methodology for drug proving.	Cognitive	Level 2 Understand	Must Know				
HomUG-HP-1.33.5			Does		5. Design the protocol for Drug Proving.	Cognitive	Level 3 Problem Solving	Nice to know	1. Lecture Demonstration	1.Simulation based assessment	LAQ SAQ MCQ Practical Exami	

HomUG-HP-1.33.6			Does		6. Select ideal prover for drug proving		Level 2 Control	Must know	2.Procedural Skills Teaching 3. Problem Based Learning 4. Role Plays 5. Experiential learning 6. Team based learning		natio n / Check list	
HomUG-HP-1.33.7			Does		7. Prepare the test substance for drug proving.		Level 2 Control	Desirabl e to know				
HomUG-HP-1.33.8			Does		8. Formulate the team for drug proving		Level 2 Control	Nice to know				
HomUG-HP-1.33.9			Does		9. Record the symptoms of drug proving		Level 2 Control	Nice to know				
HomUG-HP-1.33.10			Does		10. Interprete the provers symptoms		Level 2 Control	Nice to know				
HomUG-HP-1.33.11			Does		11. Translate the provers symptoms in Materia		Level 2 Control	Nice to know				

					Medica language							
HomUG-HP-1.33.12			Shows how		12. Show professionalism and care during drug proving towards the provers.	Affective	Level 2 Responding	Nice to know	1. Lecture Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning 4. Role Plays 5. Experiential learning 6. Team based learning	1.Simulation based assessment	LAQ SAQ MCQ Practical Examination / Checklist	
HomUG-HP-1.33.13			Does		13. Value the privacy & integrity of the provers.		Level 3 Internalize	Nice to know				
HomUG-HP-1.33.14			Does		14. Value the consent of the prover.		Level 3 Internalize	Nice to know				
HomUG-HP-1.33.15			Does		15. Value the ethical considerations		Level 3 Internalize	Nice to know				

					during drug proving.							

TOPIC: Posology

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to

1. Select a particular potency for a particular case.
2. Select a particular dose for a particular case.
3. Repeat the dose as per the criteria for repletion of doses.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation		Integration
										Formative	Type (Summative)	

Hom UG-HP-1.34.1	Problem solution Integration of Knowledge Practice based learning and improvement Synthesis and application of knowledge	Posology	Knows	Selecting a particular potency for a particular case. Selecting a particular dose for a particular case. Repeating the dose as per the criteria for repletion of doses.	1.Define posology	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Integrated Teaching with Organon of Medicine 7. Case based learning 8. Case simulation learning	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's 7. Simulation based assessment 8. Case based assessment	LAQ SAQ MCQ Viva Voce	Horizontal with Organon of Medicine
Hom UG-HP-1.34.2			Knows		2.Explain the criteria for selection of potency		Level 2 Understand	Must know				
Hom UG-HP-1.34.3			Knows how		3.Apply the criteria for selection of potency for a particular case.		Level 3 Problem solving	Desirable to know				

	Classroom to OPD/IPD transfer											
Hom UG-HP-1.34.4			Knows		4. Enlist the different types of doses		Level 1 Recall	Must know				
Hom UG-HP-1.34.5			Knows		5. Explain the criteria for repetition of doses.		Level 2 Understanding	Must know				
Hom UG-HP-1.34.6			Shows how		6.Apply the criteria for repetetion of doses for a particular case.		Level 3 Problem Solving	Desirable to know				
Hom UG-HP-1.34.7			Does		7. Choose the correct potency for a particular case		Level 3 Problem Solving	Desirable to know	1. Lecture Demonstration 2.Procedural Skills Teaching	1.Simulation based assessment 2. Case based assessment	LAQ SAQ MCQ Practical Examination / Checklist	

									3. Problem Based Learning 4. Experiential learning 5. Team based learning 6.Case based learning 7. Case simulation learning	3. OSPE		
Hom UG-HP-1.34.8			Does		8. Choose the proper dosage for a particular case		Level 3 Problem Solving	Desirable to know				
Hom UG-HP-1.34.9			Does		9. Design the dosage and repetition for a particular case		Level 3 Problem Solving	Nice to know				

Hom UG-HP-1.34.10			Shows how		10.Show professionalism and care while selection of potency & dose.	Affective	Level 2 Respond	Nice to know	1.Lecture Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning 4. Experiential learning 5. Team based learning 6. Case based learning 7. Case simulation learning	1.Simulation based assessment	LAQ SAQ MCQ Practical Examination / Checklist	
Hom UG-HP-1.34.11			Shows how		11. Value the privacy & integrity of the patient/case		Level 3 Internalize	Nice to know				
Hom UG-HP-1.34.12			Shows how		12. Value the ethical considerations during selection of potency, dose and repetition of doses		Level 3 Internalize	Nice to know				

Hom UG-HP-1.34.13			Shows how		13. Value the importance of rational prescription		Level 3 Internalize	Nice to know				

TOPIC: Prescription Writing

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must have knowledge of writing an ideal prescription

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Level	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative

Hom UG-HP-1.35.1	Integration of Knowledge Practice based learning and improvement Synthesis and application of knowledge Problem solution	Prescription Writing	Knows	Writing an ideal prescription	1.Define Prescription writing.	Cognitive	Level 1 Recall	Must Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Case based learning 7. Case simulation learning	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's	LAQ SAQ MCQ Viva Voce
Hom UG-HP-1.35.2			Knows		2.Explain the parts of an ideal prescription.		Level 2 Understanding	Must Know			
Hom UG-HP-1.35.3			Knows		3. List the abbreviations used in prescription writing with meaning.		Level 1 Recall	Must Know			
Hom UG-HP-1.35.4			Knows		4. Explain the advantages of prescription to the patients and		Level 2 Understanding	Must Know			

	Classroom to OPD/IPD Transfer				to the physician.						
Hom UG-HP-1.35.5			Shows how		5. Critically analyse a prescription for any faults.		Level 3 Problem solving	Nice to know			
Hom UG-HP-1.35.6			Does		6. Write an ideal prescription	Psychomotor	Level 2 Control	Must know	1. Lecture Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning 4. Experiential learning 5. Team based learning 6.Case based learning	1.Simulation based assessment 2. Case based assessment 3. OSPE	LAQ SAQ MCQ Practical Examination / Checklist
Hom UG-HP-1.35.7			Shows how		7. Criticize a wrong prescription	Cognitive	Level 3 Problem solving	Nice to know			

									7. Case simulation learning 8. Practical Demonstration		
Hom UG-HP-1.35.8			Shows how		8.Show professionalism and commitment while writing a prescription with accuracy.	Affective	Level 2 Respond	Nice to know	1.Lecture Demonstration 2.Procedural Skills Teaching 3. Problem Based Learning 4. Experiential learning 5. Team based learning 6. Case based learning	1.Simulation based assessment	LAQ SAQ MCQ Practical Examination / Checklist
Hom UG-HP-1.35.9					9. Value the privacy & integrity of the prescription.		Level 3 Internalize	Nice to know			

Hom UG-HP-1.35.10					10. Value the ethical considerations during writing a prescription		Level 3 Internalize	Nice to know	7. Case simulation learning 8. Practical Demonstration		
Hom UG-HP-1.35.11					11. Value the importance of rational prescription		Level 3 Internalize	Nice to know			

TOPIC: Legislation

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to follow and practice ethically all the laws that govern homoeopathic pharmacy.

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
Hom UG-HP-1.36.1	Integration of Knowledge	Legislation	Knows	Must be able to follow and practice ethically all the	1.List all the acts that govern the legal aspects of homoeopathic pharmacy.	Cognitive	Level 1 Recall	Must know	1.Lecture Demonstrations 2. Small Group Discussions/	1.Structured Oral Examination 2. Tutorials	LAQ SAQ MCQ Viva Voce

	Synthesis and Application of knowledge Problem solution			laws that govern homoeopathic pharmacy.					Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Guest Lecture 6. Problem based learning 7. Flipped Classroom	3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's and LAQ's	
Hom UHP-1.36.2			Knows		2. Illustrate the provisions under the Drugs & Cosmetic Act		Level 2 Understanding	Must know			
Hom UG-HP-1.36.3			Knows		3. Illustrate the provisions under the Schedule M1		Level 2 Understanding	Must know			
Hom UG-HP-1.36.4			Knows		4. Illustrate the provisions under the Drugs & Magic Remedies Act		Level 2 Understanding	Must know			
Hom UG-HP-1.36.5			Knows		5. Illustrate the provisions under the Medicinal & Toilet Preparation Act		Level 2 Understanding	Must know			

Hom UG-HP-1.36.6			Knows		6. Illustrate the provisions under the Dangerous Drugs Act		Level 2 Understanding	Must know			
Hom UG-HP-1.36.7			Knows		7. Illustrate the provisions under the Prevention of Illicit Traffic in Narcotic Drugs & Psychotropic Substances Act		Level 2 Understanding	Must know			
Hom UG-HP-1.36.8			Knows		8. Illustrate the provisions under the Homoeopathic Central Council Act		Level 2 Understanding	Must know			
Hom UG-HP-			Does Shows how		9.Demonstrate the labelling of homoeopathic medicine	Psycho motor	Level 2 Control	Must know	1.Practical Demonstration	1.DOPS 2. OSPE	LAQ SAQ MCQ Practical Examinati

1.36.9					according to Part IX of the Drugs & Cosmetic Act 1940				2.Procedural Skills Teaching 3. Problem Based Learning 4. Experiential learning		on / Checklist
Hom UG-HP-1.36.10			Knows		10.Demonstrate care and commitment and abide by the provisions laid down in the various acts.	Affective	Level 1 Receiving	Nice to know	1.Lecture Demonstration 3. Problem Based Learning	Role Play Assessment	LAQ SAQ MCQ Practical Examination / Checklist

TOPIC: Drug Action

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to differentiate the different mechanisms of drug action of homoeopathic medicines

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows	Specific Competencies	Specific learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative

			how/ Know					to know/Nice to know			
Hom UG-HP-1.37.1	Integration of Knowledge Synthesis and application of knowledge Classroom to Clinic transfer	Drug Action	Knows how	Must be able to differentiate the different mechanisms of drug action of homoeopathic medicines	1. Classify the different types of drug action.	Cognitive	Level 2 Understanding	Nice to Know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Flipped Classroom 6. Videos 7. Integrated Teaching	1.Structured Oral Examination 2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's 7.Projects 8. Spotting	LAQ SAQ MCQ Viva Voce
Hom UG-HP-1.37.2			Knows		2. Explain the individual family drug action according to their sphere of action.		Level 2 Understanding	Desirable to Know			
Hom UG-HP-1.37.3			Knows		3. Explain the individual family drug action according to nature of		Level 2 Understanding	Desirable to Know			

					drug & family relationship.						
Hom UG-HP-1.37.4			Does		4. Analyze the action of drug on patients.	Cognitive	Level 3 Problem solving	Nice to know	1. Practical Demonstrations 2.Experiential Learning 3. Projects	1. Spotting 2. Pharmaco-logical action of 30 drugs as specified in journal 3. Projects	Practical Examination / Checklist
Hom UG-HP-1.37.5			Does		5. Co-relate the action of drugs with the family characteristics.			Nice to know			
Hom UG-HP-1.37.6			Knows		6.Show care in prescribing homoeopathic medicine based on action of drugs and	Affective	Level 2 Respond	Must know	1. Lecture 2. Integrated teaching of Pharmacological drug action with Materia Medica	Journal Assessment	

					drug relationships.						

TOPIC: Relation of Pharmacy with Materia Medica

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to correlate homoeopathic pharmacy with Materia Medica, Anatomy and Physiology

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows how/ Know	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's Levels	Must to know/ desirable to know/Nice to know	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative
HomUG-HP 1.38.1	Problem formulation	Relation of Pharmacy with	Knows	Must be able to correlate homoeopathic pharmacy	1. Explain the correlation of homoeopathic pharmacy with the basics of Homoeopathic	Cognitive	Level 2 Understanding	Desirable to Know	1.Lecture Demonstrations 2. Small Group	1.Structured Oral Examination	LAQ SAQ MCQ Viva Voce

	Integration of Knowledge Synthesis and application of knowledge	Materia Medica		with material medica, Anatomy and Physiology	Materia Medica.				Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Quiz 4. Student Seminars 5. Flipped Classroom	2. Tutorials 3. Assignments 4. MCQ's 5. 2 marks question 6.SAQ's, LAQ's 7.Projects	
HomUG-HP-1.38.2			Knows		2. Explain the correlation of homoeopathic pharmacy with the basics of Anatomy			Desirable to Know			
HomUG-HP-1.38.3			Knows		3. Explain the correlation of homoeopathic pharmacy and Physiology			Desirable to Know			
HomUG-HP-1.38.4			Knows how		4.Apply the principles of posology during case taking after selection of similimum based on knowledge of	Cognitive	Level 3 Problem Solving	Desirable to know	1. Practical Demonstration 2. Lecture Demonstration	1. DOPS 2. OSPE 3. Evaluation of projects 4. Evaluation	LAQ SAQ MCQ Practical Examination /

					Homoeopathic Materia Medica.				3. Experimental Research projects 4. Case based learning 5. Problem based learning 6. Case simulation	of case based learning 5. Evaluation of PBL 6. Evaluation of Case simulation	Checklist Viva
HomUG-HP-1.38.5			Knows how		5. Apply the knowledge of drug action based on familial relationship and remedy relationship as noted in Homoeopathic Materia Medica and organ affection with anatomy			Desirable to know			
HomUG-HP-1.38.6			Knows how		6. Apply the knowledge of sources of drugs and collection of			Desirable to know			

					drugs while preparation of homoeopathic medicines according to the scale of potentisation.						
HomUG-HP-1.38.7			Knows how		7. Apply the knowledge of pharmacological action of drugs with the normal physiology of human body			Desirable to know			
HomUG-HP-1.38.8			Knows how		8.Demonstrate care, professionalism & commitment & follow all the guidelines meticulously as given in 6th edition of	Affective	Level 1 Receiving	Nice to know	1. Practical Demonstration 2. Lecture Demonstration	1. DOPS 2. OSPE 3. Evaluation of projects 4. Evaluation of case	Viva Voce

					Organon of medicine while selecting a particular homoeopathic medicine in a particular potency.				3. Experimental Research projects 4. Case based learning 5. Problem based learning 6. Case simulation	based learning 5. Evaluation of PBL 6. Evaluation of Case simulation	
HomUG-HP-1.38.9					9. Demonstrate care, professionalism & commitment & follow all the guidelines meticulously as given in 6th edition of Organon of medicine while preparation of homoeopathic medicine according to						

					the scale of potentisation.						
HomUG-HP-1.38.10					10. Demonstrate care, professionalism & commitment & follow all the guidelines meticulously as given in 6th edition of Organon of medicine while prescribing a particular external application for a particular case.						

HomUG-HP-1.38.11					11. Should ensure that all the resources are used to the fullest without any wastage while preparing homoeopathic medicine.						

TOPIC: Recent advancements and scope of research in Homoeopathic Pharmacy

Learning Outcomes (LO):

At the end of the topic, I-BHMS student must be able to undertake a short term research in Homoeopathic Pharmacy

Sr. No	Generic Competencies	Subject Area	Miller's Level Does/ Shows how/ Knows	Specific Competencies	Specific Learning Objectives	Bloom's Domain	Guilbert's levels	Must to know/ desirable	Teaching - Learning Method	Assessment /Evaluation	
										Formative	Summative

			how/ Know					to know/Nice toknow			
HomUG-HP-1.39.1	Problem solution Integration of Knowledge Synthesis and application of knowledge Classroom to lab	Recent advancements and scope of research in Homoeopathic Pharmacy	Knows	Must be able to undertake a short term research in Homoeopathic Pharmacy	1.Enumerate the types of research in homoeopathic pharmacy	Cognitive	Level 1 Recall	Desirable to know	1.Lecture Demonstrations 2. Small Group Discussions/ Peer teaching (Think-Pair-Share, Jigsaw Strategy) 3. Visit to research laboratories	1.Structured Oral Examination 2. Assignments 3. MCQ's 4.SAQ's	LAQ SAQ MCQ Viva Voce
HomUG-HP-1.39.2			Knows		2.Explain the recent advancements in the field of homoeopathic pharmacy		Level 2 Understanding	Nice to Know			
HomUG-HP-			Does		3.Design the protocol for a short term research proposal in		Level 3 Problem solving	Desirable to know			

1.39.3	transfer				homoeopathic pharmacy						

Non-Lecture Activities

1. Collection of 30 drugs for herbarium

2. Visit to a Large-scale manufacturing unit of Homoeopathic medicine (GMP compliant).

3. Visit to a Medicinal Plant /Botanical Garden & shall keep details Visit report

4. Clinical Class: Visit to IPD, OPD to take note on prescriptions as per Homoeopathic Principles and keep record

5. Visit to Hospital dispensing section to observe & gain knowledge on Dispensing techniques & Keep Records

8. PRACTICAL TOPICS

Homoeopathic Pharmacy Practicals	
Sr No.	
	Particulars of Experiments
1	Estimation of size of globules
2	Medication of globules (Small Scale)

3	Purity test of Sugar of milk
4	Purity test of water
5	Purity test of Ethyl alcohol
6	Determination of Specific gravity of a given liquid Vehicle & identifying the same.
7	Preparation of dispensing alcohol from strong alcohol.
8	Preparation of dilute alcohol from strong alcohol.
9	Trituration of drug in Old Method (One each of Class VII, VIII & IX)
10	Trituration of one drug as per HPI
11	Succussion in decimal scale from Mother Tincture (Prepared in Old Method) to 3X potency.
12	Succussion in decimal scale from Mother Tincture (Prepared in New Method) to 3X potency
13	Succussion in centesimal scale from Mother Tincture (Prepared in Old Method) to 3C
14	Succussion in centesimal scale from Mother Tincture (Prepared in New Method) to 3C
15	Conversion of Trituration to liquid potency: Decimal scale 6X to 8X potency.
16	Conversion of Trituration to liquid potency: Centesimal scale 3C to 4C potency.
17	Preparation of 0/2 potency (Solid form) (LM scale) of 1 Drug from 3rd Degree Trituration.
18	Preparation of external applications – Lotion
19	Preparation of external applications – Glycerol
20	Preparation of external applications – Liniment

21	Preparation of external applications – Ointment
22	Writing of prescription & Dispensing the Medicine in Water with preparation of Doses
23	Writing of prescription & Dispensing the Medicine in Sugar of Milk with Preparation of Doses
24	Preparation of mother tinctures according to Old Hahnemannian method (Class I, II, III, IV)
25	Preparation of mother solutions according to Old Hahnemannian method (Class Va, Vb, VIa, VIb)

Demonstration

1. Homoeopathic pharmaceutical instruments and appliances with their cleaning (List provided in Appendix C)

2. Estimation of moisture content using water bath

3. Paper chromatography & TLC of any mother tincture

4. Laboratory methods – Sublimation, distillation, decantation, filtration, crystallization.

5. Preparation of mother tincture – Maceration and Percolation

6. Study & demonstration of Drug Substances (listed in Appendix B)-

i)Macroscopic Characteristic (Any 15)

ii) Microscopic characteristic (Any 05)

7. Study & demonstration of vehicles (Solid, Liquid & Semi solid – as available)

8. Microscopical study of Trituration (One drug up to 3X Potency)

9. Medication of Globule (Large Scale)

Activities

1. Collection of 30 drugs for herbarium
2. Visit to a Large-scale manufacturing unit of Homoeopathic medicine (GMP compliant).
3. Visit to a Medicinal Plant /Botanical Garden & shall keep details Visit report
4. Clinical Class: Visit to IPD, OPD to take note on prescriptions as per Homoeopathic Principles &keep record
5. Visit to Hospital dispensing section to observe & gain knowledge on Dispensing techniques & Keep Records

Demonstration

1. Homoeopathic pharmaceutical instruments and appliances with their cleaning (List provided in Appendix C)-06 Hours
2. Estimation of moisture content using water bath-02 Hours
3. Paper chromatography & TLC of any mother tincture-04 Hours
4. Laboratory methods – Sublimation, distillation, decantation, filtration, crystallization.-04 Hours
5. Preparation of mother tincture – Maceration and Percolation- 04 Hours
6. Study & demonstration of Drug Substances (listed in Appendix B)- 10 Hours

i)Macroscopic Characteristic (Any 15)

ii) Microscopic characteristic (Any 05)

7. Study & demonstration of vehicles (Solid, Liquid & Semi solid – as available)- 02 Hours
8. Microscopical study of Trituration (One drug up to 3X Potency)-02 Hours
9. Medication of Globule (Large Scale)-1 Hour

Clinical Hospital Work – Maintain Record (Activities/Posting in Dispensing Section**,** Prescriptions based on Homoeopathic Principles in IPD/OPD) – Record to be maintained as per format in Appendix G- 20 Hours

Seminar – Maintain Record on Seminar Presentation on Topics of Homoeopathic Pharmacy as assigned- 07 Hours

9. ASSESSMENT

Assessment Summary

9A- Number of papers and Mark Distribution

Sr. No.	Course Code	Papers	Theory	Practical	Viva Voce	Internal Assessment-Practical	Electives Grade Obtained		Grand Total
1	HomUG-HP	1	100	50	40	10			100

9B - Scheme of Assessment (formative and Summative)

Sr. No	Professional Course	1st term (1-6 Months)	2nd Term (7-12 Months)	3rd Term (13-18 Months)	
1	First Professional BHMS	First PA + 1ST TT	2nd PA+2ND TT	3rd PA	UE

PA: Periodical Assessment; TT: Term Test; UE: University Examinations

9C - Evaluation Methods for Periodical Assessment

Sr. No	Evaluation Criteria

1	Practical Performance
2	Viva Voce, MCQs, MEQ(Modified Essay Questions/Structured Questions)

9 D- Paper Layout

MCQ	**10 marks**	**15 min**
SAQ	**50 marks**	**85 min**
LAQ	**40 marks**	**80 min**

9 E– I - Distribution of Theory exam

Sr. No	**Paper**			**D** **Type of Questions** **"Yes" can be asked.** **"No" should not be asked.**		
	A **List of Topics**	**B** **Term**	**C** **Marks**	**MCQ** **(1 Mark)**	**SAQ** **(5** **Marks)**	**LAQ** **(10 Marks)**

1	General Concepts and Orientation	I	Refer Next Table	Yes	Yes	No
2	Raw Material: Drugs and Vehicles	I		Yes	Yes	Yes
3	Homoeopathic Pharmaceutics	II		Yes	Yes	Yes
4	Pharmacodynamics	III		Yes	Yes	Yes
5	Quality Control	II		No	Yes	No
6	Legislations pertaining to Homoeopathic Pharmacy	III		No	No	Yes
7	Homoeopathic Pharmacy - Relationships	III		No	Yes	No

9 E – II - Theme table

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	General Concepts and Orientation	I	11	Yes	Yes	No
B	Raw Material: Drugs and Vehicles	I	25	Yes	Yes	Yes
C	Homoeopathic Pharmaceutics	II	23	Yes	Yes	Yes
D	Pharmacodynamics	III	16	Yes	Yes	Yes
E	Quality Control	II	10	No	Yes	No
F	Legislations pertaining to Homoeopathic Pharmacy	III	10	No	No	Yes
G	Homoeopathic Pharmacy - Relationships	III	05	No	Yes	No

9 F Question paper Blueprint

A **Question Serial Number**	**B** **Type of Question**	**Question Paper Format** **(Refer table 7 F II Theme table for themes)**
Q1	Multiple choice Questions (MCQ) 10 Questions 1 mark each All compulsory Must know part: 6 MCQ Desirable to know: 2 MCQ. Nice to know: 2 MCQ	1. Theme A 2. Theme B 3. Theme B 4. Theme B 5. Theme B 6. Theme B 7. Theme C 8. Theme C 9. Theme C 10. Theme D

Q2	Short answer Questions (SAQ) 10 Questions 5 Marks Each All compulsory Must know part: 10 SAQ Desirable to know: Nil Nice to know: Nil	1. Theme A 2. Theme A 3. Theme B 4.Theme B 5. Theme C 6. Theme C 7. Theme D 8. Theme E 9. Theme E 10. Theme G
Q3	Long answer Questions (LAQ) 4 Questions 10 marks each All compulsory All questions on must know No Questions on Nice to know and Desirable to know	1. Theme B 2. Theme C 3. Theme D 4. Theme F

9 G - Distribution of Practical Exam

Practical, Viva & Internal Assessment → 100 marks

Spotting	20 marks
Experiment	20 marks
Journal	10 marks
Viva voce	40 marks
Internal assessment	10 marks

10. LIST OF RECOMMENDED BOOKS

Text Books

1. Dr. Partha Mandal & Dr. Biman Mandal, A Textbook of Homoeopathic Pharmacy, Revised and Enlarged 3rd Edition, 2012, New Central Book Agency Publishers.
2. Dr. D.D. Banerjee, Augmented Textbook of Homoeopathic Pharmacy, 2 nd Edition, 2012, B. Jain Publishers.
3. Dr. K.P. Mujumdar, Textbook of Homoeopathic Pharmacy, 2013, New Central Book Agency Publishers

Reference Texts

1. Banerjee SK & Sinha N. (Reprint edition, 1993). A Treatise on Homoeopathic Pharmacy. B Jain Publishers, New Delhi.
2. Govt. of India, Ministry of Health & Family Welfare, New Delhi (1971 to 2006). Homoeopathic Pharmacopoeia of India (1-9 Vol.)
3. Hughes R (Reprint edition, 1999). A Manual of Pharmacodynamics. B Jain Publishers, New Delhi.
4. Dr. P.N. Verma & Dr. (Mrs.) InduVaid, Encyclopaedia of Homoeopathic Pharmacopoeia, Vol- I,II,III, Edition 2002,B. Jain Publishers.

APPENDIX – A			
List of drugs included in the syllabus of Homoeopathic Pharmacy for study of Pharmacological action: -			
1.	Aconitum Napellus	16.	Glonoinum
2.	Adonis vernalis	17.	Hydrastis Canadensis
3.	Allium cepa	18.	Hyoscyamus niger
4.	Argentum Nitricum	19.	Kali bichromicum
5.	Arsenicum album	20.	Lachesis
6.	Atropa Belladonna	21.	Lithium carbonicum
7.	Cactus grandifloras	22.	Mercurius corrosivus
8.	Cantharis vesicatoria	23.	Najatripudians
9.	Cannabis indica	24.	Nitricumacidum
10.	Cannabis sativa	25.	Nux vomica
11.	Cinchona officinalis	26.	Passiflora incarnate
12.	Coffea cruda	27.	Stannummetallicum
13.	Crataegus oxyacantha	28.	Stramonium
14.	Crotalus horridus	29.	Symphytum officinale
15.	Gelsemium sempervirens	30.	Tabacum

APPENDIX – B

List of drugs for identification

i. **Vegetable Kingdom**

1. Aegle folia
2. Anacardium orientale
3. Andrographis paniculata
4. Calendula officianlis
5. Cassia sophera
6. Cinchona officinalis
7. Cocculus indicus
8. Coffea cruda
9. Colocynthis
10. Crocus sativa
11. Croton tiglium
12. Cynodondactylon
13. Ficus religiosa
14. Holarrhenaantidysenterica
15. Hydrocotyle asiatica
16. Justicia adhatoda

17. Lobelia inflata 18. Nux vomica 19. Ocimum sanctum 20. Opium 21. Rauwolfia serpentina 22. Rheum 23. Saraca indica 24. Senna 25. Stramonium 26. Vinca minor
ii. **Chemicals or Minerals**
1. Acetic acid 2. Alumina 3. Argentum Metallicum 4. Argentum Nitricum 5. Arsenicum Album 6. Calcarea Carbonica 7. Carbo Vegetabilis 8. Graphites

9. Magnesium Phosphoric 10. Natrum Muriaticum 11. Sulphur
iii. **Animal Kingdom**
1. Apis mellifica 2. Blatta orientalis 3. Formica rufa 4. Sepia 5. Tarentula cubensis

Appendix C			
List of Instrument & Appliances for Demonstration & Study			
Crucible with lid	Test Tube	Tripod stand	Hot Air Oven
Porcelain Basin	Conical Flask	Wire gauze	Water bath
Mortar & Pestle Porcelain	Volumetric flask	Spatula	Macerating Jar
Ointment Slab	Minim glass	Leather pad	Percolator

Chemical Balance	Thermometer	Stop watch	Microscope
Hydrometer	Mortar & Pestle - Glass	Chopping Board	pH Meter
Alcoholometer	Glass Phials	Chopping Knife	Burette
Lactometer	Pyknometer	Sieve	Pipette
Spoon	Measuring Cylinder	Tincture Press	Dropper
Beaker	Graduated Conical Flask	Funnel	Glass Rod

Appendix – D (List of Important Vehicles for Study)

Appendix – D (List of Important Vehicles for Study)		
Solid	**Liquid**	**Semisolid**
Sugar of Milk	Water	Vaseline
Globules	Ethyl Alcohol	Beeswax
Tablets	Glycerine	Lanolin
Cane Sugar	Olive Oil	Spermaceti
	Simple Syrup	Isin glass
	Lavender Oil, Sesame Oil, Rosemary Oil, Almond Oil	

Appendix E
Format for Maintaining Record on visit to Homoeopathic Manufactory (GMP Compliant)
Date of Visit No. of Visiting Students & Teaching Faculty Name of Teaching Faculty Detail of the Instructor/s at the Manufactory How the Tour was arranged Name & Location of the Homoeopathic Manufactory History about the Manufactory Different Sections of the manufactory with its working process Activities of R&D Dept How the visit helped in correlation with topics studied in Theory Conclusion **(Any other related information, not mentioned in format, if required can be included)**

Appendix F
Format for Maintaining Record on visit to Medicinal Plant Garden
Date of the Visit No. of visiting Students & Teaching Faculty Name of Teaching Faculty Detail of Instructor/s How the Tour was arranged Name & Location of the Medicinal Plant Garden History & about the Medicinal Plant Garden A list Medicinal Plants seen with brief description, Conclusion

Appendix G
Format for maintaining record on Hospital Activities (Visit to OPD/IPD & Dispensing Section)
Record on Prescriptions based on Homoeopathic Principles in IPD/OPD No of Cases: Total 10 cases (5 Acute, 5 Chronic) Format - Patient ID

Complaint Diagnosis Details of 1st Prescription – Name of Medicine, Potency, Dose with its Repetition, Second Prescription (if Record is available) Conclusion at the end of Acute & Chronic Cases on Lessons learnt on Homoeopathic Principles
Record on Activities/Posting in Hospital Dispensing Section Total No. of Patients Date wise, Sl No as per Prescription Register, Dosage form- Liquid/solid, Name of Vehicle used, Medication Process etc Conclusion at the end on Lessons learnt on Homoeopathic Dispensing Techniques

Appendix H
Format for Maintaining record on Departmental Seminars

Maintenance of Record on Seminar Presentation on Topics of Homoeopathic Pharmacy as assigned
Circular/Notice of Departmental Seminar
Title of Topic for Presentation,
Date
Presented by Name of Student/s
Brief Report on the Seminar
Any New Information provided by the Speakers
Rating on a Scale of 10
No of Students & Faculty Members attending the Seminar
Photos
Signed by the Departmental Head

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Subject- Homoeopathic Materia Medica

Subject code: HomUG-HMM-I

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1. PREAMBLE

Homoeopathic Materia Medica is the study of the action of drugs on healthy human being as a whole taking into consideration individual susceptibility and its reaction to various circumstances and time. A good prescription by a homoeopath mainly depends upon the case receiving, processing and a sound knowledge of Homoeopathic Materia Medica.

Each drug in Materia Medica not only has its own personality with its mental and physical constitution but also has its own affinity to an area, direction, spread, tissue, organ, system. Study of a drug in context of altered sensation, function and structure covers the pathology caused by it, which is also expressed in the pathogenesis of the drugs. Materia Medica also has symptoms from toxicological and clinical proving. All this knowledge is of utmost importance in order to apply the remedies in various clinical conditions. This can be achieved only by integrating the study of Materia Medica with other parallel subjects taught during the course.

Apart from the source books of Materia Medica there are different types of Materia Medica constructed on different philosophical backgrounds by different authors. Materia Medica also forms the platform of various repertories. Therefore, it becomes very important for a student of homoeopathy to learn the plan and construction of all the basic Materia Medica in order to understand their practical utility in practice.

It is also important to keep in mind that the end point of the teaching of HMM is not to burden the student with information of more number of remedies but to equip with an approach which will help to develop the vision towards self-guided study and apply the knowledge in practice.

This self-directed learning can ultimately lead to a critical approach of studying Materia Medica hence empowering evidence based practice and initiate the process of lifelong learning. Exploring Materia Medica is an endless journey as newer illnesses will keep on emerging and newer drugs or undiscovered facets of existing drugs will be needed to explore for managing these situations.

2. PROGRAM OUTCOMES:

At the end of BHMS program, a student must

1. Develop the competencies essential for primary health care in clinical diagnosis and treatment of diseases through the judicious application of homoeopathic principles

2. Recognize the scope and limitation of homoeopathy and to apply the Homoeopathic Principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community.

3. Discern the relevance of other systems of medical practice for rational use of cross referral and life saving measures, so as to address clinical emergences

4. Develop capacity for critical thinking and research aptitude as required for evidence based homoeopathic practice.

5. Demonstrate aptitude for lifelong learning and develop competencies as and when conditions of practice demand.

6. Be competent enough to practice homoeopathy as per the medical ethics and professionalism.

7. Develop the necessary communication skills to work as a team member in various healthcare setting and contribute towards the larger goals of national policies such as school health, community health, environmental conservation.

8. Identify and respect the socio-demographic, psychological, cultural, environmental & economic factors that affect health and disease and plan homoeopathic intervention to achieve the sustainable development Goal.

3. COURSE OUTCOMES

At the end of BHMS I course, the students should be able to-

1. Define the homoeopathic Materia Medica.
2. Understand the philosophy of homoeopathic Materia Medica.
3. Describe evolution, sources and construction of different types of Homoeopathic Materia Medica.
4. Enumerate the scope and limitations of Homoeopathic Materia Medica.
5. Evolve the portrait and symptomatology of a particular drug using the knowledge of pharmacy, psychology, anatomy, physiology and Organon of medicine.
6. Observe the symptoms of a particular medicine in a clinical set-up with emphasis on individualizing symptoms.

Learning Objectives

1. To define the homoeopathic Materia Medica and grasp the basic concept with philosophy of it based on Hahnemannian directions.
2. To discuss different sources and types of homoeopathic Materia Medica.
3. To understand the drug in context of its pharmacological data, constitution, temperament, sphere of action, pathogenesis, both mental and physical generals, particular symptoms, characteristic/ individualising symptoms, general and particular modalities, relationship with other remedies including doctrine of signature.
4. To study and understand the bio-chemic system of medicine.
5. To identify the symptoms of a sick individual corresponding to the symptoms of a particular drug.
6. To develop an insight into scopes and limitations of homoeopathic Materia Medica.

4. 4 TEACHING HOURS

Distribution of Teaching Hours:

Homoeopathic Materia Medica		
Year	**Teaching hours- Lectures**	**Teaching hours- Non-lectures**
1st BHMS	120	75

4. A. Teaching Hours Theory:

S. no.	**List of Topics**	**Hours**
1.	Definition and introduction of Materia Medica	2
2.	Types of Homoeopathic Materia Medica	3
3.	Sources of Homoeopathic Materia Medica	3
4.	Study of drug picture (term I)	32
5.	Study of drug picture (term II)	33
6.	Theory of Bio chemic salts	2
7.	Individual bio chemic salts	15
8.	Study of drug picture (term III)	29
9.	Scope and Limitation of HMM	1

	Total	120

4.B. Teaching Hours Non-lecture:

Sr. No	**A** **Study Setting**	**B** **Term**	**C** **Teaching Hours**
1	OPD/IPD/Classroom	II & III	75

Non-Lecture Activities (Practical)-

Sr. No	**Non Lecture Teaching Learning methods**	**Time Allotted per Activity** **(Hours)**
1	Group Discussions	5
2	Problem based learning	5
3	Tutorials	10
4	Case Based Learning (live case)	55
	Total	**75**

5. COURSE CONTENTS BHMS I (Theory)

1. Introductory Lectures

a. Definition and introduction of basic Materia Medica.
b. Sources, types, scope and limitation of Homoeopathic Materia Medica
c. Theory of biochemic system of medicine, its comparison with Homoeopathy and study of **12 biochemic tissue salts** with their physico-chemical reaction.

2. Homoeopathic medicines:

1. Aconite	18. Calcarea Phos	35. Hypericum
2. Aethusa cynapium	19. Calendula	36. Ignatia
3. Allium cepa	20. Carbo Veg	37. Ipecac
4. Aloe soc	21. Chamomilla	38. Ledum pal
5. Ammonium Carb	22. Cina	39. Lycopodium
6. Ammonium Mur	23. Cinchona	40. Natrum Carb
7. Antim Crude	24. Cocculus	41. Natrum Mur
8. Antim Tart	25. Coffea cruda	42. Nux vomica
9. Apis Mel	26. Colchicum	43. Podophyllum
10. Arnica montana	27. Colocynth	44. Pulsatilla
11. Ars Alb	28. Dioscoria villosa	45. Rhus tox
12.Arum triph	29. Croton tig	46. Ruta
13. Baryta Carb	30. Drossera	47. Silicea
14. Belladonna	31. Dulcamara	48. Spongia
15. Borax	32. Euphrasia	49. Sulphur

16. Bryonia alba	33. Gelsemium	50. Symphytum
17. Calc Carb	34. HeparSulph	

Biochemic tissue salts:

1. Calc Flour	5. Kali Mur	9. Nat Mur*
2. Calc Phos*	6. Kali Phos	10. Nat Phos
3. Calc Sulph	7. Kali Sulph	11. Nat Sulph
4. FerrPhos	8. Mag Phos	12.Silicea*

**Also included in the list of Homoeopathic medicines, hence total no. of medicines shall remain 59 for BHMS I.*

Contents for Term I:

I. Introductory Lectures

a. Definition and introduction of basic Materia Medica.
b. Sources, types of Homoeopathic Materia Medica

II. Homoeopathic medicines:

1. Arnica montana	8.Natrum Mur
2.Bryonia	9.Rhus tox

3.Baryta carb	10.Ruta
4.Calc Carb	11.Silicea
5.Calendula	12.Sulphur
6.Hypericum	13.Symphytum
7. Ledum pal	

Contents for Term II:

I. Homoeopathic medicines:

1. Aconite nap	11.Colchicum
2.Aloes soc	12. Colocynth
3. Apis mellifica	13.Dioscorea
4. Arsenic Alb	14. Dulcamara
5.Belladona	15. Gelsemium
6.Cina	16. Ignatia
7.Chamomila	17. Lycopodium
8.Carbo veg	18. Nux vomica
9.Cinchona	19. Podophyllum

10.Cocculus	20. Pulsatilla nig.

II. Theory of biochemic system of medicine, its comparison with Homoeopathy

III. Study of 5 **biochemic tissue salts** with their physico-chemical reaction:

1. Calc Flour
2. Calc Phos
3. Calc Sulph
4. Natrum Phos
5.Natrum Sulph

Contents for Term III:

I. Homoeopathic medicines:

1. Aethusa cyn	9. Coffea cruda
2. Alliun cepa	10. Croton tig
3. Ammon Carb	11. Drosera
4. Ammon Mur	12. Euphrasia
5. Antim Crud	13.Hephar Sulph
6. Antim Tart	14.Ipecacuanha
7. Arum triph	15.Natrum Carb

8. Borax	16.Spongia

II. Study of 5 **biochemic tissue salts** with their physico-chemical reaction:

1. FerrPhos
2. Kali Mur
3. Kali Phos
4. Kali Sulph
5. Mag Phos

III. Scope and limitations of Homoeopathic Materia medica

6. TEACHING LEARNING METHODS

Lectures (Theory)	**Non-lectures (Practical)**
Lectures	Clinical demonstration
Small group discussion	Problem based discussion
Integrated lectures	Case Study
Assignments	
Library reference	

Different teaching-learning methods must be applied for understanding holistic and integrated Materia Medica. There has to be classroom lectures, small group discussions, case discussion where case-based learning (CBL) and problem based learning (PBL) are specially helpful. In the applied Materia Medica, case discussion (CBL-PBL) method is beneficial for students. Audio visual (AV) methods for classroom teaching may be an innovative aid in order to demonstrate the related graphics and animations etc. In case of clinical demonstration – DOAP (Demonstration – Observation – Assistance – Performance) is very well applicable.

7. CONTENT MAPPING (COMPETENCIES TABLE)

Topic 1- Definition and introduction of Materia Medica

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/ Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG-HMM-I-1.1	Information Gathering	Definition and introduction of	Knows	Knowledge of fundamen	Define the basic MM and HMM	Cognitive	Remember/ recall	Must Know	Lecture	MCQ, SAQ,	SAQ, Viva voce	Horizontal Integration with

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/ Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG-HMM-I-1.2	Integration of information	materia medica		tals of HMM	Explain what sign and symptoms are with examples		Understand			Viva Voce		Organon of Medicine
HomUG-HMM-I-1.3					Contrast between MM and HMM							

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/ Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG-HMM-I-1.4					Discuss the history of MM with emphasis on Hahnemannian directions							

Topic 2- Types of Materia Medica

Sr. No.	Generic Competency	Subject Area	Millers Level: Does / Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
HomUG-HMM-l-2.1	Information Gathering Integration of	Types of Materia Medica	Knows	Identify various types of HMM	Describe various types of HMM	Cognitive	Remember/ recall Understand	Must Know	Lecture, small group discussion, demonstration	MCQ, SAQ, Viva Voce	SAQ, Viva voce	Horizontal Integration with Organon of Medicine and Pharmacy
HomUG-HMM-l-2.2					Enumerate types of HMM							

HomUG-HMM-I-2.3	information				Classify Homoeopathic Materia Medica as per its types.						
HomUG-HMM-I-2.4			Knows how		Discuss the characteristics of each type of HMM based on practical utility.			Desirable to know			

Topic 3- Sources of Homoeopathic Materia Medica

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
Hom UG-HMM-I-3.1	Information Gathering Integration of information	Sources of HMM	Knows	Identify various sources of HMM	Describe the sources of HMM	Cognitive	Remember/ recall Understand	Must know	Lecture, Small Group discussion, Demonstration	MCQ, SAQ, Viva Voce	SAQ, LAQ, Viva voce	Horizontal Integration with Organon of Medicine, Homoeopathic pharmacy Vertical and spiral integration with FMT
Hom UG-HMM-I-3.2					Understand the concept of source books of HMM							
Hom UG-					List the source							

HMM-I-3.3					books of HMM							
Hom UG-HMM-I-3.4					Discuss the plans and construction of source books of HMM							

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
Hom UG-HMM-I-3.5	Information Gathering Integration of information	Sources of HMM	Knows	Identify various sources of HMM	Enumerate different types of proving as sources of HMM	Cognitive	Remember/ recall Understand	Must know	Lecture, Small Group discussion, Demonstration	MCQ, SAQ, Viva Voce	SAQ, LAQ, Viva voce	Horizontal Integration with Organon of Medicine, Homoeopathic pharmacy Vertical and spiral integration with FMT
Hom UG-HMM-I-3.6			Knows how		Describe various proving sources of HMM							

Hom UG-HMM-I-3.7					Understand the basic concept of various types proving as source of HMM							
Hom UG-HMM-I-3.8				Insight into structure of various HMM	Differentiate the construction of different source books of HMM			Desirable to know			SAQ, Viva voce	

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
Hom UG-HMM-I-3.9	Information Gathering Integration of information	Sources of HMM	Knows how	Identify various sources of HMM	Understand the construction of various HMM as a compilation based on the source books.	Cognitive	Remember/ recall Understand	Nice to know	Lecture, Small Group discussion, Demonstration	Viva voce	Viva voce	Horizontal Integration with Organon of Medicine, Homoeopathic pharmacy
Hom UG-HMM-I-3.10					Draw the time line of Homoeopathic							

					Materia Medica based on their history, evolution and philosophy							

Topic 4- Homoeopathic Medicines

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
Hom UG-HMM-I-4.1	Information Gathering Integration of information Problem formulation	Homoeopathic medicines included in: Term I, II and III	Knows, Knows how, Shows how	1.Evolve the symptom-tology of a particular drug 2. Observe the symptoms of a particula	Describe the drug picture of homoeopathic medicines with following details- pharmacological data, constitution, temperament, sphere of action,	Cognitive, Psycho motor	Remember/ recall Understand Interpret	Must Know	Lecture, Small Group discussion, Demonstration (clinical classes in OPD), Problem based learning	MCQ, SAQ, LAQ, Practical, Viva Voce	SAQ, LAQ, Practical, Viva voce	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of medicine.

	Practical Skills			r medicine in a clinical set-up	doctrine of signature, pathogenesis, both mental and physical generals, particular symptoms, characteristic/ individualizing symptoms, general and particular modalities, relationship							Longitudinal and spiral with all allied subjects in BHMS

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know / Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
Hom UG-HMM-I-4.2	Information Gathering Integration of information Problem	Homoeopathic medicines included in: Term I, II and III	Knows, Knows how, Shows how	1.Evolve the symptom-tology of a particular drug 2. Observe the symptoms of a	.Formulate the drug picture/ symptomatology of a particular drug using the knowledge of pharmacy, psychology, anatomy, physiology and	Cognitive, Psychomotor	Remember/ recall Understand Interpret	Must Know	Lecture, Small Group discussion, Demonstration (clinical classes in OPD),	MCQ, SAQ, LAQ, Practical, Viva Voce	SAQ, LAQ, Practical, Viva voce	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of

	formulation Practical Skills			particular medicine in a clinical set-up	organon of medicine.				Problem based learning			medicine. Longitudinal and spiral with all allied subjects in BHMS
Hom UG-HMM-I-4.3					Understand the symptomatology of a particular medicine in regard to a particular system/organ of the body.							

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know / Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
Hom UG-HMM-I-4.4	Information Gathering Integration of information Problem formulation	Homoeopathic medicines included in: Term I, II and III	Knows, Knows how, Shows how	Evolve the symptom-tology of a particular drug	Identify the symptom similarity of a patient with a particular medicine in a clinical set up	Cognitive, Psycho motor	Remember/ recall Understand Interpret	Must Know	Lecture, Small Group discussion, Demonstration (clinical classes in OPD), Problem based learning	MCQ, SAQ, LAQ, Practical, Viva Voce	SAQ, LAQ, Practical, Viva voce	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of
Hom UG-HMM-I-4.5					State the relationship of a medicine							

	Practical Skills				with other medicines							medicine . Longitudinal and spiral with all allied subjects in BHMS
Hom UG-HMM-I-4.6			Knows how	Observe the symptoms of a particular medicine in a clinical set-up	Understand the relationship status of a medicine and its background	Cognitive	Remember/ recall Understand	Desirable to know	Lecture, Small Group discussion,	MCQ, Viva Voce	Viva voce	
Hom UG-HMM-I-4.7			Knows how		Observe the variations in symptomatology of a particular medicine in most commonly used HMM	Cognitive	Remember/ recall Understand	Nice to know	Lecture, Small Group discussion, Demonstration	Viva Voce	Viva voce	

					of eminent authors							

Topic 5- Theory of Bio chemic tissue salts, its comparison with homoeopathy and study of 12 tissue remedies with their physico-chemical reaction:

Sr.No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
Hom UG-HMM-I-5.1	Information Gathering,	Theory of Bio chemic tissue salts	Knows	Describe the Theory of Bio chemic tissue salts	Describe the Theory of Bio chemic tissue salts	Cognitive	Remember/ recall Understand	Must Know	Lecture, Small Group discussion	MCQ. Viva, Quiz Assignment	SAQ, MCQ	**Horizontal** Pharmacy, Biochemistry and Physiology **Spiral**
Hom UG-HMM-I-5.2	synthesis and application of				compare and contrast Homoeopathic system of							

Sr.No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
Hom UG-HMM-I-5.3	knowledge in class room				medicine with Bio chemic tissue salts co-relate the importance of knowledge of Biochemistry in better understanding of Bio							Can compare the drug pathogenesis with Homoeopathic medicines **Vertical** Can explore the utility of Biochemic salts in treating

Sr.No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
					chemic tissue salts							deficiencies in Medicine, OBG etc
Hom UG-HMM-l-5.4					List the 12 Bio chemic tissue salts							

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know / Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
Hom UG-HMM-I-5.5	Information Gathering Integration of information Problem formulation	12 Biochemic medicines included in: Term II and III	Knows, Knows how, Shows how	1.Describe individual Biochemic tissue salts 2.Evolve the symptom-tology of a	*In addition to the competencies for homoeopathic medicines,* Describe individual Bio chemic tissue salts	Cognitive, Psychomotor	Remember/ recall Understand Interpret	Must Know	Lecture, Small Group discussion, Demonstration (clinical classes in OPD), Problem based learning	MCQ, SAQ, LAQ, Practical, Viva Voce	SAQ, LAQ, Practical, Viva voce	Horizontal Integration with pharmacy, psychology, anatomy, physiology and organon of medicine.

Hom UG-HMM-I-5.6	Practical Skills			particular drug 3.Observe the symptoms of a particular medicine in a clinical set-up	Explain the pathogenesis and symptomology of each Bio chemic tissue salts as per Dr, Wilhelm H. Schuessler.							Longitudinal and spiral with all allied subjects in BHMS
Hom UG-HMM-I-5.7					Justify the portrait of each tissue salt in correlation with the knowledge of							

					Biochemistry.							

Topic 6- Scope and limitation of homoeopathic Materia Medica:

Sr. No.	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
Hom UG-HMM-I-6.1	Information Gathering	Scope and Limitations of HMM	Knows	Must be able to comprehend the scope and limitations	List the scope and limitations of HMM	Cognitive	Remember/ recall	Must Know	Lecture. Small group	LAQ SAQ Viva,	LAQ SAQ Viva,	Horizontal Integration with pharmacy, psycholog

Hom UG-HMM-I-6.2	Integration of information		Knows how	of Homoeopathic Materia Medica	Discuss the scope and limitations of HMM		Understand	Must Know	discussion Case Based learning Problem Based Learning			y, anatomy, physiology and organon of medicine. Longitudinal and spiral with all allied subjects in BHMS
Hom UG-HMM-I-6.3			Knows		Discuss the solutions to overcome the limitations of HMM		Understand	Nice to know				

8. ASSESSMENT

Assessment Summary

8A- Number of papers and Mark Distribution

Sr. No.	Course Code	Papers	Theory	Practical (Assignment)	Viva Voce	Internal Assessment-Practical	Grand Total
1	HomUG-HMM-I	1	100	50	40	10	200

8B - Scheme of Assessment (formative and Summative)

Sr. No	**Professional Course**	**1st term (1-6 Months)**	**2nd Term (7-12 Months)**	**3rd Term (13-18 Months)**	
1	First Professional BHMS	First PA + 1ST TT	2nd PA+2ND TT	3rd PA	UE

PA: Periodical Assessment; TT: Term Test; UE: University Examinations

8 C - Evaluation Methods for Periodical Assessment

Sr. No	**Evaluation Criteria**
1	Practical/Clinical Performance
2	Viva Voce, MCQs, SAQs, LAQs

8D - Paper Layout

Summative assessment:
Theory- 100 marks

MCQ	**10 marks**
SAQ	**50 marks**
LAQ	**40 marks**

8 E– I - Distribution of Theory exam

Sr. No	**Paper**			**D** **Type of Questions** **"Yes" can be asked.** **"No" should not be asked.**		
	A **List of Topics**	**B** **Term**	**C** **Marks**	**MCQ** **(1 Mark)**	**SAQ** **(5 Marks)**	**LAQ** **(10 Marks)**
1	Definition and introduction of basic materia medica	I		Yes	Yes	No

2	Sources, types, scope and limitation of Homoeopathic Materia Medica	I	Refer Next Table	Yes	Yes	Yes
3	Theory of Biochemic system of medicine, its comparision with Homoeopathy and study of 12 Biochemic tissue salts with their physico-chemical reaction	II		Yes	Yes	Yes
4	Drug Picture- 50 Homoeopathic Medicines	II & III		Yes	Yes	Yes

8E– II - Theme table

Theme*	Topics	Term	Marks	MCQ's	SAQ's	LAQ's
A	Definition and introduction of basic materia medica	I	10	Yes	Yes	No
B	Sources, types, scope and limitation of Homoeopathic Materia Medica	I	20	Yes	Yes	Yes
C	Theory of Biochemic system of medicine, its comparision with Homoeopathy and study of **12** Biochemic tissue salts with their physico-chemical reaction	II & III	20	Yes	Yes	Yes
D	Drug Picture- 50 Homoeopathic Medicines	I,II& III	50	Yes	Yes	Yes

8F- Question paper Blue print

A Question Serial Number	B Type of Question	Question Paper Format (Refer table 4 F II Theme table for themes)
Q1	Multiple choice Questions (MCQ) 10 Questions 1 mark each All compulsory Must know part: 7 MCQ Desirable to know: 2 MCQ. Nice to know: 1 MCQ	1. Theme A 2. Theme A 3. Theme B 4. Theme B 5. Theme C 6. Theme C 7. Theme D 8. Theme D 9. Theme D 10. Theme D
Q2	Short answer Questions (SAQ) ten Questions 5 Marks Each All compulsory Must know part: 7 SAQ Desirable to know: 2 SAQ Nice to know: 1 SAQ	1. Theme A 2. Theme A 3. Theme B 4. Theme B 5. Theme C 6. Theme C 7. Theme D 8. Theme D 9. Theme D 10. Theme D
Q3	Long answer Questions	1. Theme B

	(LAQ) Four Questions 10 marks each All compulsory All questions on must know No Questions on Nice to know and Desirable to know	2. Theme C 3. Theme D 4. Theme D

8G - Distribution of Practical Exam

Practical & Viva-100 marks

Viva voce	40 marks
Practical (Assignment)*	50 marks
Internal assessment	10 marks (viva/ clinical assessment)

*Assignment shall comprise of compilation of complete drug-portrait of 6 polychrest remedies and 4 biochemic salts

9. LIST OF RECOMMENDED TEXT/ REFERENCE BOOKS:

- Allen HC, 2005, Keynotes Rearranged and Classified with Leading Remedies of the Materia Medica and Bowel Nosodes, Reprint edition, B.Jain Publishers, New Delhi
- Choudhuri NM, 2006, A Study On Materia Medica Enriched with real case studies, Reprint revised edn, B.Jain Publishers, New Delhi
- Kent JT, 2015, Lectures On Homoeopathic Materia Medica, Reprint edn, B.Jain Publishers, New Delhi
- Burt W, 2009, Physiological Materia Medica, Third edn, B.Jain Publishers, New Delhi
- Boericke W, Dewey W, 2016, The Twelve Tissue Remedies By Schussler, Reprint edn, B.Jain Publishers, New Delhi
- All source books

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I PROFESSIONAL BHMS

1. COURSE CODE: HomUG-R-I

SUBJECT NAME: HOMOEOPATHIC REPERTORY and CASE TAKING

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1. PREAMBLE

The Homoeopathic Materia Medica has expanded manifold since the proving of "Cinchona Bark" by Dr. Samuel Hahnemann and today we have over five thousand remedies in the Materia Medica. It is impossible for any human mind to memorise all the symptoms of each drug and to recall those symptoms while prescribing. Therefore, the need of indexing of these symptoms along with the drugs producing those symptoms were felt by Dr. Samuel Hahnemann himself and subsequently by other homoeopaths for prescribing at the bedside of the patient.
Homoeopathic Repertory is a Dictionary or Storehouse or an index to the huge mass of symptoms of the Homoeopathic Materia Medica. The repertory is organized in a practical form indicating the relative gradation of drugs. Repertories not only contain symptoms of proving but also clinical and pathological symptoms found in the Homoeopathic Materia Medica. Repertories serve as an instrument at the disposal of the physician for sifting through the maze of symptoms of the vast Homoeopathic Materia Medica.

Repertories aim at simplifying the work of the physician to find the indicated remedy by eliminating the non-indicated remedies. Repertorisation is not the end but a means to arrive to the simillimum and reference to Homoeopathic Materia Medica based on sound principles of Philosophy is the final court of appeal.

Each repertory has been compiled on the basis of distinct philosophy, structure and utility. In order to use these instruments effectively, one must understand thoroughly its conceptual base, construction and utility and limitations. Even though there are a number of repertories, the student at the under graduate level is expected to learn the philosophy and application of basic core repertories namely Kent, Boger's Boenninghausen Characteristics and Repertory and Boenninghausen's Therapeutic Pocket Book. The subject of Repertory must not be taught in isolation but must be taught in horizontal integration with Anatomy, Physiology in I BHMS; Pathology, Surgery, Gynaecology and Practice of Medicinein II BHMS; Surgery, Gynaecology, Practice of Medicine in III BHMS and Practice of Medicine in IV BHMS and vertically integrated with Homoeopathic Materia Medica and Organon and Homoeopathic Philosophy in all the years. Integrated teaching in all the years will help the student to grasp and understand the subjects better and connect repertory to all other subjects.

Similarly, case taking demands virtual integration of all the subjects taught from the Ist BHMS to IV BHMS in the consulting room or at the bedside. The physician can never say that he has learnt all that is to the case taking process. Every new patient has a new lesson to teach.

The advent of computerization and resulting software has opened up vast newer avenues to collate and correlate the vast information found in the Homoeopathic Materia Medica through the repertories. Continued exploration of these connections will generate new data, newer repertories and the newer application to existing or newer illnesses.

2. PROGRAMME OUTCOMES:

At the end of the course of the undergraduate studies, the homoeopathic physician must

1) Develop the knowledge, skills, abilities and confidence as a primary care homoeopathic practitioner to attend to the health needs of the community in a holistic manner
2) Correctly assess and clinically diagnose common clinical conditions prevalent in the community from time to time
3) Identify and incorporate the socio-demographic, psychological, cultural, environmental & economic factors affecting health and disease in clinical work
4) Recognize the scope and limitation of homoeopathy in order to apply Homoeopathic principles for curative, prophylactic, promotive, palliative, and rehabilitative primary health care for the benefit of the individual and community
5) Be willing and able to practice homoeopathy as per medical ethics and professionalism.
6) Discern the scope and relevance of other systems of medical practice for rational use of cross referrals and role of life saving measures to address clinical emergencies
7) Develop the capacity for critical thinking, self reflection and a research orientation as required for developing evidence based homoeopathic practice.
8) Develop an aptitude for lifelong learning to be able to meet the changing demands of clinical practice
9) Develop the necessary communication skills and enabling attitudes to work as a responsible team member in various healthcare settings and contribute towards the larger goals of national health policies such as school health, community health and environmental conservation.

3.COURSE OUTCOMES (CO):

At the end of course in Repertory, the Final BHMS student shall be able to

1. Describe the philosophical background, construction, utility and limitations of various repertories

2. Demonstrate case taking and show empathy with the patient and family during case taking
3. Demonstrate various steps for systematic case processing viz. analysis of case, evaluation of symptoms as per Homoeopathic principles to form Totality of symptoms
4. Choose the appropriate repertorial approach, Method and Technique to repertorize a case
5. Utilize Repertory as a tool to find out simillimum in all types of cases and in the study of Materia Medica
6. Integrate other subjects in understanding the construction and utility of repertories
7. Utilize different software for Repertorization, patient data management and record keeping.
8. Demonstrate aptitude to utilize repertory for research in Homoeopathy and lifelong learning

COURSE OUTCOMES OF REPERTORY FOR I BHMS

At the end of IBHMS, the student should be able to,

1. Define Repertory.
2. Explain the need and utility of repertory to find simillimum, and for the study of Materia Medica
3. Define various terminologies used in repertory
4. Locate different rubrics related to anatomy, physiology and psychology in Kent's Repertory
5. Illustrate the construction of Kent's Repertory as per the Hahnemannian Anatomical schema

4. TEACHING HOURS

Total Number of Teaching Hours: 21			
Course Name	**Lectures**	**Non-Lectures**	**Total**
Homoeopathic Repertory and Case Taking (HomUG-R-I)	21	-	21

5. COURSE CONTENT (Hom - UG-R-I)

S.No	List of Topics	Lecture Hours
1	**Introduction to Repertory, Definition and Meaning of Repertory** ❖ General Introduction to Repertory ❖ Origin of Repertory ❖ Need of Repertory ❖ Definition of Repertory ❖ Meaning of REPERTORIUM	3
2	**Need and uses of repertory and repertorisation** ❖ Uses and Scopes of Repertory ❖ Limitations of Repertory ❖ Definition of Repertorization ❖ Introduction to Methods and Techniques of Repertorization	3
3	**Terminologies relevant toRepertory** ❖ Repertory ❖ Rubric	3

	❖ Gradation ❖ Cross Reference ❖ Synonym ❖ Repertorization ❖ Totality of Symptoms ❖ Repertorial Totality ❖ Potential Differential Field ❖ Conceptual Image ❖ Case taking ❖ Analysis of a case ❖ Evaluation of a Case ❖ Longitudinal case Study ❖ Cross Section Study of a case ❖ General Repertory ❖ Regional Repertory ❖ Logico-Utilitarian Repertory ❖ Puritan Repertory	

4	**Correlation of Anatomy, Physiology and Psychology with Repertory** ❖ Introduction to correlation Anatomy, Physiology and Psychology with Repertory ❖ Chapters and Rubrics related to Anatomical parts in Dr. Kent's Repertory ❖ Chapters and Rubrics related to Physiology in Dr. Kent's Repertory ❖ Rubrics related to emotions, intellect and memory in Mind chapter of Dr.Kent Repertory	**6**
5	**Schematic representation of chapters in Kent's repertory** ❖ Introduction to Kent's Repertory ❖ Listing of Chapters in Kent's Repertory ❖ Correlation of Chapters in Kent's Repertory to Hahnemannian Anatomical Schema ❖ Chapters and Rubrics related to anatomical structures, physiological processes and psychology in Kent's Repertory	**6**

6. Teaching Learning Methods

Theory	**Practicals/ Clinics**
Lectures	Clinical Bedside Teaching
Small Group Discussion	Integrated Clinics
Integrated Lectures	Case Study
Integrated Seminars	Rubric Banks
Assignments	
Rubric Banks	
Library Reference	

7. Content Mapping (Theory) of Course Hom UG-R-I

S.No	Generic Competency	Subject Area	Millers Level: Does/Shows how/ Knows how/ Knows	Specific Competency	SLO/ Outcome	Blooms Domain	Guilbert's Level	Must Know/ Desirable to know/ nice to know	T-L Methods	Formative Assessment	Summative Assessment	Integration Departments- Horizontal/ Vertical/ Spiral
	Topic 1- Introduction to Repertory, Definition and Meaning of Repertory											
HomUG-R-I-1.1	Gathering and Integration of information	Introduction to Repertory	Knows	Get acquainted with tools required to search for remedy.	*Define* the term Repertory	Cognitive	Level I (Remember / recall)	Must Know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	--------	Horizontal Integration with Materia Medica and Organon of medicine, Spiral Integration in II, III and IV BHMS
HomUG-R-I-1.2			Knows		*Explain* the meaning of Repertory	Cognitive	Level I (Remember / recall)	Desirable to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	--------	
HomUG-R-I-1.3			Knows		*Discuss* the origin of the word Repertory	Cognitive	Level II (Understand)	Nice to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	--------	

HomUG-R-I-1.4			Knows		*List* three uses and three limitations of Repertory	Cognitive	Level I (Remember / recall)	Must Know	Lecture, Integrated teaching (with Materia Medica) Small Group discussion	MCQ, SAQ, Viva Voce	--------	
	TOPIC 2: Need and uses of repertory and repertorisation											
HomUG-R-I-2.1	Gathering and Integration of information	Need and uses of repertory and repertorisation	Knows	Get acquainted with tools required to search for remedy.	*Explain* the need of repertory	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	--------	Horizontal Integration with Materia Medica and Organon of medicine, Spiral Integration in II, III and IV BHMS

HomUG-R-I-2.2			Knows		*Explain* the need of Repertorization to find a simillimum	Cognitive	Level II (Understand)	Desirable to know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	--------	
HomUG-R-I-2.3			Knows		*Describe* the uses of Repertory	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	--------	
HomUG-R-I-2.4			Knows		*Describe* the limitations of Repertory	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion	MCQ, SAQ, Viva Voce	--------	
HomUG-R-I-2.5			Knows		*Discuss* the use of Repertory as a tool to select the remedy for a given case	Cognitive	Level II (Understand)	Desirable to know	Lecture, Small Group discussion, Clinical Teaching	MCQ, SAQ, Viva Voce	--------	
	TOPIC 3: Terminologies relevant to Repertory											

HomUG-R-I-3.1	Gathering and Integration of information	Terminologies used in repertory	Knows	To understand the definition of various terminologies used in repertory in order to apply them for Repertorization	*Define* different terminology associated with repertory	Cognitive	Level I (Remember / recall)	Must know	Lecture, Small Group discussion,	MCQ, SAQ, Viva Voce	--------	Horizontal Integration with Materia Medica and Organon of medicine, Spiral Integration in II, III and IV BHMS
HomUG-R-I-3.2			Knows		*Explain* the meaning and use of each terminology	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce	--------	
HomUG-R-I-3.3			Knows		*Apply* the terminology in the process of Repertorization	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce	--------	

	TOPIC 4: Correlation of Anatomy, Physiology and Psychology with Repertory											
HomUG-R-I-4.1	Gathering and Integration of information, Problem Solving	Correlation of Anatomy, Physiology and Psychology with Repertory	Knows	To correlate the knowledge of Anatomy, physiology And Psychology in construction of Repertory and Rubrics	Apply the correlation of Anatomical Structures to Chapters and Rubrics in Kent's Repertory	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	--------	Integrated teaching with Anatomy
HomUG-R-I-4.2			Knows		Relate normal physiological Processes to the Chapters and Rubrics in Kent's Repertory	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	--------	Integrated teaching with Physiology

HomUG-R-I-4.3			Knows		Apply the correlation of psychology Chapters and Rubrics in Kent's Repertory	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	--------	Integrated teaching with Psychology
HomUG-R-I-4.4			Shows how		Locate to Anatomy, Physiology and Psychology in Kent's repertory	Psychomotor	Level II (Control)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	--------	
HomUG-R-I-4.5			Knows		*Apply* rubrics related to Anatomy, Physiology and Psychology in understanding remedies in Materia	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	--------	Integrated teaching with Materia Medica

					Medica and Repertory							
	TOPIC 5: Schematic representation of chapters in Kent's repertory											
HomUG-R-I-5.1	Gathering and Integration of information, Problem Solving	Schematic representation of chapters in Kent's repertory	Knows	To understand the arrangement of Chapters in Dr. Kent's Repertory	*List* the 37 chapters of Kent's Repertory in the proper order	Cognitive	Level I (Remember / recall)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	--------	Horizontal Integration with Materia Medica and Organon of medicine, Spiral Integration in II, III and IV BHMS
HomUG-R-I-5.2			Shows how		*Demonstrate* the relation of chapters in Kent's Repertory to Anatomy and	Cognitive	Level II (Understand)	Must know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	--------	

					Physiology and mental rubrics to Psychology							
HomUG-R-I-5.3			Knows		*Discuss the correlation of chapters* in Kent's Repertory to the schematic representation of remedies in Materia Medica	Cognitive	Level II (Understand)	Desirable to know	Lecture, Small Group discussion, Clinical teaching	MCQ, SAQ, Viva Voce, OSPE	--------	

8. List of Practical Topics

S.No	Name of Topic	Activity/ Practical	TL Method
1	Basic Structure of Repertory showing arrangement of rubric of anatomy, physiology and psychology	Arrangement of Chapters and rubrics related to anatomical structures, physiology and psychology (Emotions, intellect and	Integrated teaching in Clinics in I BHMS

		behaviour) in Kent's Repertory	

9. **List of Recommended Books**

- Dhawale ML (2000) - Principles and Practice of Homoeopathy,3rd Edition, Institute of Clinical Research Mumbai
- Hahnemann S (2017). Organon of Medicine 6th edition,48th Impression, B. Jain Publishers
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Subject Code: HomUG-Yoga I

Subject: Yoga for Health Promotion

The syllabus of Yoga for the 1st BHMS students should include the basic concept of Yoga and its philosophy, with a clear idea of the different section of asana, pranayama, kriya and meditation. Total 30 hours of class will include practical training. The students will be trained in understanding the relationship between Yoga and Homoeopathy in a wholistic approach, and the point of application of yoga in part of treatment.

The topic and respective allotted hours are as follows-

Sr.no.1	TOPIC	CLASS
1.	Yoga definition, concept, types, benefits, and origin.	Hours 1
2.	History and patanjali, yoga philosophy and development of yoga.	Hours 1
3.	Astanga, yoga, hathayoga.	Hours 1
4.	Asana-types, examples, benefits.	Hours 1
5	Corelation of vital force and prana.	Hours 1
6	Meditation-types, methods, benefits.	Hours 1
7	Kriya-types, methods, benefits.	Hours 1
8	Relationship of yoga and homoeopathy on wholistic plane.	Hours 1
9	Application of yoga in terms of hahnemann's accessory circumtanses.	Hours 1
10	Pranayanam, types, benefits.	Hours 1
11	Practical learning about asanas (postures)-pawanmuktasna, backstreching, sunsalutation, classical sequences.	Hours 5
12	Practical learning about Breathing, pranyama including abdominal, thoracic, clavicular, hasthamudra, vilom, lung sensitising.	Hours 5
13	Practice of relaxation, tense and relax, short yoganidra, extended, savasana, yoganidra, sankalpa.	Hours 5
14	Meditation practice, sitting posture, kaya sthairam, omchanting, trataka.	Hours 5