

# Maharashtra University of Health Science, Nashik

## Physiotherapy Syllabus

### III – B.P.Th.

[This syllabus is applicable from 2009-10, i.e. from the batch who gets admitted to the I.B.P.Th. course in 2007-2008]

<b>Subjects-</b>	<b>Transcript Hours</b>
1] Surgery – 130 hrs	
Section – I General Surgery -----	50 hrs
Section – II Traumatology & Orthopedics -----	80 hrs
2] Medicine - 90 hrs	
Cardio-vascular & pulmonary Medicine -----	29 hrs
Neurology -----	31 hrs
General Medicine, Rheumatology & Gerontology -----	15 hrs
Clinical -----	15 hrs
3] Community Health / Sociology & Biostatistics [ -----do-----]---	70 hrs
section – I – Community health -----	20 hrs
section – II - Biostatics-----	30 hrs
section – III - Sociology -----	20 hrs
4] Physical Diagnosis & manipulative skills – [D-6: C1-12=18 hrs/week]---	400 hrs
*5] Obstetrics and Gynecology -----	30 hrs
6] Paediatrics -	30 hrs
*7] Dermatology	10 hrs
*8] Psychiatry subject should be adding	25 + 35 = 60 hrs
Third year college exam theory only	
Supervised Physiotherapy Practice -----3 hrs / 5 day + days/week -----	520 hrs
Seminar -----2 hrs alternate weeks -----	60 hrs
[including 1] Case presentation, 2] Literature review]	
<b>Total Hours -----</b>	<b>1400 hrs</b>

\* - To evaluate / assess & to practice Physiotherapy skills at the Acute care / Indoor as well as O.P.D. set ups. under the supervision of Senior Physiotherapist. A register / Log book to be maintained & to document the Evaluation / Functional analysis & Functional diagnosis reports of minimum 3 cases per assignments & signature to be obtained from respective section In-charge at the end of each assignment.

# SURGERY

(Total hrs 130)

## A) GENERAL SURGERY

[50 hrs Didactic – 40 hrs + Clinical 10 hrs]

**Objective** – At the end of the course, the candidate will be able to –

- 1] Describe the effects of surgical trauma & Anaesthesia in general
- 2] Classify, clinically evaluate & describe the surgical management in brief in
  - a] wound & ulcers b] Burns c] Head injuries
- 3] Describe pre-operative evaluation, surgical indications & various surgical approaches in various abdominal / thoracic / peripheral vascular conditions.
- 4] Recall the surgical approaches in the form of line diagram & will be able to describe the components of soft tissues cut to reach the target tissue & the possible post operative complications in movement.
- 5] Be able to read & interpret findings of the X ray-chest.

### **Syllabus –**

General (11hrs)

- 1] Effect of Anesthesia & surgical trauma, Hemorrhage, Shock, Water & Electrolyte imbalance (1hr)
- 2] Inflammation – acute & chronic-signs, symptoms, complications & management (1hr)
- 3] Wounds / ulcers – classification, healing process, management (2hrs)
- 4] Common abdominal surgeries for G.I. tract, Genito-urinary system Scar during surgical approach through abdominal wall. Scar management in brief (2 hrs)
- 5] Radical mastectomy – complications & management (1 hrs)
- 6] Amputation – types, sites, complications & management (1hr)
- 7] Burns – causes, complications, classification & management (3 hrs)

### **Neuro Surgery ( 6 hrs)**

1. Head Injury – management (1hr)
2. Intra cranial & Spinal tumors (1hr)
3. Surgeries of Head & neck in neurosurgical conditions & post operative care (2hrs)

### **Cardio vascular – thoracic surgery (7 hrs)**

- 1] Surgical approach
- 2] Post operative complications & management in Thoractomy, Thoracoplasty, Lobectomy, pneumonectomy, Decortication, CABG, Valvular Surgery, Congenital Heart Disease Surgeries, Surgery for Peripheral Vascular Disease.

### **E.N.T. Surgery (5 hrs)**

1. Upper respiratory track surgery & post operative care
2. Tracheostomy – indications, surgical approach & management
3. Surgery for cancer – indications & post operative care
4. Surgical procedures in VII<sup>th</sup> nerve palsy
5. Vertigo

### **Ophthalmic Surgery (1hr)**

Surgeries for III, IV & VI cranial nerve palsy

### **Plastic Surgery (10 hrs)**

1. Skin grafts & flaps – Types, indications with special emphasis to burns, wounds, ulcers
2. Tendon transfers, with special emphasis to hand, foot & facial paralysis,
3. Keloid & Hypertrophied scar management
4. Reconstructive surgery of peripheral nerves
5. Micro vascular surgery

### **Clinical (10 hrs)**

- A] Evaluation / presentation and recording of one case each in burns, wound & ulcer, Head Injury case, peripheral vascular condition, post Radical mastectomy, post thoracic surgery, post abdominal surgery
- B] Auscultation & its interpretation with special emphasis to Reading & interpretation of the X-ray chest.

OBSERVATION – one abdominal & one thoracic surgery & one surgery of skin graft / flap.

### **TEXT BOOKS**

- 1] under graduate Surgery by Nan
- 2] Bailey & Love's short practice of Surgery – 21 st edn

## **B) ORTHOPAEDICS**

[80 hrs] – Didactic -55 hrs + Clinical – 25 hrs

**Objectives** – At the end of the course, the candidate will –

- 1] Be able to discuss the Pathophysiology, clinical manifestations & conservative / Surgical management of various traumatic & cold cases of the Musculoskeletal Conditions.
- 2] Gain the skill of clinical examination & interpretation of the preoperative cold cases & all the post-operative cases.
- 3] Will be able to read & interpret a] salient features of the X-ray of the spine & Extremities  
b] pathological / biochemical studies pertaining to Orthopedic conditions.
- 4] Will be able to correlate the radiological findings with the clinical findings.

### **Syllabus –**

- 1] Post trauma Pathology, clinical manifestations, healing process in bone & intra articular & extra articular soft tissues. ( 2 hrs)
- 2] Fractures & dislocations of upper extremity & lower extremity ( 15 hrs)
  - i) Classification
  - ii) Conservative treatment
  - iii) Surgical intervention –
    - a) Surgical approach b) soft tissue section / repair c) internal / external fixation / arthroplasty d) post operative complications e) post operative management & management of complications.
- 3] Fractures & dislocations of spine, thoracic cage, shoulder girdle & pelvis (5 hrs)
  - i) Conservative treatment
  - ii) Surgical intervention
    - a) Surgical approach b) soft tissue section / repair c) internal / external fixation / arthro plasty d) post operative complications e) post operative management & management of complications.
- 4] Management of Metabolic disorders ( 2hr)
  - a) Osteoporosis
  - b) Osteomalacia
- 5] Brachial Plexus / Lumbo Sacral Plexus & Peripheral nerve injuries – sites, management (3hrs)
- 6] Deformities of the spine – scoliosis / kyphosis (2hr)
- 7] Deformities of extremities like Varus / Valgus, Torsion, Deformities of hands & feet (2hrs)
- 8] Congenital Malformation Spina Bifida, Meningocele meningocele (2hrs)

9] Vascular Disorders like Avascular Necrosis, Necrosis, Perthe's Disease, Compartmental Syndrome	(3 hrs)
10] Reconstructive surgery for bone lengthening	(1hrs)
11] Reconstructive surgery in Polio & Cerebral Palsy	(2hrs)
12] Inflammatory / Infectious diseases of the bone & joints e.g. T.B, Osteomyelitis	(2hrs)
13] Tumors of bone & management	(1hrs)
14] Surgical intervention for Arthritis like O.A., RA, Ankylosing Spondylitis	(2hrs)
15] Reconstructive surgery in soft tissue lesions of Shoulder, Knee & Ankle	(3 hrs)
16] A etiology of Back Pain & surgical management	(3 hrs)
17] Common Sports injuries / overuse injuries & management	(2 hrs)
18] Traumatic Amputation & management	(1hrs)
19] Hand injury & management	(1hrs)
20] X-rays of extremities & spine	(1hrs)

### **CLINICAL (25 HRS)**

- 1] Independent clinical orthopedic evaluation presentation & recording of
  - a] one acute soft tissue lesion [including nerve injury]
  - b] 2 cases of degenerative arthritis of extremity joint
  - c] 2 degenerative arthritis of spine
  - d] one case of acute P.I.D.
  - e] 2 chronic backaches
  - f] 1 post operative case of fractures of extremities
  - g] one traumatic paraplegia / quadriplegia

### **OBSERVATION –**

At least 2 surgeries of # internal fixation, one knee/hip replacement & Reconstructive surgery of the tendons.

### **TEXT BOOKS**

- 1) Adam's outline of fractures – 8<sup>th</sup> edn
- 2) Adams outline of Orthopaedics – 8<sup>th</sup> edn
- 3) Apley's textbook of Orthopaedics



# MEDICINE

[90 hrs]

**CARDIO-VASCULAR & PULMONARY MEDICINE**

**Didactic 29 hrs**

**NEUROLOGY**

**Didactic 31 hrs**

**GENERAL MEDICINE, RHEUMATOLOGY & GERONTOLOGY**

**Didactic 15 hrs**

**CLINICAL**

**15 hrs**

**Objective** – At the end of the course, the candidate will

- 1] be able to describe Etiology, Pathophysiology, Signs & Symptoms & Management of the various Endocrinal, Metabolic, Geriatric & Nutrition Deficiency conditions.
- 2] be able to describe Etiology, Pathophysiology, Signs & Symptoms, Clinical Evaluation & Management of the various Rheumatological Cardiovascular, Respiratory & Neurological Conditions.
- 3] Acquire skill of clinical examination of Musculoskeletal, Pulmonary, Cardio-vascular & Neurological System.
- 4] be able to interpret auscultation findings with special emphasis to pulmonary system, Chest X-ray, Blood gas analysis, P.F.T. findings, Blood studies done for Neurological & Rheumatological conditions.
- 5] be able to describe the principles of Management at the Medical Intensive Care Unit.

## Syllabus

### **A- CARDIO-VASULAR & RESPIRATORY MEDICINE (29 hrs)**

#### **1] Cardio-vascular diseases – (12 hrs)**

- a) Hypertension – systemic (1hrs)
- b) I.H.D. –Myocardial infarction (2hrs)
- c) Arrhythmia – classification (1hrs)
- d) Valvular Heart Disease – i) Congenital ii) Acquired (3 hrs)
- e) Rheumatic Fever (1hrs)
- f) Congenital Heart Disease (1hrs)
- g) Infective Endo Carditis (1hrs)
- h) Geriatric Cardio Vascular Problems & management (1hrs)
- i) ECG – Normal & Variations due to ischemia & infarction (1hrs)

#### **2] Diseases of the respiratory system (17 hrs)**

- a) Common Infectious diseases like Tuberculosis Pneumonia, Lung Abscess, Bronchiectasis (3 hrs)

- b) Diseases of Pleura like Pleural Effusion, Pneumothorax,  
Hydropneumothorax, Empyema (3hrs)
- c) Occupational lung diseases like Silicosis Asbestosis, Pneumoconiosis,  
Brucellosis, Farmer's Lung (1hrs)
- d) Obstructive Lung Diseases like Bronchitis, Emphysema, Bronchial  
Asthma, Cystic Fibrosis (3hrs)
- e) Interstitial Lung Diseases (1hrs)
- f) Geriatric respiratory problems & management (1hrs)
- g) Intensive Medical Unit – Infrastructure & Treatment (2hrs)
- h) Introduction of clinical examination – Breath sounds / X ray chest /  
Blood gas analysis / P.F.T. (3hrs)

### **B- NEUROLOGY (31 hrs)**

- 1] Circulation of the brain & spinal cord (1hr)
- 2] Cerebro – vascular accidents – Thrombosis, Embolism, Haemorrhage (1hrs)
- 3] Stroke – Level of Lesion & Management (1hrs)
- 4] Extra Pyramidal lesions – Basal Ganglia (1hrs)
  - i) Parkinsonism (1hr)
  - ii) Athetosis, Chorea, Dystonia & Spasmodic Torticollis (1hr)
- 5] Polyneuropathy (1hrs)
  - i) G B Syndrome (1hr)
  - ii) Diabetic, Alcoholic & SACD (1hr)
- 6] Disorders & Diseases of muscle (3hrs)
  - i) Myopathy – Types (1hr)
  - ii) Muscular Dystrophy – Types (1hr)
  - iii) Inflammatory Disorders – Polymyositis & Dermatomyositis } (1hr)
  - iv) Myotonia }
- 7] Disorders of Anterior Horn Cell (1hrs)
  - i) Motor Neurone Disease (1hr)
  - ii) SMA, Syringomyelia, Peroneal Muscular Atrophy, Polio (1hrs)
- 8] Multiple Sclerosis (1hr)
- 9] Infections of the nervous system like Encephalitis, Neurosyphilis, H I V infection,  
Herpes, Meningitis, Transverse Myelitis, Tabes Dorsalis & T.B. Spine (3hrs)
- 10] Epilepsy (1hr)
- 11] Tetanus (1 hr)
- 12] Alzheimer's Disease (1hr)

13] Disorders of cerebellar function	(1hrs)
14] Disorders of cranial nerves & Special Senses	(1hrs)
15] Disorders of Myoneural Junction – Myasthenia Gravis & Myasthenic Syndrome	(1hr)
16] Dysfunction of Autonomouns Nervous System is Spinal Cord Lesions	(1 hrs)
17] Neurogenic Bladder	(1hrs)
18] Cerebro Spinal Fluid	(1hr)
I) Formation & Absorption	
II) Status in Various Disorders	
19] Sexually transmitted diseases	(1hr)

### **C - General Medicine (15 hrs)**

#### **1] Disorders of Endocrine system (4hrs)**

i) Diabetes	(1hr)
ii) Thyroid, Pituitory & Adrenal conditions	(2hrs)
iii) Calcium Metabolism	(1hr)

#### **2] Rhumatological Conditions (5 hrs)**

i) Rheumatoid Arthritis	(2hrs)
ii) S L E	}
iii) S S A	
iv) Gout	
v) Polymyositis	

#### **3] Geriatric Conditions (4 hrs)**

i) Aging Process	(1hr)
ii) Osteoporosis	(1hr)
iii) General Health Care, Wellness Clinic	(1hr)
iv) Hypertension	(1hr)

#### **4] Nutrition Deficiency Disease (1hr)**

#### **5] Drug Abuse / Intoxication (1hr)**

Text Book

- 1) API- Text book of Medicine – 5<sup>th</sup> edn
- 2) Golwalla – Medicine for students
- 3) Principles & practice of Medicine – 16<sup>th</sup> edn-by Devidson

## **D- CLINICAL (15 HRS)**

Evaluation , presentation and recording of Two cases Each in

- i) U.M.N. lesion
- ii) L.M.N. lesion
- iii) Respiratory Condition
- iv) Cardio Vascular Conditions
- v) Degenerative / Rheumatological Condition
- vi) General Medicine Conditions like Obesity, Nutritional disorders, Diabetes Mellitus & Metabolic bone disorders.

### **SCHEME OF EXAMINATION IN “ MEDICINE ”**

#### **THEORY – 80 MARKS + INTERNAL ASSESSMENT – 20 MARKS TOTAL – 100 MARKS**

Section A-MCQ-Q-1] [20x1] single best answer

[Based on all the topics included in Medicine syllabus] ----- 20 marks

Section B-SAQ – Q2] to attempt any FIVE out of Six answers – [ 5 x 3]

[based on Cardiovascular or Respiratory conditions] ----- 15 marks

Q3] to attempt any THREE out of Four answers [ 5 x 3]

[based on Neurology] ----- 15 marks

# Section C-LAQ, Q4][ compulsory] based on Neurology ----- 15 marks

Q5] [based on Cardio-vascular conditions] ----- 15 marks

OR

Q6] [based on Respiratory conditions] ----- 15 marks

#L.A.Q. should specify the break up of marks e.g. [3+5+7]

#### **INTERNAL ASSESSMENT – One test each in**

- |  |                  |
|--|------------------|
| 1] Theory – General Medicine, Rheumatology & Gerontology   | 25 marks         |
| 2] Theory – Cardio-vascular & Respiratory Medicine         | 50 marks         |
| 3] Theory – Neurology                                      | 50 marks         |
| 4] Clinical – General Medicine, Rheumatology & Gerontology | 25 marks         |
| 5] Clinical – Cardio-vascular & Respiratory Medicine       | 25 marks         |
| 6] Clinical – Neurology                                    | 25 marks         |
| *7] Pediatrics   | 50 marks         |
| *8] Dermatology  | 50 marks         |
| <b>TOTAL -----</b>   | <b>300 marks</b> |

Internal Assessment marks to be calculated out of 20

\*This subject needs individual passing in the exam to pass in the I.A. of the subject  
Medicine

# COMMUNITY HEALTH / SOCIOLOGY & BIO-STATISTICS

I) Community health	Th 10 hrs. Pra. 10 hrs	Total 20 hrs
ii) Sociology	Th 20 hrs	Total 20 hrs
iii) Bio-statistics	Th 30 hrs	Total 30 hrs

## A – COMMUNITY HEALTH

**Objectives** – At the end of the course, the candidate shall be able to understand the contents given in the syllabus.

### **Syllabus**

- 1] General concepts & Determinants of Health & Diseases – National & International Definition of Health, Role of Socio-Economic & Cultural Environment in Health & Disease
  - a) Epidemiology – Definition & Scope
  - b] Environmental Hygiene including man & his surrounding, Occupational & Industrial hygiene, Village & Town Sanitation, Bacteriology of Water, Milk, & Food Hygiene [Overview]
- 2] Overview of Public Health Administration at Central & State levels – Strategies of Health Delivery System for “The Health for All” National health programme [brief Role of WHO]
- 3] Socio-Economical & Cultural Issues related to Morbidity owing to the Physical Disability & Handicaps of Structural / Neuro-motor & Psycho-somatic origin-
  - A] Health problem vulnerable groups
    - i] Pregnant & lactating women, Pelvic floor Dysfunction, Urinary incontinence,
    - ii] Pre-term babies with high risk, Infants & Pre-School Children-Brain Damage, during birth injury, Congenital & Acquired structural Deformities, Spinal Dysraphism, T.B. Meningitis, Polio, Cerebral palsy, Other Hereditary neuro-motor Conditions, such as Myopathies & Muscular Dystrophies, Malnutrition – Rickets,
    - iii] Occupational Diseases & Hazards – Definition, Scope, Accident prevention, Hand Injuries, Amputations, Disc Lesions Head Injuries, Backaches, Respiratory Illnesses due to exposure to asbestoses, tobacco, fumes, COPD, Asthma, Sarcoidosis ; Stress.
  - B] Traumatic / Paralytic morbidity, Head Injury, Quadri /paraplegia, Urinary/Bowel Incontinence, Amputation, Skeletal Deformities due to multiple Fractures & Prolonged Bed Rest & Mental Retardation.
  - C] Nutritional – Osteomalacia, Rickets, Neuropathies due to Vitamin- deficiency, Skeletal Deformities.

D] Auto-immune & Hereditary diseases- Rheumatoid arthritis, S.L.E. Sero-ve arthritis, Ankylosing Spondylitis, Multiple Sclerosis, Spinal Muscular Atrophies & Myopathies, Dystrophies in adults,

E] Geriatric-Osteoporosis, Malnutrition, Alzheimer's Disease, Parkinsons, Ataxia, CHD, Hypertension.

F] Addiction – Alcoholic – Neuro-motor & Psychosomatic disorders, Smoking – asthma, COPD,

- 4] Family planning – objectives of National Family Planning Programmes & Family Methods General Idea of Advantage & Disadvantage of the Methods.
- 5] Mental health –socio-economical & cultural aspect,
- 6] Communicable diseases-an over-view [including prevention & control] TB, HIV Leprosy, Brucellosis, & Other conditions leading to Paralysis & Arthritis, Respiratory diseases causing Bronchiectasis COPD.
- 7] Immunization programmes – children & hospital staff

### **Text Book**

- 1] K. Park – Park's Textbook of Preventive & Social Medicine
- 2] P.K. Mahajan & M.C. Gupta – Textbook of Preventive & Social Medicine

### **B- SOCIOLOGY**

[20 hrs]

- 1] Introduction – Definition & Relevance with Physiotherapy.
- 2] Sociology & Health – Social factors affecting Health Status, Social Consciousness & Perception of Illness, Decision Making in taking Treatment.
- 3] Socialization – Definition, Influence, of Social Factors, on Personality, Socialization in the Hospital & Rehabilitation of the patients.
- 4] Social groups-Concepts, Influence of formal & informal groups of Health & Diseases,  
  
Role of Primary & Secondary Groups in the Hospital & Rehabilitation Setting.
- 5] Family-Influence on human personality, Individual Health, Family & Nutrition, Effects of Sickness on Family Psychosomatic Diseases & Family
- 6] Community Role of Rural & Urban communities in Public Health, Role of community in determining Beliefs, Practices & Home Remedies in Treatment.
- 7] Culture-Components Impact on Human Behavior Cultural Meaning of Sickness Response to Sickness & Choice of Treatment, [Role of Culture as Social

Consciousness in moulding the Perception of Reality] Culture induced Symptoms & Diseases, Sub-Culture of Medical Workers

- 8] Caste systems- Features of Modern Cast Systems & its Trends
- 9] Social change factors– Human Adaptation, Stress, Deviance, Health Programme  
Role of Social Planning in the improvement of Health & in Rehabilitation.
- 10] Social Control – Definition, Role of norms, Folkways, Customs, Morals, Religion, Law & other means of social controls in the regulation of Human Behavior, Social Deviance & Disease
- 11] Social problems of the Disabled- Consequences of the following social problems in relation to sickness disability, remedies to prevent these problems
  - a] Population Explosion
  - b] Poverty & Unemployment
  - c] Beggary d] Juvenile Delinquency
  - e] Prostitution f] Alcoholism
  - g] Problems of Women in Employment
- 12] Social Security & Social Legislation in relation to the Disabled
- 13] Role of a Social Worker

### **Text Books**

- 1] Sachdeva, & Bhusahn- An introduction to sociology – Allahabad; kitab mahal ltd. 1974
- 2] Madan – Indian social problems, Vol-I-Madras – Allied publications 1973

### **C - BIOSTATISTICS**

[30 hours]

Objective – At the end of the course, the candidate shall

- 1] Gain knowledge of the basic concepts of Biostatistics & its need for professional practice & Research
- 2] Be able to describe an Over-view-a a] Ethnography & Anthropology b] Design & Methodology of an Experiment or Survey c] Demography & vital statistics d] Sampling & interpretation of Data

### **Syllabus –**

- 1] Introduction – Uses of statistical methods in Physiotherapy – Measurement Scales, variables, & their Measurements, Symbolic Data, Operations
- 2] Statistical data – Tabulation, Calculation of Central Tendency, & Dispersion, Linear Regression & Correlation – Presentation of Data in Diagrammatic & Graphic Form,

3] Probability & Sampling as a Mathematical System, Population & Samples, Sampling Distribution, Sampling Methods

**Text Book**

B.K. Mahajan – Methods in Biostatistics

**SCHEME OF EXAMINATION THEORY – 80 + 20 I.A. MARKS = 100 MARKS]**

Theory – 80 marks + Internal Assessment 20 marks = 100 marks

Section A ) Q.1 MCQ Single best answer =	Community Health ----	10 marks
	Biostatistics -----	05 marks
	Sociology -----	05 marks
Section B) Based on Community Health		
Q.2 SAQ Five out of Six	(5 x 3)	15 marks
Q.3 SAQ Three out of Four	(3 x 5)	15 marks
Section C) Q.4 SAQ Three out of Four Based on Biostatistics	(3x5)	15 marks
Q.5 SAQ Three out of Four Based on Sociology	(3x5)	15 marks

**INTERNAL ASSESSMENT**

1 Terminal & 1 Preliminary Examination of 100 marks each as per University pattern.

Internal Assessments marks should be calculated out of 20 marks.

# PHYSICAL DIAGNOSIS & MANIPULATIVE SKILLS

[400 hrs]

HUMAN DEVELOPMENT, GROWTH & AGING PROCESS	Didactic -20 hrs + laboratory – 10 hrs
ELECTRODIAGNOSIS	Didactic -20 hrs + * Lab. / Clinical – 60 hrs
FUNCTIONAL ANALYSIS	Didactic – 30 hrs + * Lab/Clinical – 100 hrs
MANIPULATIVE SKILLS	Didactic – 10 hrs + Practical / Laboratory – 120 hrs
NEURO THERAPEUTIC SKILLS	Didactic – 10 hrs + Practical / Laboratory – 20 hrs

## Objectives

At the end of the course, the candidate will

- 1] Be able to describe the human development & maturation; with special emphasis to sensory, motor, psychological & social aspects and alteration during aging process.
- 2] Acquire the skill of detection & objective documentation of the Neurological, Musculoskeletal, cardiovascular & pulmonary dysfunctions such as Pain, altered muscle power mobility, endurance, limb length, posture, gait, hand function & A.D.L. in adult & paediatric conditions & acquire skill & interpretation of Exercise tolerance test to arrive at the Functional diagnosis as per International Classification of Functioning.
- 3] Acquire the skills to use on patients, the therapeutic currents, for Electro-diagnosis of sensory, & motor dysfunction & pain.
- 4] Be able to describe the physiology of nerve conduction & motor units, interpretation of Normal & Abnormal EMG, Nerve Conduction studies & Late responses.
- 5] Acquire the simple skills of mobilization of the extremities on models
- 6] Acquire the neuro therapeutics skills on models
- 7] Be able to do Interpretation of common investigations used for functional diagnosis.

## Syllabus:

### 1] General principles of Human development & maturation

- a] aspects – i) physical ii) motor iii) sensory iv) cognitive v) emotional vi) cultural vii) social
- b] Factors influencing human development & growth i) Biological ii) environmental iii) inherited.
- c] Principles of maturation –
  - i) in general
  - ii) in anatomical directional pattern –
    - Cephalo – caudal
    - Proximo – distal
    - Centro – lateral
    - Mass to specific pattern
    - gross to fine motor development

reflex maturation tests

iii) development in specific fields

oromotor development

sensory development

neurodevelopment of hand function

## **2] Electro diagnosis**

a) Physiology of resting membrane potential & action potential, Propagation of Action Potential, Volume conduction.

b) Physiology of muscle contraction

c) Motor unit & Recruitment pattern of motor unit – Size principle

d) Therapeutic current –as a tool for electro diagnosis.

i) Physiological principles

ii) Faradic Galvanic Test, Strength Duration Curve, Test for Sensory & Pain

Threshold, Test for Pain Tolerance – tests should be carried out on relevant patients.

e) Electro-myography

i) Principles

ii) Instrumentation – Basic components like CRO, Filter, Amplifier & Pre-amplifier, Types of Electrodes, Panel diagram.

iii) Normal & Abnormal EMG pattern

i) at rest

ii) on minimal contraction

iii) on maximal contraction

f) Nerve Conduction Studies

i) Principles & Technique

ii) F wave

iii) H reflex

## **3] Basics in Manual Therapy & Applications with Clinical reasoning**

a] Examination of joint integrity

i) Contractile tissues

ii) Non contractile tissues

b] Mobility – assessment of accessory movement & End feel

c] Assessment of articular & extra-articular soft tissue status

i) Myofascial assessment

ii) Acute & Chronic muscle hold

iii) Tightness

iv) Pain-original & referred

b] Basic principles, Indications & Contra-Indications of mobilization skills for joints & soft tissues.

- i) Maitland
- ii) Kaltenborn
- iii) Mulligan
- iv) Mckenzie
- v) Muscle Energy Technique
- vi) Myofascial stretching
- vii) Cyriax
- viii) Neuro Dynamic Testing

#### **4] Basics in Neuro Therapeutics Skills & Applications with Clinical reasoning.**

- i) Principles of Neuro Developmental Technique, Rood's Technique, PNF, Brunnstrom
- ii) Technique
- iii) Indications for Application

#### **5] Assessment of Movement Dysfunction**

- i) Higher functions
- ii) Cranial nerves
- iii) Sensations & sensory organisation
- iv) Joint mobility
- v) Body image
- vi) Tone
- vii) Reflexes-Superficial & Deep
- viii) Voluntary control
- ix) Muscle Strength
- x) Co-ordination
- xi) Balance
- xii) Endurance
- xiii) Trick movements
- xiv) Limb Length
- xv) Posture
- xvi) Gait
- xvii) Scales-Berg's Balance, Ashworth, Glasgow Coma, DGI
- xviii) Functional Diagnosis using ICF
- xix) Interpretation of Electro diagnostic findings, routine Biochemical investigations.

#### **6] Assessment of Cardio Vascular & Pulmonary Dysfunction**

- i) Vital parameters
- ii) Chest expansion
- iii) Symmetry of chest movement
- iv) Breath Holding Test
- v) Breath Sounds
- vi) Rate of Perceived Exertion (RPE)
- vii) Quality of life questionnaire
- viii) Exercise Tolerance – six minutes walk test, Theoretical bases of Bruce's protocol
- ix) Peak Flow Meter
- x) Interpretation of reports – ABG, PFT, ECG- (Normal & Variations due to Ischaemia & Infarction )
- xi) X-ray Chest
- xii) Ankle Brachial Index
- xiii) Tests for Peripheral Arterial & Venous circulation

#### **7] Assessment of Musculoskeletal Dysfunction**

- i) Tightness
- ii) Joint Mobility
- iii) Muscle strength
- iv) Limb Length
- v) Trick Movement
- vi) Posture
- vii) Gait
- viii) Special Test
- ix) Functional Diagnosis using ICF
- x) Interpretation of X-ray of extremities & spine, routine, bio-chemical investigations

#### **8] Assessment of Hand**

- i) Sensations
- ii) Mobility of joints
- iii) Strength
- iv) Special Tests like Froment's Sign, Bunnel – Litter's Test, Phalen's Test, Tinel's Sign, Wartenberg's Sign.
- v) Hand Function – Precision & Power Grips

#### **9] Assessment of pain**

- i) Intensity & quality
- ii) Objective assessment & documentation – VAS, Mc Gill's modified questionnaire, Numerical Rating Scale.

#### **10] Assessment of Obesity**

- i) Pathophysiology

ii) Assessment – BMI, Waist – Hip Ratio

## **11] Introduction to Quality of Life Questionnaire**

### **CLINICALS**

- 1] Practice of Manual Therapy in Kaltenborn, Maitland, Mulligan & Cyriax on extremities  
only & only on models
- 2] Electro-diagnostic assessment – S D Curve, Faradic Galvanic Test, Test for Sensory  
& Pain Threshold, Test for Pain Tolerance.
- 3] Identification of abnormal breath sounds, measurement of chest expansion, pattern  
of breathing, Vital parameters, Grades of Dyspnoea, Rate of Perceived exertion,  
Ankle Brachial Index.
- 4] Exercise tolerance testing – 6 minutes walk test & Bruce's protocol on models only
- 5] Practice to Neuro Therapeutic Skills of NDT, PNF, Rood's Technique & Brunnstrom  
on models only.
- 6] Interpretation of reports – EMG, NC Studies, ABG, PFT, X-ray of Chest, Extremities  
& Spine & ECG.

### **Term work in Clinical**

A] Documentation & Interpretation of following investigations

i] Electro diagnosis –

- a) SDC
- b) Faradic Galvanic Test
- c) Test for Sensory / pain Threshold
- d) Test for Pain tolerance – Any 3

ii] Cardio Vascular & Pulmonary – ABG, PFT, ECG, X-ray Chest, Exercise Tolerance

Test-1 each.

lii] Neurological – Scales like Modified Ashworth, Berg's Balance, DGI, Glasgow  
Coma, Barthel Index, STREAM Format – Any 3 & EMG & NC Studies – 2 each.

B] Case presentation with Functional diagnosis – Three cases Each in –

- i] Musculoskeletal
- ii] Neurological
- iii] Cardiovascular & Pulmonary

To maintain the Record/Journal of the term work & to get each assignment duly signed by  
Head.

**Text Book:**

- 1) Maitlands book on Manual therapy,
- 2) Clinical Electro Therapy – Nelson – Currir --- Appleton & Lange publication
- 3) Clinical Electromyography – by Mishra
- 4) Mobilisation – Kaltenborn
- 5) Physical Rehabilitation, Assessment and treatment by Susan B O’s Sullivan

**Reference Book:**

- 1) Orthopaedic Physical examination – by Magee
- 2) Mobilization methods – Kaltonborn
- 3) Clinical Electromyography – Kimura
- 4) Orthopaedic Physical therapy – Donnatelli
- 5) Exercise & Heart – Wenger
- 6) Exercise Physiology – William D Mc’Ardle
- 7) Facilitation techniques based on NDT principles by Lois Bly Allison Whiteside
- 8) Neurological Examination by John Patten
- 9) Movement therapy in Hemiplegia by Brunnstrom
- 10) Cash textbook of Physiotherapy in neurological conditions by Patricia Downie
- 11)Physical Dysfunction by Tromble Scoot

**SCHEME OF EXAMINATION**

THEORY -80 MARKS ;IA-20 MARKS TOTAL 100 MARKS

CLINICAL – 80 MARKS I.A. 20 MARKS TOTAL 100 MARKS

THEORY – Pattern of paper setting

Section A- M.C.Q. Q-1 [20 x 1] based on MUST KNOW area of entire syllabus – 20 marks

Section B-S.A.Q. Q-2] To answer any Five out of Six [5 x 3] ----- 15 marks

Q3] to answer any Three out of Four [ 3 x 5] ----- 15 marks

#Section C-L-A QQ-4] ----- 15 marks

Q-5] ----- 15 marks

OR

Q6] based on ----- 15 marks

# Each LAQ should give break up of 15 marks e.g. [3+5+7] etc

**CLINICAL** Pattern of Examination

A] Long Case – any medical or surgical condition 35 marks

[Time maximum 30 minutes for students for evaluation]

i] Psychomotor & affective – skill of History taking [5marks]

ii] Skill of clinical examination [10 marks]

iii] Skill of objective Diagnostic procedure [10 marks]

iv] Cognitive – Ability to justify bases for functional diagnosis [10 marks]

B] Short Case I] Mobilisation Technique (On Models) [10marks]

II] Neuro Therapeutic Skills – NDT / PNF / Rood's / Brunnstrom (On Models)

OR

II] Electro Diagnosis – SD Curve / Faradic Galvanic Test / Test for Sensory & Pain Threshold & Test for pain Tolerance (On Patient) [10 marks]

OR

II] Exercise Tolerance Test (On Model) [10 marks]

C] Spots – (Five) a] X ray

b] Pulmonary Function Test

c] Blood gas analysis [4 x 5 = 20 marks]

d] E.C.G.

e] E.M.G. / N.C. studies

4] Journal ----- 5 marks

## **INTERNAL ASSESSMENT**

### **THEORY**

1 Terminal & 1 Preliminary Examination of 100 marks each as per University pattern.

### **CLINICAL / PRACTICAL**

1 Terminal & 1 Preliminary Examination of 100 marks each as per University pattern.

Internal Assessments marks should be calculated out of 20 marks in Theory & 20 marks in Clinical / Practical.

# OBSTETRICS & GYNEACOLOGY

(COLLEGE SUBJECT)

[30 hrs]

Didactic -20 hrs + Clinical – 10 hrs

**Objective** – at the end of the course, the candidate will

- 1] Be able to describe the normal & abnormal physiological events during the Puberty, Pregnancy, Labour, Puerperium, & Pre, Peri & Post Menopause.
- 2] Be able to discuss common complications during Pregnancy, Labour, Puerperium & Pre Peri & Post Menopausal stage & various aspects of Urogenital Dysfunction & the management in brief.
- 3] acquire the cognitive skill of the clinical examination of Pelvic Floor.

## Syllabus

- 1] Physiology of Puberty & Menstruation, Abnormalities & common problems of Menstruation (2hrs)
- 2] Pregnancy – Fertilization, Development of the foetus, Normal gestations, Abnormal / Multiple gestations, Common Complications during pregnancy like P I H, Eclampsia Diabetes, Hepatitis, German Measels, TORCH infection. (3 hrs)
- 3] Labour (4hrs)
  - i) Normal – Events of Ist IInd & III rd Stages of labour
  - ii) Complications during labour & management
  - iii) Caesarian section
- 4] Post Natal – Puerperium, lactation, Methods of Contraception complications of repeated child bearing with small gaps (2hrs)
- 5] Sterility – management (1hr)
- 6] Methods of family planning (1hr)
- 7] Uro-genital dysfunction (3hr)
  - i) Uterine prolapse – classification & management (Conservative / Surgical)
  - ii) Cystocoele, Rectocoele, Enterocoele
- 8] Neoplasm of Female reproductive organs – surgical management (1hr)
- 9] Pre, Peri & Post Menopause – Physiology, Complications & management (2hrs)
- 10] Pelvic Inflammatory Diseases with special emphasis to backache due to Gynaec / Obsconditions (1hr)

## **CLINICAL**

Evaluation & presentation of Two cases Each in

- a) Uro-genital dysfunction
- b) Antenatal care
- c) Postnatal care
  - i) Following normal labour
  - ii) Following Caeserean section
- d) Pelvic Inflammatory Diseases

OBSERVATION – One Normal & One Caesarian delivery, One case of Tubectomy & One Hysterectomy / Repair of the Uro-genital Prolapse.

### **Text Book:**

- 1) Text book of Gynecology – by Dutta – New Central Book Agency
- 2) Text book of Obstetrics by Dutta – New Central Book Agency

## **SCHEME OF EXAMINATION**

**\*THEORY** – 50 marks

Section A-MCQ-Q-1 [MCQs based on MUST KNOW area] ----- 20 marks

Section B-SAQ-Q-2 Answer any Five out of Six [ 5 x 3] ----- 15 marks

OR

Section C-SAQ-Q3 Answer any THREE out of Four [ 3 x 5] ----- 15 marks

\* Emphasis to be given to the Urogenital dysfunction / Obstetrical conditions / age related Gynecological problems

Grade – A+75% & above, A:66<75% B+:55<66%, B:66%, B:50%, C:<50% [FFF]

***Passing in the subject is mandatory***

# PAEDIATRICS

## (COLLEGE SUBJECT)

[30 hrs]

Didactic – 20 hrs + Clinical -10 hrs

**Objective** At the end of the course, the candidate will

- 1] acquire knowledge in brief about intra-uterine development of the foetus
- 2] be able to describe normal development & growth of a child, importance of Immunization, & breast-feeding & psychological aspect of development.
- 3] be able to describe neuromuscular, musculoskeletal, cardio-vascular & pulmonary conditions related to immunological conditions, nutritional deficiencies, infectious diseases, & genetically transmitted conditions.
- 4] acquire skill of clinical examination of a neonate / child with respect to neurological, musculoskeletal & respiratory function.

### Syllabus

- 1] Normal intra-uterine development of foetus (1hr)
- 2] Normal development & growth (2hrs)
- 3] Immunization, Handling of the child, Significance of breast-feeding (1hr)
- 4] Common causes for Developmental disorders like Sepsis, Prematurity, Asphyxia & Hyperbilirubinemia (1hr)
- 5] Brain damage-Cerebral Palsy-types & Medical Management (2hrs)
- 6] Spinal Cord Disorders like Poliomyelities, Spinal Dysraphism, Spina Bifida, Meningocele, Myelomeningocele (2hrs)
- 7] Common infections
  - a) C.N.S. & peripheral nervous system (1hrs)
  - b) typhoid, rubella, mumps, measles, tetanus, diphtheria, chicken pox, hepatitis(1hr)
- 8] Epilepsy (1hr)
- 9] Mental Retardation (1hr)
- 10] Genetically transmitted neuro-muscular conditions (1hr)
- 11] Malnutrition related condition (1hr)
- 12] Juvenile R A & other immunological conditions of Musculoskeletal system (1hr)
- 13] Common diseases of the respiratory system like Asthma, Bronchitis, T.B. & Pneumonia & bronchiectasis (2hrs)
- 14] Rheumatic & Congenital heart disease (2hrs)

## **CLINICAL (10 HRS)**

- 1] Normal & abnormal reflexes in neonate & child
- 2] Examination of the nervous system
- 3] Examination of respiratory system
- 4] Examination of cardiovascular system

\* Internal assessment to be conducted at the end of the completion of the term –

Total – 50 marks [Theory 25 marks + Viva 25 marks]

passing in this IA is mandatory to pass in the I.A. of the subject Medicine.

Text Book:

- 1) Essentials of Paediatrics – by O.P. Ghai-Inter Print publications
- 2) D.K. series in Paediatrics

# DERMATOLOGY

(COLLEGE SUBJECT)

[10 hrs]

**Objectives** At the end of the course, the student will

Be able to describe the Pathophysiology, Signs & Symptoms, Clinical Features, Examination & Management of Common Skin Conditions like Leprosy, Psoriasis, Vitiligo, Acne, Bacterial & Fungal Infections of the skin, Auto-Immune Disorders, H.I.V. & Sexually Transmitted Diseases.

## Syllabus:

- 1] Introduction to Dermatology, basic skin lesions & History taking
- 2] Skin infections (Part I) – Scabies / Pediculosis / Bacterial infections
- 3] Skin infection (Part II) viral / Fungal / Cutaneous T.B.
- 4] Psoriasis / Sebaceous Dermatitis / Atopic Dermatitis / Hand eczemas (Psoriasis & Eczema)
- 5] Pigmentary Disorders (Vitiligo, Melasma) & Drug Reactions (Urticaria, Fixed Drug Eruption, Maculo Papular Drug Rash, Erythema Multiform minor, Steven Johnson Syndrome, Toxic Epidermal Necrolysis)
- 6] Leprosy & Deformity
- 7] Autoimmune Disorders (Scleroderma, Systemic Lupus Erythematosus, Dermatomyositis)
- 8] Acne & treatment of Acne (Including cosmetic & Dermatological procedures) (Chemical peels, MDA etc.)
- 9] Disorders of Scalp (Dandruff, Chronic Hair loss, Alopecia)
- 10] Sexually Transmitted skin lesions
- 11] HIV & Cutaneous manifestations
- 12] Topical therapy in Dermatology.

INTERNAL ASSESSMENT – One Theory examination of 50 marks to be conducted at the end of the term & Passing in the I.A. is mandatory

# PSYCHIATRY

(COLLEGE SUBJECT)

[Didactic 25 hrs + \*Clinical 35 hrs = 60 hrs]

**Objective** At the end of the course, the candidate will be able to –

- 1] Enumerate various Psychiatric disorders with special emphasis to movement / Pain & ADL – describe the various causative factors & methods of assessment & management
- 2] Acquire the knowledge in brief, about the pathological & etiological factors, signs / symptoms & management of various Psychiatric condition
- 3] Describe in brief the various treatment modalities commonly used

## Syllabus:

- 1] Psychiatric History, & examination of mental status
- 2] Classification of Mental status
- 3] Scizophrenia & its types-brief Psychotic disorder, delusional disorder, schizo-affective disorders, post-partum psychosis, mood disorders, organic mental disorders, Anxiety disorder, phobia, obsessive compulsive dissociative conversion disorder, hypochondriasis, post-traumatic disorder, personality disorder, substance related disorders-adjustment & impulse control, disorder, psycho-sexual disorders, psycho-somatic disorder, psychiatric emergencies suicide stress management disorders of infancy – childhood & adolescence disruptive behavior, conduct disorder, attention deficit, & hyper-reactivity-eating disorder, tic, disorder, elimination disorder –child abuse, enuresis.
- 4] Management –ECT, Chemotherapy, group therapy, psycho therapy, cognitive behavioral therapy.

## TEXT BOOK

- 1] A short book of Psychiatry – 3<sup>rd</sup> edn-by Ahuja – Jaypee bros – medical publishers
- 2] Shah L.P. Handbook of Psychiatry

## EXAMINATION SCHEME [Theory only]

Theory – 40 Marks + I.A. – 10 Marks = Total – 50 Marks

Section A-Q-1- TEN M.C.Q.s based on single best answer ----- 10 marks

[to include all MUST KNOW areas]

Section B-Q-2, S.A.Q. To answer any FIVE out of Six question [5 x 3] ---- 15 marks

Section C-Q-3- S.A.Q.s to answer any THREE out of Four questions [3 x 5] 15 marks

INTERNAL ASSESSMENT ----- 10 marks

One test in Theory – 50 marks + A Clinical – 50 marks ----- total 100 marks

Subject	Theory	IA	Total	Clinical	IA	Total	College
1] Surgery Section –I-Gen, Surgery [40] Section –II-Orthopedics [40]	80	20	100	----	----	----	-----
2] Medicine Section –I-Medicine [including Cardiovascular & Respiratory [40] Section-II-Neurosciences [40]	80	20	100	----	----	----	-----
3] Community Health / Sociology / Biostatistics	80	20	100	----	----	----	-----
4] Physical Diagnosis & Manipulative skills	80	20	100	80	20	100	
		Grade			Grade		College exam
5] OBSTETRICS AND GYNAECOLOGY							
6] PAEDIATRICS							
7] DERMATOLOGY							
8] PSYCHIATRIC							

#GRADE A+:75% % & above, A:66<75% B+;:55-<66%, B:50%, C:<50% {FFF}