4th Year B.P.T.

SUBJECT: PHYSIOTHERAPY IN ORTHOPAEDICS

(Subject Code: BPT- 401)

Subject Title & Code	**Physiotherapy in Orthopaedics (BPT- 401)**
Duration **Total Hours** **Theory** **Practical/ Clinical**	**New: 200 Hours** **80** **120**
Total Hrs/week **Lectures** **Practicals/ Clinicals** **Seminars**	**7** **3hrs/week** **4hrs/week**
Method of Assessment	**Theory and Practical**

Objectives : At the endof the course, the candidate will –

1) Be able to identify, discuss & analyze, the Muskulo Skeletal Dysfunction in terms of Biomechanical, Kinesiology & Biophysical bases & correlate the same

with the provisional diagnosis, routine radiological & Electrophysiological investigations & arrive at appropriate Functional diagnosis with clinical reasoning.

2) Be able to plan & Prescribe as well as acquire the skill of executing short & long

term Physiotherapy treatment by selecting appropriate modes of Mobilisation /manipulations, Electro Therapy, Therapeutic exercise & appropriate

ergonomic advise for the relief of pain, restoration/Maintenance of function, &/
or rehabilitation for maximum functional independence in A.D.L. at home & work
place:

Syllabus

1.Following topics are applicable to all the Musculo – skeletal conditions included in
the various clinical subjects of Medical Sciences taught in IIIrd B.P.Th. Evaluation, interpretation of investigations & functional diagnosis (ICIDH2) with appropriate clinical reasoning for planning & implementation of management techniques. Planning, Prescription & Implementation of short term & long term goals with clinical reasoning. Documentation.

2. Fractures - types, classification, signs and symptoms, complications. Fracture healing – factors affecting fracture healing. Principles of fracture management - reduction - open and closed, immobilization - sling, cast, brace, slab, traction - manual, mechanical, skin, skeletal, lumbar and Cervical traction, external fixation, functional cast bracing. PT management in complications - early and late - shock, compartment syndrome, VIC, fat embolism, delayed and mal union, RSD, myositis ossificans, AVN, pressure sores etc. Physiotherapy assessment in fracture cases. Aims of PT management in fracture cases - short and long term goals. Principles of PT management in fractures - Guidelines for fracture treatment during period of immobilization and guidelines for treatment after immobilization period. [10 Hours]

3. Specific fractures and dislocations : PT assessment and management of upper limb fractures and dislocations. PT assessment and management of lower limb fractures and dislocations including pelvis. PT assessment and management spinal fractures. [6 Hours]

4. Selection and application of physiotherapeutic techniques, maneuver's, modalities for
preventive, curative and rehabilitative means in all conditions. [2 Hours]

5. Principles of various schools of thought in manual therapy. (Briefly Maitland and Mc kenzie). [3 Hours]

6. Degenerative and Inflammatory conditions: Definition, signs and symptoms, clinical
features, path physiology, radiological features, deformities, medical, surgical management. Describe the PT assessment and management and home program for the following conditions – Osteoarthritis - emphasis mainly on knee, hip and hand, Rheumatoid Arthritis, Ankylosing spondylitis, Gout, Perthes disease, Periarthritic shoulder. [4 Hours]

7. Infective conditions: Definition, signs and symptoms, clinical features, pathophysiology, radiological features, medical, surgical management. Describe PT assessment and management for following conditions – Osteomyelitis – acute and chronic, Septic arthritis, Pyogenic arthritis, TB spine and major joints - knee and hip.

…….[3 Hours]

8. Define, review the postural abnormalities of spinal column, clinical features, deformities, medical and surgical management. Describe PT assessment and management and home program. [3 Hours]

9. Deformities: Review in detail the causes, signs and symptoms, radiological features, medical and surgical management. Describe the PT. assessment and management of the following conditions : Congenital : CTEV, CDH, Torticollis, pes planus, pes cavus and other common deformities. Acquired: scoliosis, kyphosis, coxa vara, genu varum, valgum and recurvatum. [4 Hours]

11. Poliomyelitis: Definition, etiology, types, pathophysiology, clinical features, deformities, medical and surgical management. PT. assessment and management after surgical corrections and reconstructive surgeries - emphasis on tendon transfer and home program. [2 Hours]

12. Leprosy: Definition, cause, clinical features, medical and surgical management. PT
assessment, aims, and management after surgical procedures such as tendon transfer both pre and post operatively. [2 Hours]

14. Spinal conditions: Review the causes, signs and symptoms, investigations, radiological features, neurological signs. PT assessment, aims, and management and home program of the following conditions: Cervical spondylosis, Lumbar spondylosis, Spondylolisthesis, Spinal canal stenosis, Spondylolysis, Sacro-iliac joint dysfunction, Sacralisation, Lumbarisation, Intervertebral disc prolapse, Coccydynia, Spina bifida occulta. [6 Hours]

15. Effects of spinal traction, types of traction, modes of application, indications for spinal
traction, contraindications, precautions, limitations of traction. [2 Hours]

16. Osteoporosis- causes, predisposing factors, investigations and treatment. [2 Hour]

17. Orthopedic surgeries: Pre and post operative PT assessment, goals, precautions and PT management of following surgeries such as : Arthrodesis, Osteotomy, Arthroplasty-partial and total - Excision arthroplasty, excision arthroplasty with implant, interpositional arthroplasty and total replacement; Tendon transplant, Soft tissue release- tenotomy, myotomy, lengthening; Arthroscopy, Spinal stabilization, Re-attachment of limbs, External fixators, Synovectomy. [6 Hours]

18. Shoulder joint : Shoulder instabilities, TOS, RSD, Impingement syndrome – conservative and Post operative PT management. Total shoulder replacement and Hemi replacement. - Post operative PT management. AC joint injuries - rehabilitation. Rotator cuff tearsconservative and surgical repair. Subacromial decompression - Post operative PT management. [3 Hours]

19. Elbow and forearm: Excision of radial head - Post operative PT management. Total elbow arthroplasty- Post operative PT management. [2 Hours]

20. Wrist and Hand: . Repair of ruptured extensor tendons. Carpal tunnel syndrome. Flexor and extensor tendon lacerations - Post operative PT management. [3Hours]

21. Hip: Joint surgeries - hemi and total hip replacement - Post operative PT management Tendonitis and bursitis. - management. [3 Hours]

22. Knee: Lateral retinacular release, chondroplasty- Post operative management. Realignment of extensor mechanism. ACL and PCL reconstruction surgeries - Post operative rehabilitation. Meniscectomy and meniscal repair - Post operative management. Plica syndrome, patellar dysfunction and Hoffa's syndrome- conservative management. TKR- rehabilitation protocol. Patellar tendon ruptures and Patellectomy- rehabilitation. [6 Hours]

23. Ankle and foot: Ankle instability. Ligamentous tears- Post operative management. …..[3 Hour]

25. Sports Physiotherapy : Physical fitness. Stages of soft tissue healing. Treatment guidelines for soft tissue injuries- Acute, Sub acute and chronic stages. Repair of soft tissues- rupture of muscle, tendon and Ligamen.tous tears. Soft tissue injuries- prevention and rehabilitation of, Lateral ligament sprain of ankle. Rotator cuff injuries. Collateral and Cruciate injuries of knee. Meniscal injuries of knee. Supraspinatus and Bicipital tendonitis . Pre patellar and Subacromial bursitis. Tennis and Golfer's elbow. Hamstring strains, Quadriceps contusion, TA rupture. Dequervain's tenosynovitis. Trigger and Mallet finger. Plantar fasciitis. Wrist sprains….. [6Hours]

Practical/ Clinical: 120 Hours
Practical shall be conducted for all the relevant topics discussed in theory in the following forms:
1. Bedside case presentations and case discussions

2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

Exam Pattern

THEORY-80 MRKS; I.A.-20 MARKS; TOTAL100MARKS

CLINICAL-80 MARKS; I.A -20 MARKS TOTAL-100MARKS

1]-THEORY-Pattern of Paper setting—----------80 marks

Section-A- -M.C.Q Q-1].-[20 X 1] Single best answer ----------20 marks

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

- Q-3]-To answer any THREE out of Four-[3 x5] ------15 marks

Section -C- L.AQ-. Q-4] ----------15 marks

Q-5] ----------15marks

OR

Q-6] ----------15 marks

2] CLINICAL –

Scheme of Examination (Practical Examination) Total 80 Marks

1. Long Case : based on the History 10 marks, Evaluation 10 marks, Treatment

Plan on Patient 20 marks (Total : 40 marks)

2. Short Case : Simulated (20 Marks)

3. Five spots : spots based on, X – ray(limb, spine), Orthosis, Prosthesis, Metal

implants etc 3 minutes each spot and 3 marks per spot (3x5 = 15 Marks)

4. Journal (5 Marks)

INTERNAL ASSESSMENT

THEORY ---------- 20 marks

CLINICAL ----------20 marks

One terminal & one preliminary examination of 80 marks each

[Section A (20 marks), Section B (30 marks), Section C (30 marks)]

Based on pattern of University Examination

160 marks to be converted into 20 & send to University

CLINICAL/ PRACTICAL – Internal Assessment

One terminal & one preliminary examination of 80 marks each

Based on pattern of University Examination

160 marks to be converted into 20 & send to University

Recommended books:

1. Tidy's physiotherapy.
2. Textbook of orthopedics- Cash.
3. Clinical orthopedic rehabilitation- Brotzman.
4. Orthopedic physiotherapy - Jayant Joshi.
5. Physical Rehabilitation Assessment and Treament – O'Sullivan Schmitz
6. Sports physiotherapy- Maria Zuluaga

SUBJECT: PHYSIOTHERAPY IN NEURO-SCIENCES

(Subject Code: BPT- 402)

Subject Title & Code	**PHYSIOTHERAPY IN NEURO-SCIENCES (BPT- 402)**
Duration **Total Hours** **Theory** **Practical**	**New: 230 Hours** **90** **140**

Total Hrs/week **Lectures** **Practicals** **Seminars**	**8** **3hrs/week** **5hrs/week**
Method of Assessment	**Theory and Practical**

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

1) Acquire the knowledge of normal neurodevelopment, with specific reference
to locomotion

2) be able to assess, identify & analyze neuro-motor & psychosomatic dysfunction in terms of alteration in the muscle tone, power, coordination, involuntary movements sensations/perception etc, E.M.G. / N.C. Studies & arrive at functional diagnosis with clinical reasoning.

3) Acquire the skill of application of P.N.F. technique on patients.

4) Be able to plan, prescribe & execute short term & long term treatment, with
special reference to relief of Neuropathic & psycho-somatic pain, mat exercises, functional re-education, gait training, postural & functional training
for A.D.L., ergonomic advise, & parents education in neuro- pediatric care.

5) Be able to prescribe appropriate Orthosis / splints & will be able to fabricate
temporary protective & functional splints.

Syllabus

1.Neurological Assessment: Required materials for examination, Chief complaints, History taking – Present, Past, medical, familial, personal histories, Observation, Palpation, Higher mental function – Consciousness, Orientation, Wakefulness, memory, Speech, Reading, Language, Writing, Calculations, Perception, Left right confusion, Reasoning, and Judgment, Motor Examination – Muscle power, Muscle tone, Spasticity, Flaccidity, Reflexes – Developmental reflexes, deep tendon reflexes, Superficial reflexes, Sensory examination – Superficial, Deep and Cortical sensations, Special tests – Romberg's, Kernig's sign, Brudenzki sign, Tinels's sign, Slum test, Lehermitte's sign, Bells Phenomenon, Gower's sign, Sun set sign, Battle's sign, Glabellar tap sign, etc, Balance examination, coordination examination, Gait analysis – Kinetics & Kinematics (Quantitative & Qualitative analysis), Functional Analysis, Assessment tools & Scales – Modified Ashworth scale, Berg balance scale, FIM, Barthel index, Glasgow coma scale, Mini mental state examination, Rancho Los Amigos Scale for Head injury, APGAR score, ASIA scale, Reflex Grading. Differential diagnosis…….. [14 hours]

2. Neuro therapeutic Techniques/ Approaches – Concepts, Principles, and techniques of the following: NDT, PNF, Vojta therapy, Rood's Sensory motor Approach, Sensory Integration Approach, Brunnstorm movement therapy, Motor Relearning Program and contemporary task oriented approach, Muscle re-education approach and Constraint Induced Movement therapy. [14 hours]

3. Paediatric Neurology: Paediatric Examination, Developmental milestones, developmental reflexes, Neuro developmental screening tests. Evaluation & Management - History, Observation, Palpation, Milestone Examination, developmental reflex Examination, Higher mental function, Cranial nerve

examination, Motor & Sensory examination, Reflex testing, differential Diagnosis, Balance & Coordination examination, Gait analysis, Functional analysis, List of Problems & Complications, short & Long Term goals, Management of systemic complications, Management of Mechanical Complications, Use of various Neurophysiological approaches & Modalities in Risk babies, Minimum brain damage, Developmental disorders, Cerebral palsy, Autism, Down's Syndrome, Hydrocephalus, Chorea, Spina bifida, and syringomyelia. [14 hours]

4. Evaluation and Management of Brain and Spinal Cord Disorders : History, Observation, Palpation, Higher mental function, Cranial nerve examination, Motor & Sensory examination, Reflex testing, differential Diagnosis, Balance & Coordination examination, Gait analysis, Functional analysis, List of Problems & Complications, short & Long Term goals, Management of systemic complications, Management of Mechanical Complications, Use of various Neurophysiological approaches& Modalities in Stroke, Meningitis, Encephalitis, Head Injury, Brain Tumors, Perceptual disorders, Amyotrophic lateral sclerosis, and Multiple sclerosis. [10 hours]

5. Evaluation and Management of Cerebellar, Spinal Cord and Muscle Disorders : History, Observation, Palpation, Motor & Sensory examination, Reflex testing, differential Diagnosis, Balance & Coordination examination, Gait analysis, Functional analysis, List of Problems & Complications, short & Long Term goals, Management of systemic complications, Management of Mechanical Complications, Use of various Neurophysiological approaches& Modalities in Ataxia, Sensory Ataxia, Parkinson's disease, Muscular dystrophy (DMD), Myasthenia Gravis, Eaton-Lambert Syndrome, Spinal tumors, Spinal cord injury, Transverse myelitis, Bladder & Bowel

Dysfunction, Spinal muscular atrophies, Poliomyelitis, Post PolioSyndrome [10 hours]

6. Evaluation and Management of Peripheral Nerve Injuries and Disorders : History,
Observation, Palpation, Motor & Sensory examination, Reflex testing, differential Diagnosis, Balance & Coordination examination, Gait analysis, Functional analysis, List of Problems & Complications, short & Long Term goals, Management of systemic complications, Management of Mechanical Complications, Use of various Neurophysiological approaches& Modalities in Hereditary motor sensory neuropathy, Guillain-Barre syndrome, Brachial plexus palsy, Thoracic outlet syndrome, Lumbosacral plexus lesions, Phrenic & intercostals nerve lesions, Median nerve palsy, Ulnar nerve palsy, Radial nerve palsy, Musculocutaneous nerve palsy, Anterior & Posterior interosseous nerve palsy, Axillary nerve palsy, Long thoracicn nerve palsy, Suprascapular nerve palsy, sciatic nerve palsy, Tibial nerve palsy, Common peroneal nerve palsy, Femoral nerve palsy, Obturator nerve palsy, and Pudental nerve palsy……. [10 hours]

7. Assessment and management of Neurological gaits: Quantitative and Qualitative (Kinetic & Kinematics) analysis, List of Problems, short & Long Term goals, Management of following Neurological Gaits - Hemiplegic gait, Parkinson gait, High step gait, Hyperkinetic gait, Hypokinetic gait, Waddling gait, Scissoring gait, Spastic gait, Choreaform Gait, Diplegic Gait, and Myopathic Gait [9 hours]

8. Pre and Post surgical assessment and treatment following conditions - Spinal disc herniation, Spinal stenosis, Spinal cord trauma, Head trauma, Brain tumors, Tumors of the spine, Spinal cord and peripheral nerves,

Cerebral aneurysms, Subarachnoid hemorrhages, epilepsy, Parkinson's disease, Chorea, Hemiballism, Psychiatric disorders, Malformations of the nervous system, Carotid artery stenosis , Arteriovenous malformations, and Spina bifida [9 hours]

Clinical/ Practical : …….. (140 hours)
shall be conducted for all the relevant topics discussed in theory in the following forms

- Bedside case presentations and case discussions
- Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

Application of appropriate Electro-therapeutic modes for relief of pain & functional re-education with clinical reasoning.
b) Application of skills as P.N.F., Co-ordination & balancing exercise by using techniques based on neuro physiological principles.
c) Tools used for neuro rehabilitation like vestibular balls, tilt board etc.
d) Application of transfer & functional re-education exercise, postural exercise & gait training.
e) Bladder training.
f) Developing a philosophy for caring.
g) Prescription for appropriate orthotic devices & fabrication of temporary splints.
h) lifting techniques, wheel chair modifications, adaptive devices

Exam Pattern

THEORY-80 MRKS; I.A.-20 MARKS; TOTAL100MARKS

CLINICAL-80 MARKS; I.A -20 MARKS TOTAL-100MARKS

1]-THEORY-Pattern of Paper setting—----------80 marks

Section-A- -M.C.Q Q-1].-[20 X 1] Single best answer ----------20 marks

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

- Q-3]-To answer any THREE out of Four-[3 x5] ------15 marks

Section -C- L.AQ-. Q-4] ----------15 marks

Q-5] ----------15marks

OR

Q-6] ----------15 marks

2] CLINICAL –

Scheme of Examination (Practical Examination) Total 80 Marks

1. Long Case : based on the History 10 marks, Evaluation 10 marks, Treatment

Plan on Patient 20 marks (Total : 40 marks)

2. Short Case : Simulated (20 Marks)

3. Five spots : spots based on, X – ray(limb, spine), Orthosis, Prosthesis, Metal

implants etc 3 minutes each spot and 3 marks per spot (3x5 = 15 Marks)

4. Journal (5 Marks)

INTERNAL ASSESSMENT

THEORY ---------- 20 marks

CLINICAL ----------20 marks

One terminal & one preliminary examination of 80 marks each

[Section A (20 marks), Section B (30 marks), Section C (30 marks)]

Based on pattern of University Examination

160 marks to be converted into 20 & send to University

CLINICAL/ PRACTICAL – Internal Assessment

One terminal & one preliminary examination of 80 marks each

Based on pattern of University Examination

160 marks to be converted into 20 & send to University

TEXT BOOKS

1) Cash's Text book for physio Therapist in Neurological disorders-Jaypee bros.

2) Proprioceptive Neuro muscular Faciliation – by Herman Kabat

3) Practical Physical Therapy – Margaret Hollis

4) Therapeutic exercise – by O'Sullivan

5) "Right in the middle" – by Patricia Davis

6) Stroke rehabilitation – by Margaret Johnson

REFERENCE BOOK

1. Therapeutic exercise – by Basmajiian – 5th edn.
2. Physical Rehabilitation – by Krusen
3. Brain's disorders of Nervous systems

SUBJECT: PHYSIOTHERAPY IN GENERAL MEDICAL & SURGICAL CONDITIONS (Subject Code: BPT- 403)

Subject Title & Code	**PHYSIOTHERAPY IN GENERAL MEDICAL & SURGICAL CONDITIONS (BPT- 403)**
Duration **Total Hours** **Theory** **Practical**	**New: 200 Hours** **90** **110**
Total Hrs/week **Lectures** **Practicals** **Seminars**	**7** **3hrs/week** **4hrs/week**
Method of Assessment	**Theory and Practical**

Objectives: At the end of at the course, the candidate will:

1) Identify, discuss & analyze cardio-vascular & pulmonary dysfunction, based
on patho-physiological principles, & arrive at the appropriate functional diagnosis.

2) Acquire knowledge of rationale of basic investigative approaches in the medical system & surgical intervention regimes related to cardio-vascular & pulmonary impairment.

3) Acquire the skill of evaluation & interpretation of functional capacity, using
simple exercise tolerance tests, such as 6 minutes walk test, symptom limited
test.

4) Be able to select strategies for cure care & prevention; adopt restorative &
rehabilitative measures for maximum possible functional independence of a patient at home, work place & in community.
5) Be able to execute the effective Physio Therapeutic measures (with appropriate clinical reasoning) with special emphases to Breathing retraining,
nebulization humidification, bronchial hygiene, General Mobilisation & Exercise
conditioning.
6) Acquire Knowledge of the overview of patients care at the Intensive care area,
artificial ventilation suctioning, positioning for bronchial hygiene & continuous
monitoring of the patient at the Intensive care area.
7) Acquire the skill of basic Cardio-pulmonary resuscitation.
8) Be able to execute the effective physiotherapeutic measures with appropriate
clinical reasoning to improve general surgical and medical condition.

Syllabus:

The following topics are applicable to all the adult & pediatric conditions related to
Cardio-respiratory conditions & Peripheral vascular diseases included in the Clinical

subjects of IIIrd B.P.Th. program.

1) Assessment of Respiratory & haemo-dynamics, by means of assessment of
breath sounds, interpretation of dysfunction by, spirometry / Exercise tolerance test / assessment of thoracic mobility & breathing pattern…… (8 hrs)
2) Interpretation of radiological & Biochemical investigations & co-relate the same with clinical findings…….. (10 hrs)
3) Functional diagnosis of cardio-respiratory dysfunction & associated Movement dysfunction…….. (4 hrs)
4) Planning short / long terms goals with clinical reasoning – documentation of
the conditions given…… (4 hrs)
5) Application of appropriate skills for breathing re-training & bronchial Hygiene,
as preventive (used specifically in preoperative care), restorative & rehabilitative measures…….. (4 hrs)
6) Prescription of appropriate therapeutic exercise program for conditioning….. (5 hrs)
7) Prescription of home program & ergonomic advice/parents education in case
of Pediatric cases with reference to energy cost…… (3 hrs)
8) Importance of life style modification in prevention of IHD…… (2 hrs)
9) Use, application of electro therapeutic modalities for relief of pain, swelling
and wound healing……. (2 hrs)
10) Cardio respiratory changes associated with ageing and fitness Programme……. (3 hrs)

11) Familiarization with concept of quality of life……. (2 hrs)

Physiotherapy management for the following conditions:

1)Cardiac disorders (Congenital, Acquired, Rheumatic, Rhythm Disturbances IHD, Post Cardio-thoracic surgeries)……. (10 hrs)

2)Pulmonary disorders (Obstructive, Restrictive, Occupational & Pediatric, pulmonary infective.) Precautions with HIV…….. (10 hrs)

3)Peripheral Vascular Diseases…….. (2 hrs)

4)Diabetes (Wound, Ulcer, Glycemic control with exercise)…… (2 hrs)

5)Obesity…….. (2 hrs)

6)Amputation…… (4 hrs)

7)Burns…….. (4 hrs)

8)General Surgery (Mastectomy & Abdominal surgery)……. (3 hrs)

9)Intensive care unit suctioning, measures to improve Bronchial Hygiene, Positioning for Bronchial Hygiene, Continuous monitoring of the patient, general
mobilization…… (6 hrs)

CLINICAL …… (110 hrs)

1) Skill to palpate all pulses, rhythm, rate, volume & Heart rate / pulse rate discrepancy.

2) Skill to assess B.P. at various sites, & its Physiological variation, & to assess
Ankle Brachial Index.

3) Skill of exercise testing a) 6/12 min walk, b) symptom limited.

4) Interpretation of

a) Treadmill & Ergo-cycle test findings.

b) ECG, I.H.D. & Blocks,

c) Biochemical analysis-serum enzymes, C.P.K. Levels, L.D.H., S.G.O.T., S.G.P.T., TropominT, Lipid profile, electrolyte balance.

d) Chest x-ray

e) P.F.T. obstructive/restrictive/reversibility

f) A.B.G.

g) R.P.E. Borge's scale

h) Quality of life questionnaires

5) Evaluation & treatment planning, presentation & documentation of ONE Case

Each in :

a) Medical Respiratory condition

b) Pediatric respiratory condition

c) Thoracic Surgical condition

d) Cardiac Medical condition

e) Cardiac Surgical condition

f) Peripheral vascular disorders

g) Abdominal surgical condition

h) Mastectomy / Amputation

SCHEME OF EXAMINATION (Theory)

THEORY-80 MRKS; I.A.-20 MARKS; TOTAL100MARKS

CLINICAL-80 MARKS; I.A -20 MARKS TOTAL-100MARKS

1]-THEORY-Pattern of Paper setting—----------80 marks

Section-A- -M.C.Q Q-1].-[20 X 1] Single best answer ----------20 marks

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

- Q-3]-To answer any THREE out of Four-[3 x5] ------15 marks

Section -C- L.AQ-. Q-4] ----------15 marks

Q-5] ----------15marks

OR

Q-6] ----------15 marks

#- In the subject "Physiotherapy in Cardio-Vascular & Respiratory Sciences"-

L.A.Q - Q-4 in THEORY paper should be based on "P.T. in Cardiovascular OR Pulmonary condition"

2] CLINICAL –

Scheme of Examination (Practical Examination) Total 80 marks

1. Long case – based on the History 10 marks, Evaluation 10 marks, Treatment Plan on patient 20 marks (Total 40 Marks)
2. Short case – simulated (20 Marks)
3. Five spots – Spots based on ABG/X-ray/ ECG/PFT/RPE/Bruces, protocol etc 3 minutes each spot (3x5 = 15 Marks)
4. Journal (5 Marks)

INTERNAL ASSESSMENT

THEORY ---------- 20 marks

CLINICAL ----------20 marks

THEORY

All the following subjects shall follow the same patterns of examination

One terminal & one preliminary examination of 80 marks each

[Section A (20 marks), Section B (30 marks), Section C (30 marks)]

Based on pattern of University Examination

160 marks to be converted into 20 & send to University

CLINICAL/ PRACTICAL – Internal Assessment

One terminal & one preliminary examination of 80 marks each

Based on pattern of University Examination

160 marks to be converted into 20 & send to University

TEXT BOOKS

1) Cash's Textbook for Physiotherapists in Chest, Heart & Vascular diseases

2) Cash's text book in General Medicine & Surgical conditions for Physiotherapists

3) Chest Physical therapy & pulmonary rehabilitation by Donna Frownfilter

4) Brompton's hospital guide

REFERENCE BOOK

Physiotherapy in Cardio – Vascular rehabilitation – Webber

Exercise & the Heart – Wenger

ECG – by P.J. Mehta

Cardiopulmonary Physical Therapy by Irwin Scott

The Brompton Guide to chest physiotherapy DU Gasket [Completed]

Essentials of Cardio Pulmonary Physical Therapy by Hillegass and Sadowsky

Chest Physiotherapy in Intensive Care Unit by Mackenzi

SUBJECT: PHYSIOTHERAPY IN COMMUNITY HEALTH (Subject Code: BPT- 404)

Subject Title & Code	**PHYSIOTHERAPY IN COMMUNITY HEALTH(BPT-404)**
Duration **Total Hours** **Theory** **Practical**	**New: 180** **100** **80**
Total Hrs/week **Lectures** **Practicals** **Seminars**	**7** **3hrs/week** **4hrs/week**
Method of Assessment	**Theory and Practical**

Objectives:

At the end of the course the candidate will:

A. Be able to describe:

i. The general concepts about health, disease and physical fitness.

ii. Physiology of aging process and its influence on physical fitness.

iii. National policies for the rehabilitation of disabled – role of PT.

iv. The strategies to access prevalence and incidence of various conditions responsible for increasing morbidity in the specific community – role of PT in improving morbidity, expected clinical and functional recovery, reasons

for non-compliance in specific community environment solution for the same.
v. The evaluation of disability and planning for prevention and rehabilitation.
vi. CBR in urban and rural set up.

B. Be able to identify with clinical reasoning the prevailing contextual {e.g. environmental and psycho-social cultural} factors, causing high risk responsible
for various dysfunctions and morbidity related to sedentary life style and specific
community like women, children, aged as well as industrial workers and describe
planning strategies of interventional policies to combat such problems.

C. Be able to conduct as small project {cross sectional study / survey} to access to
the prevalence of specific physical health problem and / or morbidity in specific
community – which may be based at the institutional level or in field.

Syllabus

1. Rehabilitation: Definition, Types ……..[1 hour]

2. Community: Definition of Community, Multiplicity of Communities, The Community based approach, Community Entry strategies, CBR and Community development, Community initiated versus community oriented programme, Community participation and mobilization……. [5 hours]

3. Introduction to Community Based Rehabilitation: Definition, Historical review, Concept of CBR, Need for CBR, Difference between Institution based and Community based Rehabilitation, Objectives of CBR, Scope of CBR, Members of CBR team, Models of CBR …….[6 hours]

4. Principles of Community based Rehabilitation: W.H.O.`s policies-about rural health care concept of primary /tertiary health centers-district hospitals etc-Role of P.T.-Principles of a team work of Medical person/P.T./O.T. audiologist/speech therapist /P.&O./vocational guide in C.B.R. of physically handicapped person , Agencies involved in rehabilitation of physical handicapped - Legislation for physically handicapped. Concept of multipurpose health worker. Role of family members in the rehabilitation of a physically handicapped. ……..[10 hours]

5]-Womens` Health-Clinical reasoning for care to be taken during exercises during pregnancy, -Prenatal /antenatal programme-Clinical reasoning for specific breathing exercises/ relaxation/ postural training/ 2]-Geriatrics-Role of Physiotherapy in a Home for the aged.

6]-Fitness & Health promotion--Physiological effects of aerobic exercises – clinical reasoning for advocating aerobic exercises as preventive measure in

Obesity & its related conditions / in cardio-respiratory conditioning/Aging/de-conditioning effect after prolonged bed rest /Diabetes

7] Role of P.T.-Stress management, -Psychological hazards- e.g.- executives, monotonicity & dissatisfaction in job anxiety of work completion with quality, Role of P.T. in Industrial setup & Stress management-relaxation modes-

8] – Industrial health:

A. Ability Management –
Job analysis:- Job description, Job demand Analysis, Task Analysis, Ergonomics Evaluation, Injury Prevention, Employee Fitness Programme.
Disability Management: - Acute care, Concept of Functional Capacity Assessment, Work Conditioning, Work Hardening.
B. Environmental stress in the industrial area – accidents due to
i. Physical agents e.g. heat/cold, light, noise, vibration, UV radiation, ionizing radiation.
ii. Chemical agents- inhalation, local action and ingestion.
iii. Mechanical hazards-overuse/fatigue injuries due to ergonomic alternation and ergonomic evaluation of work place.
C. Mechanical stresses per hierarchy.

I.Sedentary table work-executive's clerk.
ii. Inappropriate seating arrangement-vehicle drivers.
iii. Constant standing- watchman, defense forces,surgeons.
iv. Over execution in laborers-stress management.

D. Psychological hazards e.g. monotonicity and dissatisfaction in job, anxiety of work completion with quality, Role of PT. in industrial set up and stress management relaxation modes.

9. Geriatrics - Physiology of Aging /degenerative changes-Musculoskeletal /Neuromotor /cardio– respiratory-/Metabolic, Endocrine, Cognitive, Immune systems. Role of Physio Therapy in Hospital based care, Half-way homes, Residential homes, Meals on wheels etc. Home for the aged, Institution based Geriatric Rehabilitation. Few conditions:- Alzheimer's disease, Dementia, Parkinson's Disease, Incontinence, Iatrogenic drug reactions, etc. Ethics of Geriatric Rehabilitation. [9 hours]

10. Disaster management & Rehabilitation with difference segments.

11.CBR strategies in Urban are e.g. i. UHC, community centre, clubs, mahila mandals,
Social centers, Schools, industries, sports centers, Rural area- by using PHC / rural hospital, district hospital / in infrastructure.

Practical/ Clinical: 80 Hours

This will consist of Field visits to urban and rural PHC's., Visits to regional rehabilitation
training center, Regular mobile camps, Disability surveys in villages, Disability screening, Demonstration of Evaluation and Physiotherapy prescription techniques for musculoskeletal, neuromuscular, cardio-respiratory, paediatric, gynecological and geriatric problems in community, Demonstration of evaluation and prescription techniques for ambulatory and assistive devices, Fabrication of low cost assistive devices with locally available materials.

Evaluation, treatment planning, presentation, & documentation of minimum Two cases Each in-1] Antenatal & Postnatal case,

2]-Gynaecological condition

3]-Geriatric condition,

4]-Obesity/ Fitness,

5]-Occupational musculoskeletal or respiratory lesion

SCHEME OF EXAMINATION (Theory)

THEORY-80 MRKS; I.A.-20 MARKS; TOTAL100MARKS

CLINICAL-80 MARKS; I.A -20 MARKS TOTAL-100MARKS

1]-THEORY-Pattern of Paper setting—----------80 marks

Section-A- -M.C.Q Q-1].-[20 X 1] Single best answer ----------20 marks

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

- Q-3]-To answer any THREE out of Four-[3 x5] ------15 marks

Section -C- L.AQ-. Q-4] ----------15 marks

Q-5] ----------15marks

OR

Q-6] ----------15 marks

#- In the subject "PHYSIOTHERAPY IN COMMUNITY HEALTH"-

2] CLINICAL –

Scheme of Examination (Practical Examination) Total 80 marks

1. Long case – based on the History 10 marks, Evaluation 10 marks, Treatment Plan on patient (Total 40 Marks)
2. Short case – simulated (20 Marks)
3. Short Project viva- 20 Marks

INTERNAL ASSESSMENT

THEORY ---------- 20 marks

CLINICAL ----------20 marks

THEORY

All the following subjects shall follow the same patterns of examination

One terminal & one preliminary examination of 80 marks each

[Section A (20 marks), Section B (30 marks), Section C (30 marks)]

Based on pattern of University Examination

160 marks to be converted into 20 & send to University

CLINICAL/ PRACTICAL – Internal Assessment

One terminal & one preliminary examination of 80 marks each

Based on pattern of University Examination

160 marks to be converted into 20 & send to University

SUBJECT: PHYSIOTHERAPY IN PROSTHESIS & ORTHOSIS/ PROFESSIONAL ISSUES / ADMINISTRATION /MANAGEMENT& MARKETING (Subject Code: BPT-405)

(TOTAL: 70 Hours)

A. PHYSIOTHERAPY IN PROSTHESIS & ORTHOSIS

Subject Title & Code	**PHYSIOTHERAPY IN PROSTHESIS & ORTHOSIS (BPT- 405)**
Duration **Total Hours** **Theory**	**New: 35 hrs**
Total Hrs/week	**2 hrs**
Method of Assessment	**Theory**

Objectives at the end of the course , the candidate shall

1] acquire knowledge about biomechanical principles, of application of variety of

aids & appliances used for ambulation, protection & prevention

2] acquire in brief knowledge about various material used for splints/Orthosis &

prostheses--selection criteria

3] acquire the skill of fabrication of simple splints made out of low cost material

Syllabus

1]-Classification of Aids & appliances…… (3 hrs)

2]-Biomechanical principles in designing of appliances & assessment Procedures for static & dynamic alignment of the following—Aids & appliances /Splints / orthosis……. (3hrs)

3] Orthoses –for Spine, Upper limb & Lower limb…….. (8 hrs)

4] Amputations: Definition, levels, indications, types, PT assessment, aims, management pre and post operatively. PT management with emphasis on stump care and bandaging. Pre and post prosthetic training, checking out prosthesis, complications of amputations and its management. [3 Hours]

5] Prostheses- for Lower limbs and Upper limb ……..(8 hrs)

6] Project-Temporary splints –to fabricate ONE splint each - [to use P.O.P, aluminum strips /sheets /wires rubber bands, rexine, Orfit etc] -a]-cock up [dorsal/volar, b]-outrigger splint……. (3 hrs)

7]-Opponance splint, Foot drop splint , Mallet Finger, Splint…… (1hour)

8] Recent Advances in Prosthetic components of Lower & Upper Limb….. (2 hrs)

9] Prescriptive wheel chair & Modification according to patients…….. (3 hrs)

10] Field visit compulsory to Artificial limb Center. ……..(4 hrs)

Recommended books:

1. Susan O' Sullivan 4th edition 2009
2. Bella J. May : Amputation and Prosthesis

3. Atlas of Orthosis 3rd Edition 2006

B. PROFESSIONAL ISSUES / ADMINISTRATION /MANAGEMENT& MARKETING

Subject Title & Code	**PROFESSIONAL ISSUES / ADMINISTRATION/MANAGEMENT& MARKETING**
Duration **Total Hours** **Theory**	**New: 35 hrs**
Total Hrs/week	**2 hrs**
Method of Assessment	**Theory**

Objectives:

1.This course is aimed to enable the candidate to acquire the knowledge of ethical
code of professional practice ,as well as its moral & legal aspects; & role of W.H.O.& W.C.P.T.

2. At the end of the course the student will acquire the knowledge of the basics in Managerial & Management skills, & use of Information technology in
professional

Contents:

Professional issues / Ethics

1] Concepts of morality, Ethics & Legality-rules of professional conduct & their Medico- legal & moral implications-The need of Council Act for Physiotherapy (4 hrs)

2] IAP - Memorandum Of Association & Rules And Regulations(2 hrs)

3] Functioning of the World Confederation of Physical therapy[W.C.P.T.] & its various branches-Special Interest groups [brief] (1 hour)

4] Role of W.H.O.& WCPT (1 hour)

5] Legal aspects: Consumer protection act, [2 hours]

ADMINISTRATION / MANAGEMENT & MARKETING

Syllabus-

1] Management studies related to –local health care organization management & structure,-planning delivery with quality assurance & funding of service delivery -information technology -Time management -career development in Physiotherapy…… (10 hours)

2] Administration-principles-based on the Goal & functions -at large hospital set up / domiciliary services/ private clinic /academic (3hrs)

3] Methods of maintaining records…… (2 hrs)

4] Budget-planning…… (5hrs)

5] Performance analysis--physical structure / reporting system [man power / status /functions / quantity & quality of services/turn over-cost benefitrevenue
contribution…… (5hrs)

Internal Assessment –

PHYSIOTHERAPY IN PROSTHESIS & ORTHOSIS

1) 2 Mid – Term Exam of MCQ's of 10 Marks

1) Term Exam (40 Marks)

10 Marks – MCQ's

15 Marks – Short Answer Questions; 3 Marks Each. Total Question – 6/5 to be Attempted.

15 Marks – Long Essay Questions.

2) Prelim. Exam - Same pattern as Term Exam.

ADMINISTRATION / MANAGEMENT & MARKETING/ Ethics

1) 2 Mid – Term Exam of MCQ's of 10 Marks ……...

2) Term Exam (40 Marks)

10 Marks – MCQ's

15 Marks – Short Answer Questions; 5 Marks Each. Total Question – 3/4 to be Attempted.

15 Marks – Long Essay Question (Any 1out of 2).

3) Prelim. Exam - Same pattern as Term Exam.

Final University Exam

THEORY-80 MRKS; I.A.-20 MARKS; TOTAL100MARKS

Section A: PHYSIOTHERAPY IN PROSTHESIS & ORTHOSIS (40 Marks)

10 Marks – MCQ's

15 Marks – Short Answer Questions; 3 Marks Each. Total Question – 6/5 to be Attempted.

15 Marks – Long Essay Questions

Section B: ADMINISTRATION / MANAGEMENT & MARKETING/ Ethics (40 Marks)

10 Marks – MCQ's

15 Marks – Short Answer Questions; 3 Marks Each. Total Question – 6/5 to be Attempted.

15 Marks – Long Essay Question (1 Compulsory).

Recommended books:

1. Medical Ethics by C M Francis.

3. Consumer Protection Act – 1986, Government of India, New Delhi.

5. Davies, R and Macaulay, BMC – Hospital Planning and Adminstration

6. Health Services Management, Analysis& Application , Wadsworth Publishing Company,Belmont