VEER NARMAD SOUTH GUJARAT UNIVERSITY

BACHELOR OF PHYSIOTHERAPY (B. Physiotherapy)

Subjects during the four-year study of B. Physiotherapy:

Third year

(1) Medicine I (General Medicine, Pediatrics and Dermatology)

(2) Medicine II (Neurology, Obstetrics and Gynecology)

(3) Surgery I (General Surgery, Plastic Surgery and Cardio thoracic)

(4) Surgery II (Orthopedics – Traumatology and Non Traumatology)

(5) Biostatistics and Research methodology

VEER NARMAD SOUTH GUJARAT UNIVERSITY

BACHELOR OF PHYSIOTHERAPY

Third Year

2005-2006

Structure of question paper for Medicine I (General Medicine + Pediatrics = 50 and Dermatology = 20)

Examination Weight age: 70 marks
Internal Assessment: 30 marks

TOTAL MARKS 70

SECTION – I

QUESTION: 1:	Full Question	08
OR		
QUESTION: 1:	Full Question	
QUESTION: 2:	Full Question	08
OR		
QUESTION: 2:	Full Question	
QUESTION: 3:	Short Question (5 out of 6)	25
QUESTION: 4:	Very Short Notes (3 out of 5)	09

		TOTAL: 50

SECTION – II

QUESTION: 1:	Full Question	08
OR		
QUESTION: 1:	Full Question	
QUESTION: 2:	Short Notes (4 out of 5)	12

		TOTAL: 20

Structure of question paper for
Medicine II (Neurology=35, Obstetrics & Gynecology=35),
Surgery I (General Surgery + Plastic+Neuro Surgery=35, Cardio thoracic Surgery=35),
SurgeryII (Orthopedics- Traumatology and non traumatology=70) .
(Biostatistics=35 and Research methodology=35)

Examination Weightage: 70 marks
Internal Assessment: 30 marks

TOTAL MARKS 70

SECTION – I

QUESTION: 1:	Full Question	8
OR		
QUESTION: 1:	Full Question	
QUESTION: 2:	Short Question (2 out of 3)	10
QUESTION: 3:	Short Notes (2 out of 3)	8
QUESTION:4:	Very Short notes (3 out of 5)	9

TOTAL: 35

SECTION – II

QUESTION: 1:	Full Question	08
OR		
QUESTION: 1:	Full Question	
QUESTION: 2:	Short Question (2 out of 3)	10
QUESTION: 3:	Short Notes (2 out of 3)	08
QUESTION:4:	Very Short notes (3 out of 5)	09

TOTAL: 35

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BACHELOR OF PHYSIOTHERAPY

Third Year

MEDICINE – I

SECTION - I

GENERAL MEDICINE

1. **Respiratory Diseases:** Lung function tests, pneumonia, lung abscess, bronchiectasis, asthma, emphysema, Pleural effusion, pneumothorax, empyema, chronic bronchiectasis.
2. **Cardio Vascular diseases:** Rheumatic fever, valvular lesions, congestive cardiac failure, ischemic heart diseases (Angina pectoris and myocardial infarction) stress test, hypertension, peripheral vascular diseases (TAO, Raynauds disease).
3. **Endocrinal Disorders:** Diabetes mellitus, thyrotoxicosis, myxedema.
4. **Gastro - intestinal Disorders:** Peptic ulcer, pancreatitis, dysentery and diarrhea, inflammatory bowel diseases, jaundice, cirrhosis of liver.
5. **Infectious Disease:** Tuberculosis, malaria, typhoid, infective hepatitis, tetanus.
6. **Nutritional Disorders:** Vitamins and its deficiencies, disorders including rickets and osteomalacia, anemia.
7. **Urogenital System:** Structure and functions of kidneys including physiology of micturition, acute renal failure.
8. **Rheumatology:** Rheumatoid arthritis, ankylosing spondylitis, gout, osteoarthritis (Spondyloarthritis, systemic lupus erythematousus, polyarteritis nodusa, mixed connective tissue disorders, sclerodermas.

PAEDIATRICS

1. **Growth and development** of a child from birth to 12 years, including physical, social, adaptive development.

2. **The maternal and neonatal factors** contributing to high risk pregnancy to the neonate, inherited diseases, maternal infections- viral and bacterial maternal diseases, pregnancy induced hypertension, chronic maternal diseases such as heart diseases, renal failure tuberculosis, diabetes, epilepsy, bleeding in the mother at any trimester.

3. **Community Programmes:** International (WHO), national and local, for prevention of poliomyelitis, blindness, deafness, mental retardation and hypothyroidism, the immunization schedule for children.

4. **Cerebral Palsy:** Etiology- prenatal, perinatal and postnatal causes, pathogenesis, types of cerebral palsy (classification), findings on examination, general examination, examination of C.N.S. musculoskeletal system, respiratory system, GI tract and nutritional status.

5. **Associated defect:** Mental retardation, Microcephaly, blindness, hearing and speech impairment, squint and convulsions.

6. **Prevention:** Appropriate management of high-risk pregnancies, prevention of neonatal and postnatal infections metabolic problems.

7. **Muscular Dystrophy:** Various forms, modes of inheritance and clinical manifestation, physical findings in relation to disabilities, progression of various forms and prognosis, treatment goals in forms which are and are not fatal.

8. **Spinabifida, Menigomyelocele:** Development, clinical features - lower limbs, bladder and bowel control, complications - U.T.I. and hydrocephalus, medical treatment and surgical treatment.

9. **Still's Disease:** Classification, Pathology in brief, physical findings, course and prognosis, treatment prevention and correction of deformity.

10. **Acute C.N.S. Infections:** Classification (Bacterial and Viral), the acute illness, C.N.S. sequel leading to mental retardation, blindness, deafness, speech defect, motor paralysis, bladder and bowel problems, seizure disorder and specific problems such as subdural effusion, hydrocephalus, pressure sores, feeding difficulties.

11. **Normal diet of newborn and child:** List dietary calories, carbohydrate fat, protein, mineral and vitamin requirement in a normal child and in a child with malnutrition, Etiology, findings and treatment of rickets. Vitamin D deficiency and resistant rickets.

12. **Lung infections:** Clinical findings, complications and medical treatment of bronchiectasis, lung abscess and bronchial asthma.

SECTION - II

SKIN V.D. (DERMATOLOGY)

1. Structure and functions of normal skin, primary and secondary skin lesions.
2. Scabies and pediculosis.
3. Fungal infections of skin:
   - Dermatophytosis.
   - Tinea versicolor.
   - Candidiasis.
4. Bacterial infections of skin- Impetigo / Boil.
5. Viral infections of skin- Herpes zoster.
6. Eczema / Dermatitis / Allergies.
7. Psoriasis / Acne / Alopecia / Vitiligo and Leucoderma.
8. Leprosy / Lepra-reaction / Physiotherapy in leprosy.
9. Sexually transmitted diseases.
   - Syphilis - primary & secondary.
   - Gonorrhea. AIDS.

Medicine-I

General Medicine & Pediatrics

Theory	50
Internal Assessment	20

Dermatology

Theory	20
Internal Assessment	10

(Combined paper General medicine, Pediatrics and dermatology 70 marks, duration 3hrs.)

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BACHELOR OF PHYSIOTHERAPY

Third Year

MEDICINE – II

SECTION - I

NEUROLOGY

1. **Anatomy, Physiology, Lesions and diseases of:** Pyramidal system, extra-Pyramidal system, cerebellar system, spinal cord, upper and lower motor neuron, cranial nerves, brachial plexus, lumbosacral plexus and peripheral nerves.
2. **Causes, Clinical features and management of:** Unconscious patient, hemiplegia, paraplegia, quadriplegia, cerebral diplegia, spastic child, foot drop and wrist drop.
3. **Disorders of cerebral circulation**.
4. **Infections:** Encephalitis, meningitis. Poliomyelitis, transverse myelitis, slow viral diseases.
5. **Diseases of Peripheral Nerves:** peripheral neuropathy.
6. **Muscle disorders:** Myositis, Polymyositis, and Muscular dystrophies.
7. **Degenerative diseases:** Parkinsonism, motor neuron diseases, spinocerebellar degenerations and diseases of anterior horn cell, dementia.
8. **Costoclavicular syndrome**.
9. **Demyelinating disorders** including multiple sclerosis.
10. **Basis concept of electro physiology and electromyography**.

SECTION - II

OBSTETRICS AND GYNAECOLOGY

Anatomy and physiology of the female reproductive organs.

Puberty dynamics.

Physiology of menstrual Cycle- Ovulation cycle, Uterine cycle, duration, amount,

Hormonal regulation of menstruation.

Diagnosis of pregnancy.

Abortion.

Physiological changes during pregnancy.

Antenatal care/ exercises.

High-risk pregnancy.

Normal labor.

Normal pueperium and postnatal exercises, family planning

Medical Termination of pregnancy (MTP)

Infections of female genital tract including sexually transmitted diseases.

Low backache.

Prolapse of uterus and vagina.

Principles of common gynecological operations -Hysterectomy

D & C / D & E - PAP smear.

Medicine-II

Neurology	
Theory	35
Internal Assessment	15
Obstetrics & Gynecology	
Theory	35
Internal Assessment	15

(Combined paper Neurology obstetrics and gynecology 70 marks, duration 3hrs.)

Reference Books. :

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BACHELOR OF PHYSIOTHERAPY
Third Year

SURGERY – I

SECTION - I

Acute infections: Inflammatory fever- bacteriemia, septicemia, pyemia, toxemia.

Specific types: Cellulitis- sites, lymphadinitis, abscess with special reference to hand infection, carbuncle, Tetanus, gas gangrene, hospital infection, cross infection with modes of spread and prevention.

General survey of chronic inflammations: Syphilis (reference to other veneral diseases), Leprosy, actinomycosis.

Surgical tuberculosis.

General survey of trauma, pathology and clinical features of wound repair - primary, secondary and tertiary wound healing.

Clean wounds, contaminated wounds and infectious wounds. Principles of treatment survey of factors, affecting wound healing. Ulcers and gangrene.

Post operative complications of abdominal surgery specifically chest, wound infection, edema.

Breast - Surgery.

Burns as a specific type of severe trauma, classification, early and late complications, management & reconstructive surgery - skin grafting as an example of plastic procedure.

Types of skin grafting - take of grafting - healing of grafting Postoperative care of plastic surgery with specific role of physiotherapy.

Outline of surgical disorders of brain & head injuries.

General survey of surgical disorders of spine and spinal and spinal cord problem of paraplegia.

Malignancy - Spread and its behavior.

Various abdominal incisions, abdominal drainage tubes, catheters and nasogastric tubes.

Ward demonstration for an hour a day for a period of one week.
Anesthesia & O.T. demonstrations.

Skin contractures and correction.
Problems of trauma to hand and their management
Urinary Tract infection.
Plastic Surgery-Principles of cineplasty, tendon transplant, cosmetic surgery, types of grafts, surgery of hands with emphasis on management of leprosy hand.

NEURO SURGERY

Neurophysiology:

Neurophysiology basis of tone, disorders of tone and posture, bladder control, muscle contraction, movement and pain.

Clinical Features and management of the following:

Congenital and childhood disorders-hydrocephalus, spina bifida.

Trauma-Broad localization, first aid management & sequel of head injury and spinal cord injury.

Diseases of the Spinal Cord, Craniovertebral junction anomalies, Syringomyelia, Cervical and lumbar disc disease, tumors, spinal arachadanitis.

Peripheral nerve disorders - Peripheral nerve injuries, localization & Management, Entrapment neuropathies.

Intracranial tumors - Broad classification, signs and symptoms.

Miscellaneous:
Pre-operative Assessment and indications and contraindications for neurosurgery.
Management of Pain, electrical stimulation of brain and spinal cord.

SECTION - II

CARDIOTHORACIC SURGERY

1. Basic anatomy of chest wall, trachea and bronchial tree, lungs and bronchopulmonary segments, pleura and mediastinum.
2. Physiology and mechanics of breathing and use of mechanical breathing ventilators (respirators).
3. Pulmonary function tests.
4. Investigation of lung diseases including endoscopies.
5. Bronchogenic carcinoma.
6. Common suppurative diseases of lung- Bronchiectasis, lung abscess.
7. Chest injury.
8. Common surgeries of chest.
   Thoracoplasty, Pulmonary dissections, Thoracotomy.
   Pneumothorax, Hydropneumothorax, Empyema.
9. Common diseases of esophagus and related conditions, causing dysphagia.
10. Surgery of portal hypertension.
11. Surgery of pulmonary tuberculosis.
12. Basic anatomy of heart, great vessels.
13. Investigation of patient undergoing cardiac surgery.

14. Surgery of heart and great vessels
15. Cardiac arrest, its management.
16. Basic principles of open-heart surgery.
    Heart lung bypass (Extra portal circulation).

17. Common diseases of heart requiring surgery (both congenital and acquired) including open-heart surgery.
18. Common drugs used in cardiac surgery, its uses, and side effects.

19. Common vascular surgeries.: Embolectomy, vascular reconstructive surgery. (Thrombosis, Embolism, atherosclerotic and occlusive vascular diseases) including coronary artery by pass:

Clinical:

1. Examination of patients as regards chest & heart diseases.

2. Demonstration – Acquaintenances with C.T. Surgery, Equipments, I.C.C.U. O.T.

Radiology:

X- ray studies – X-ray chest in various lung diseases.

Surgery-I

General Surgery, Plastic & Neuro Surgery

Theory	35
Internal Assessment	15

Cardio thoracic Surgery

Theory	35
Internal Assessment	15

(Combined paper General surgery, Plastic & Neuro surgery and Cardio thoracic surgery 70 marks, duration 3hrs.)

Reference Books. :

VEER NARMAD SOUTH GUJARAT UNIVERSITY

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Third Year

SURGERY - I I

SECTION - I

ORTHOPAEDICS

Introduction to Orthopedic Surgery, definition and scope. Brief history.

Traumatic Disorders-

General principles and injuries of the upper limb:

Sprains and dislocation- causes, types, principles of treatment.

Fractures – types, displacement, general symptoms, healing, principles of treatment, union, delayed union, non–union, complications.

Injuries to the hand- types, principles of treatment, Injuries to the phalanges, sprains, dislocation of MP & IP joint, fractures of the phalanges, metacarpals, Bennett's fracture, mallet finger, stenosis, tenosynovitis, trigger finger.

Wrist- dislocations, sprains, injuries to carpals, scaphoid, ganglion. Colle's fracture, displaced epiphysis.

Fractures of forearm bones-greenstick fracture. Infarction injury, adult forearm fractures, principles of treatment, Monteggia fracture dislocation.

Myositis ossificans. Tennis elbow, principles of treatment of elbow.

Fractures involving the elbow joint-Supracondylar fracture - displacement of lateral humeral epiphysis, medical epicondyle injuries, Y & T shaped fractures, volkmann's Ischemic Contracture.Fracture of the head of the radius, fracture of olecranon. Baby car fracture dislocation and reference to Volkman's contracture.

Fractures of the shaft of humerus, principles of treatment.
Injuries to main nerves - radial, ulnar and median.

Injuries to shoulder- fractures of the upper end of humerus, shoulder cuff lesions, dislocations, fracture dislocation, periarthritis, recurrent dislocation. Fractures of clavicle, acromioclavicular dislocations, fractures of the scapula.

Injuries of the spine and pelvis: Vertebral injuries, Transverse processes, kummel's disease. Neural arch, vertebral body. Injuries to the cervical spine, atlanto-axial injuries, hyperemic dislocations, Brachial plexus injuries. Injuries to pelvis.

Injuries of the lower limb:
Injuries of the legs, epiphyseal injuries, Dislocations of the hip joint. Sciatic nerve injuries,
Fractures of the neck femur. Coxa vara, fracture of the shaft of femur supracondylar fracture.

Injuries to the knee joint, contusion, hemarthrosis, quadriceps mechanisms, ligamentous, injuries, cartilage tear, fractures involving knee joint, dislocations. Epiphyseal injuries to the knee, fractures of upper and of tibia and fibula. Lateral popliteal nerve injuries.

Principles of treatment of fractures of tibia and fibula.

Injuries to the ankle- sprain, sublaxation, dislocation, recurrent dislocations, dislocation of peroneal tendons. Pott's fracture. Injuries to the talus, calcaneum and tarsal bones. Injuries to the foot.

Miscellaneous:

Amputations - types, sites, ideal stump, complications, general principles, upper extremity and lower extremity - prosthesis and prosthetic service.
Nerve injuries, paraplegia, hemiplegia ,quadriplegia, orthopaedic splint ,orthopaedic appliances Injuries to muscles and tendons.

SECTION – II

NON - TRAUMATIC DISORDERS:

1. Congenital disorders:

Congenital deformities, congenital elevation of scapula, torticollis, caudodocranial dystosis superior radio - ulnar symostosis, Mede lung's deformity, sternocleidomastoid tumor, congenital wryneck. Kyphosis, lordosis, scoliosis - primary and secondary idiopathic etc., spinabifida, myelomeningocoele. Coxa vara, congenital epiphyseal, congenital dislocation of hip Deportation varus osteotomy, salter operation, Dennis brown splint, Lorenz position for plaster immobilization of C.D.H. Genuvalgum, genu varum, genu recurvatum. Quadriceps contracture, talipes equino varus. Flat foot and foot wear. Hallux valgus, rigidus, metatarsalgia etc, Dupuytren's contracture.

2. Infections of bones, joints and arthritis:

Infections of Bones- acute and chronic diseases of joints, Rheumatoid arthritis, Osteoarthritis, Skeletal tuberculosis, Principles of treatment , T.B. of shoulder, elbow and wrist, T.B. of hip, knee, ankle and foot.

3. Neurological disorders:

Poliomyelitis - recovering and late stages. Rehabilitation in recovery phase, charting, tendon lengthening, tenodesis, tendon transplants, stabilization problems, short limb and equalization.

4. Miscellaneous:

Backache, Disc- lesions, cervical spondylosis, metabolic diseases, rickets, osteomalacia, osteoporosis, parathyroid - osteodystrophy, scurvy etc.

Surgery-II

Orthopedics- traumatology	
Theory	35
Internal Assessment	15
Orthopedics- non-traumatology	
Theory	35
Internal Assessment	15

Reference Books. :

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BACHELOR OF PHYSIOTHERAPY

Third Year

BIO- STATISTICS & RESEARCH METHODOLOGY

SECTION-I

RESEARCH METHODOLOGY

1. Research and Physical Therapy
2. The Research Problem
3. Literature Review
4. The Proposal and Ethics
5. Quantification in Research
6. Non-experimental Research
7. Confidence in Research and Instruments
8. Experimental Research
9. Experimental Design
10. Parametric tests
11. Non-parametric Tests
12. Reporting Research

Ref: Elements of Research in Physical Therapy: Dean P Currier; Williams & Wilkins, 1990.

SECTION-II

BIO-STATISTICS

1. Definition and meaning of statistics.
2. Method of collection of data – primary data, secondary data – statistical unit, questionnaire.
3. Classification of data – Construction of frequency distribution table.
4. Tabulation of data – various types of calculation – rules of tabulation –seriation.
5. Presentation of data, diagrammatic and graphical presentation. One dimensional diagram, two dimensional diagram, three dimensional diagram, pie diagrams, histogram – frequency polygon, frequency curve-ogive.
6. Measure of central tendency – meaning, objective, requisites, various methods of measure of central tendency – mean, median and mode. Calculation of mean, median and mode in individual, discrete and continuous series. Calculation of quartiles, deciles and percentiles in individual, discrete and continuous series.
7. Measure of dispersion – Meaning, requisites, various methods of dispersion – range, inter quartile range, quartile deviation, mean deviation, standard deviation, coefficient deviation.

8. Correlation – meaning, types of correlation, Scatter diagram, Karl Pearson's coefficient of correlation (ungrouped data only), Spearman's rank correlation, Coefficient (ungrouped data only).

9. Regression – Linear regression – lines of regression – estimation using limes of regression (using deviation for mean) (ungrouped data only).

10. Sampling technique – Random sampling – stratified sampling, systematic sampling, quota sampling, cluster sampling, laws of statistical regularity, inertia of large numbers, errors in sampling.

11. Probability – applied, conditional

12. Probability distribution.

Bio-Statistics & Research Methodology

Biostatistics	35
Internal Assessment	15
Research Methodology	35
Internal Assessment	15

Reference Books. :

Bio statistics - Mahajan

Research Methodology in Physiotherapy - Hicks

Research Methodology in Physiotherapy - Domholdt E.

Research Methodology in Physiotherapy - Curries Dean P.

Bio statistics - Ramkrishan

Bio statistics - Gupta & Gupta

SPSS - Gaur & Gaur

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SUBJECT TRANSCRIPT

SR. NO.	SUBJECT	TOTAL HOURS OF TEACHING
1.	Human Anatomy	250
2.	HUMAN PHYSIOLOGY (Inclusive of electro-physiology)	200
3.	Psychology & Sociology	80
4.	Bio-medical physics	100
5.	Exercise – therapy I&II & soft tissue Manipulations	300
6.	Electro therapy -I&II	300
7.	Pathology	50
8.	Microbiology	30
9.	Biochemistry	50
10.	Pharmacology	30
11.	Bio-Mechanics & Kinesiology	100
12.	Psychiatry	30
13.	Neurology	50
14.	General Medicine	35
15.	Pediatrics	20
16.	Skin & V.D	20
17.	Cardio-Pulmonary Surgery	35
18.	Obstetrics & Gynecology	30
19.	Orthopedics	80
20.	General Surgery+ Plastic Surgery	35
21.	ENT	10
22.	Ophthalmology	10
23.	Radiology	10
24.	Physiotherapy in conditions	1047
25.	Bio-Statistic & Research Methodology	70
26.	Rehabilitation Therapy (P&O splinting)	35
27.	Ethics, Administration & Management	30
28.	Institutional Visits, Conferences, Educational Tours & others	150
29.	Clinical hours during S.Y., T.Y., & final year	1400
30.	Clinical hours during Internship	1300
31.	Computers	100
32.	English	80
33.	Exercise Physiology	80
	TOTAL	**6147**