S.Y.B.P.E. PAPER-I

PHYSIOLOGY & PHYSIOLOGY OF EXERCISE

SECTION- I PHYSIOLOGY

OBJECTIVES :

1. Students should know the functioning of different systems and its structure.
2. Students should develop awareness of placement of human organs.
3. Students should develop understanding of effects of exercises and general health of human being.

CURRICULUM:

A. GENERAL

a) Concept of Physiology
b) Description of term cell, tissues and organs and systems.
c) General outline of the minute structure of cell and tissues.
d) Essential properties of living matter.
e) Elementary constituents of protoplasm.
f) Basic and elementary idea of solutions and colloids and the passage of water band soluble through membranes.
g) Bio-elected potentials.
h) Enzymes-definition and main functions.

B. SYSTEMS :

Study of the flowing systems and processes with a view to understand, how the normal machinery works and how it makes and effort to adjust itself in health and under stress.

I. THE CARDIO-VASCULAR SYSTEM :

a) The cardiac cycle. d) Pumping action of the heart and its regulation.
b) Blood pressure its maintenance and regulation.
c) Blood flow and its regulation according to needs. e)The cardiac out-put and its regulation.

II. BLOOD AND LYMPH

a) Compositions of functions of blood and lymph. B)Clotting of blood.

III. THE EXCRETAORY SYSTEM.

a) Excretion of water from the body. b) Function of Kidneys and skin.

IV. RESPIRATORY SYSTEM :

a) Mechanism of respiration. b) Pulmonary ventilation and its regulation.
c) Second wind oxygen debt.

V.GASTRO INTESTIONAL SYSTEM:

a) Gastro intestinal movements. b) Secretions & functions of the digestive juices.
c) Functions of liver. d) Absorption of food.

VI. METABOLISM AND TEMPERATURE REGULATION :

a) General Metabolism.
b) Elementary idea about metabolism of protons carbohydrates and fats.

VII. NERVOUS SYSTEM.

a) Functions of the important [part of the nervous system spinal cord module, oblongata, cerebrum etc.
b) Autonomic nervous system and its functions.
c) Physiological mechanism governing posture and equilibrium.

VIII SENSORY SYSTEM :

a) General sensation like corneous and kinaesthetic sensations.
b) Special sensations. Vision, distance, and peripherical vision, Hearing, sense of balance and rotation, smell and taste.

IX.ENDOCRINE SYSTEM :

Secretion of endocrine glands and their role in growth, development and regulation of body functions, pituitary, thyroid, adrenal glands and pancreas.

X. REPRODUCTIVE SYSTEM AND HERADITY. :

a) Physiology of human reproduction.
b) Secretion and properties of human milk.
c) The role of heredity and environments in growth and development simple ideas of transmission of heredity characteristics.

SECTION -II PHYSIOLOGY OF EXERCISE

A Physiological concept of health and fitness, effect of exercise on the various system of the body with special emphasis on the circulatory and respiratory system.

MUSCLE CONTRACTION AND SPORTS:

a) Properties and composition of voluntary muscles.
b) Minute structure of voluntary muscles.
c) Change in muscle contraction.
d) Nerve control of muscular activity.
e) Conditions affecting muscular contraction.
f) Relation between duration and severity of exercise,
g) warming up.
h) conditioning. 1.Training, 2.Physiological factors affecting skill, strength and endurance.
i) Stitch and cramps. J) Aging and changes in muscle.

PHYSIOLOGY PRACTICAL AND DEMONSTRATION WORK (For sessional work only)

The students will attend demonstration and perform experiments themselves.

SECTION- I EXPERIMENTAL PHYSIOLOGY

1. To study the electrical apparatus used for stimulating excitable tissue and recording muscular contraction.
2. To draw the simple muscle curve.
3. To demonstrate the effect of repeated stimuli.
4. To demonstrate the effect of fatigue in simple muscle preparation.
5. To demonstrate the effect of temperature on a simple muscle nerve preparation.
6. To demonstrate the effect of loan on muscular contraction.
7. To demonstrate the effect of various strength of stimulation a simple muscle curve.
8. To draw the curve of complete and incomplete tetanus.
9. To record the normal heart beat of a frog.
10. To observe the circulation of blood in the frog's web.

SECTION- II HUMAN EXPERIMENTS :

1. To listen the breath sound by mean of stethoscope.

2. To listen the heart sound by means of Stethoscope.
3. To study the effect of exercise on pulse rate.
4. Harward step up test.
5. To find the vital capacity by means of the spirimeter.
6. To record chest movements by means of pneumograph.
7. To study the effect of rate movement, lead and obstruction to blood supply on the onset of fatigue by means of angiography.
8. To find out reaction time.
9. Demonstrate reflex action e.g. knee joint.
10. To test vision with senellen's test chart.
11. To test colour vision by Ischiara's chart.

SECTION-III CHEMICAL EXPERIMENTS

1. To demonstrate the presence of reducing sugar in the given solution
   a) Benedict's Test. b) Fohling test.
2. To demonstrate the presence of starch in Rice, Potato. wheat flour etc.
3. To demonstrate the presence of proteins in :
   a) Egg white b) Wheat flour/
4. To examine the normal urine :
   a) Quantity
   b) specific gravity.
   c) turbidity
   d) chemical tests for, (I) Urea and Uric acid.
5. To find the percentage of Haemoglobin in human blood.

SECTION- IV HISTCLOGY :

1. Study a compound microscope.
2. Use of the microscope.

a) To see a hair under the microscope.
b) To see a nylon or cotton thread under the microscope.
c) To see the fat globules in a drop of milk under the high power of the microscope.

3. To draw a blood find and to stain it with Lois man’s stain and study the blood cells.
4. Circulation if frog's web.
5. Study the minute structure of the following.

a) muscles
b) Nerve
c) Adipose(Coeval and adipose)
d) Bone
e) Cartilage
f) Tongue
g) Spinal cord.
h) Salivary glands
i) oesophagus
j) stomach
k) small and large intestines
l) liver
m) Pancreas
n) Kidneys.
o) Ovary
p) Tests
q) Thyroid
r) Skin
s) Lymph-gland
t) blood vessels.

PAPER- II KINESIOLOGY

1. Introduction - Section
   Kinesiology's
   - meaning, Definition and its aims & objectives.
   - Contribution of scientist in kinesiology – Like Aristotal, Arcimidies, Gelan. Leonardo-de-Vinchi.
   - Role of Kinesiology in corrective in Physical Education and Importance in Sports, coaching.
2. Fundamental concepts of Kinesiology.
   - Definitions and Fundamental concepts connected with physiology.

   A. Primary position of Body - Stage of Primary Fundamental
   - Primary stage of Physiology.

   B. Centre of Gravity. C. Line of Gravity. D.Body. E. Axis.
3. Joints of Bones and its Types.
   - Joints of Bones
   - Construction of joints
   - Function of joints
   - kinds of joints
4. Introduction of Fundamental Joints, motion and its structure of muscles. Knee, hip, Elbow, Shoulder joint and trunk.
5. Definitions of various types of movement on immovable joints. General movements – flexion extension, Abduction, adduction, Rotation, circumcision, elevation, depression.
6. Analysis of mechanical and muscular analysis of motion. Like – walking, running, jumping, Throwing, and sports skills- Volleyball, Basketball etc.
7. Definitions, Types and Principles of motion and its importance in Physical Education and sports.
   - Newton's law of motion- Equilibrant lever, Spin, Projectile, Law of In peat,

     Definitions - Mass, Weight, Speed, Momentum, Acceleration.
8. Definitions and meaning of force.
   - effecting Factors
   - Types of force.
   - friction.
9. Meaning of skills, Principles of skills, Skill and Practice.
10. Exercise for corrective purpose which are useful in selecting skills & Evaluation.

PAPER- III Psychology Guidance and Group work.

1. A. Meaning, Nature and scope of Psychology.
   B. Difference logic and Scientific Psychology
   C. Branches of Psychology, Educational Psychology- Meaning, Nature and Importance.
   D. Importance of Psychology in in Education and Physical Education.
2. Growth and Developments :
   - Physical Developments, Mental Developments, Gestures Developments, Social Developments, Immolation Developments in youngsters and its Educational results. (adolescence)
3. Effects of Heredity & Environment on growth and Developments.
   - Various stages and phases of Growth and Development & Comparative difference between them.
4. Individual Differences - effect of Heredity & Environment, Importance of Individual Differences in Physical Education – Programme Planning of Education and Physical Education on the base of Individual Difference.
5. Meaning of Learning, its Principles, factors affecting it.
6. Meaning of transfer of Learning, its possibilities and Merits and demerits – Learning curve, Learning plane.
7. Motivation – Types of Motivation, Need of Motivation in Learning - Importance of Motivation in Physical Education
8. Group Work - Types of Group, Values and Standards of Group.
9. Leaderships, Types of Leaderships, Qualities of Leader, Importance of Leader and Group behaviours, Group struggle and Group power in Education in Physical Education.
10. Guidance – Contribution of Education in Guidance, Types of Guidance , Principles of Guidance .
    Guidance for handicapped, mentally retrieved and clever students.

PAPER- IV YOGA AND NATURE CARE

1. Indian Yoga Methods and Meditation.
   A. History of yogasan.
   B. Meaning of yoga.
   C. Definition, Aim and objectives of Yoga.
   D. Importance of yoga in modern age.
   E. Contribution of Yoga in in Physical Education.
   F. Contribution of Yoga in various fields.
   g. Various types of Yoga.
2. Need of Asanas and wrong beliefs for asanas.
   A. Classification of Asanas.
   B. Rules of Yogasana.
   C. Things to be kept in mind before Asanas during Asana and after asanas.
   D. Types of Asanas.

SECTION – A

1. Body Growth Asanas.
2. Meditative Asanas.
3. Asana for rest

SECTION – B

1. Asanas for healthy Perbles.
2. Asana for 12^{th} year children.
3. Asana's for youth.
4. Asana's for 35 yrs old person.
5. Asana's for more than 50 yrs. Old person.

SECTION – C

Asanas for various diseases, useful Asanas for women.

1. Asanas for stomach and trunk.
2. Asanas for busy people.
3. Asanas for office chair people.
4. Yoga Remedies.

3. Detailed information of 'Ashtang Yoga' according to Maharshi Patanjali.) Pran (Breath Science of Yoga.
   Meaning of Pranayam, Various types of Pranayam, Importance of Pran (Breath) in Upanishad, Process of Pranayam, Explanation Patanjli Yoga.
4. A. Effects of Yoga on various systems of body.
   1. Circulatory Systems. 2. Muscular System 3. respatri system 4. digestive System 4. Skeletons 6. Excretory system

7. reproductive system 8. Encrine system.

B. Difference between Asanas and Exercise.
C. Five forms of Pran (Breath).
D. Yogic Nutrition.

Surya Namaskar :

1. Surya Namaskar with 12 mantra and count.
2. Advantages of Surya Namaskar.

Arteries : (Nadi)

1. What is Artery (Nadi) ?
2. The work and circulation of Nadi
3. Health achieve by nadi pressure,
4. Relation of seven plaxies with glands
5. Place of seven plaxies in the body.

5. What is the bandh ? What is the points ? Types of different points, types of bandh.

SECTION- A

1. Effect on internal organ by Band.
2. Contraction on different part of Body,
3. Science of Mudra.
4. Eraction of Mudras and five elements of fingers.

SECTION- B

1. SHAT KARMO - What is shat karmo ?
   A. Number of Action. B. Other current Actions.
   C. Effect of Body by Actions.
2. what is Kundalini ? Jagrat Kundalini.
3. Yoga Therapy.

6. Nature Care
   - Meaning of Nature Car and its Definitions.
   - Short history of Nature care
   - Importance of Nature care,
7. Media or Nature care
   Food, Fast, Vyayam, Water ,Dust, Sunbath,. Massage, Magnetic treatment, Acupressure.
8. Massage- Types of Massage – System of Massage.

PAPER-V METHODS IN PHYSICAL EDUCATION

UNIT-1

1. Meaning of Methods? Effecting factors.
2. Types of Methods: A. Weeds –Barren Method.
   B. Order Method C. Discussion Method. D. Demonstration Methods E. Project Methods F. Follow Methods
3. Principles of Teaching. A. Simple to complex B .Know to unknown C. Intrinsic and extrinsic Motivation D. Learning by doing.
4. Methods of Teaching (with Special reference to different kinds of Physical Activities. A. Callisthenics B. Gymnastics C. Minor Games D. Major Games E. Rhythmic Activities.

UNIT-2

5. Presentation techniques and steps in the way of presentation.
6. Class, Management.
7. Planning of Physical Education's lesson

UNIT-3

8. Tournaments Meaning and Type Of Tournaments.
   A. Knock out system B. Round Robin System
   C. Combination system D. Challenge systems and its types.
   - Ladder System , Pyramid system
9. Organisation and Administration of competition.
   A. Athletics Competition B. Gymnastics Competition
   C. Swimming D. Games Competition
10. Marking of play grounds and marking of Track Field as per syllabus.

UNIT-4

11. Audio-Visual Aids and Teaching Aids.
12. Demonstration
13. Exhibition
14. Sports day
15. Evaluation –necessity Evaluation, Inspection, Visit, Test-Measurement.

PAPER-VI INSTRODUCTION TO EDUCATION AND EDUCATIONAL METHODS

TOPIC- 1 EDUCATION

a. Meaning of Education and its Aims.
b. Formal and informal agencies of education and their functions.
c. Principles of Curriculum construction.

TOPIC- 2 A. Organisation and Administration of a school. A. Appointment of Teacher. B. Time-Table C. Co-curricular Activities with defence.

b. School Discipline and the role of Physical education teacher.
c. School Health & welfare Services.

TOPIC-3 A. Methods of teaching.

a. Discussion Methods b. Workshop Method
c. Employment Methods

B. New approach in lesson planning & evaluation.
C. Education for National Integration.
D. Education for cultivating democratic outlook and responsible citizenships.
E. Education for International understanding.

PAPER VII - RECREATION

Importance of recreation, needs of recreation for man kind, values of recreation

1. INTRODUCTION TO RECREATION
   What is Meaning Of Recreation, Important characteristics of Recreation, Common misconceptions of Recreation, definitions of Recreation.

2. Brief history of recreational activities in India and abroad, post independence period – 1947, Moghal period, Maratha period, British period etc.., recreation trends in India, recreational movements in USA, UK and USSR.

3. Organisation and administration of recreation,
   - Various agencies of recreation like – recreation facilities for employees, recreation for special groups, recreation for sex, age, handicapped, recreation for senior citizens.
   - Recreation in social institutions, organization and administration for social integration at family, school and religious institutions.
   - Scheme for organization and administration at State, District, urban or rural areas, educational institution and industries and factories etc.
   - Areas facilities and equipments for different types of recreational activities for urban and rural population and maintenance of equipments.
   - Importance of financial matter for community integration by recreational activities.
   - VARIOUS PROGRAMME

   (A) Type of recreational activities: Indoor and outdoor games, Major Games, art of dance and crafts, hobbies, music, aquatics, celebration of dancing, Camps, nature study, tracking, creative activities, Various social gathering, reading writing and story telling.

   (B) Selection of camp place, site, organization and administration programme of camps
   - Various programme and activities for development of leadership.

   (C) Type of recreation leaders – educational qualification, professional qualification and other qualifications, training facilities, voluntary services.