

# Vocational Curriculum – 2012

(With effect from the academic year 2012-2013)

## Curriculum of Intermediate Vocational Course In PHYSIOTHERAPY



**State Institute of Vocational Education**

**O/o the Commissioner of Intermediate Education,  
Andhra Pradesh, Hyderabad**

**&**

**Board of Intermediate Education,  
Andhra Pradesh, Hyderabad**

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**1. INTRODUCTION**

Physiotherapy is the branch of modern medical science that has wide application in various fields.

A qualified Physiotherapist whether a technician or a bachelor of PT, can have a satisfying career in Orthopedics, Neurology, Sports Medicine, pre and post natal exercise, gynecology, Geriatrics, pediatrics, ENT dermatology etc.

Various methods of treatments are employed to treat ailments. Exercises are prescribed depending upon the patient's condition. Thorough assessments are made and comparisons with the previous results are made throughout the course of the treatment.

Emphasis is placed upon making the patient independent and self-sufficient as early as possible. The patient should get back to normal activities as early as possible.

Considering the wide scope that this field has got and the number of people requiring rehabilitation, it is natural that more and more people get quality practical training to be efficient Physiotherapists.

## II. Objectives of the Course:

### I. General Objectives:

1. To prepare the students enable to assist the Physiotherapist and occupational therapist in district hospitals, General Hospitals Rehabilitation Centers and teaching hospitals ,where in the complicated procedure and techniques can be handled by qualified therapists , and routine and elementary procedures can be entrusted to these middle level workers, thereby relaxing the qualified therapist from routine jobs.
2. To prepare the students to assist the doctor in the PHC/Rural Rehabilitation Centers.

### II. Instructional objectives:

1. To prepare the students to identify loco motor disability and mental disability including cases of drug addiction.
2. To prepare the students to give exercise and to use simple physio- occupational therapy procedure.
3. To prepare the study to carry out simple Electrotherapy and hydrotherapy procedure.
4. To make simple aids, self help devices and splints.
5. To maintain and care P.T/O.T equipments.
6. To educate the community in prevention, early detection and rehabilitation.

### III. SKILLS

1. Recognize various systems of function of body parts.
2. Proper use and handling of equipments.
3. Develop skills in
  - i) Massage
  - ii) Hydrotherapy
  - iii) Electrical stimulation
  - iv) Exercise therapy
  - v) Post operative Exercise etc.

### IV. Job Opportunities

1. As assistant Physiotherapist in:  
Rehabilitation Center  
Health Club  
General hospitals  
Private Physiotherapy Center  
Physiotherapy Colleges  
Nature Cure Clinics  
Gymnasiums, Stadiums [Stadium for sports physic]
2. Under the Supervision of qualified Physiotherapist they can start a Physiotherapy clinic can be personal Attendant for disable persons.

**V. SCHEME OF INSTRUCTION AND EXAMINATION****5.1 ANNUAL SCHEME OF INSTRUCTION AND EXAMINATION FOR  
1<sup>ST</sup> YEAR PHYSIOTHERAPY COURSE**

| Part-A        |  | Theory     |            | Practicals |            | Total       |            |
|---------------|--|------------|------------|------------|------------|-------------|------------|
|               |  | Periods    | Marks      | Periods    | Marks      | Periods     | Marks      |
| 1.            | English  | 150        | 50         | -          | -          | 150         | 50         |
| 2.            | General Foundation course                              | 150        | 50         | -          | -          | 150         | 50         |
| <b>Part-B</b> |  |            |            |            |            |             |            |
| 3.            | <b>Paper-1</b><br>Anatomy and Physiology               | 135        | 50         | 135        | 50         | 270         | 100        |
| 4.            | <b>Paper-II</b><br>Psychology and Abnormal Psychology. | 135        | 50         | 135        | 50         | 270         | 100        |
| 5.            | <b>Paper-III</b><br>Biomechanics and Exercise Therapy. | 135        | 50         | 135        | 50         | 270         | 100        |
| 6.            | <b>OJT</b>   | -          | -          | 365        | 100        | 365         | 100        |
| <b>Total</b>  |  | <b>705</b> | <b>250</b> | <b>770</b> | <b>250</b> | <b>1475</b> | <b>500</b> |

**II. on the Job Training[From 1<sup>st</sup> november to 31<sup>st</sup> December]****II YEAR PHYSIOTHERAPY COURSE**

| Part-A          |  | Theory     |            | Practicals |            | Total       |            |
|-----------------|--|------------|------------|------------|------------|-------------|------------|
|                 |  | Periods    | Marks      | Periods    | Marks      | Periods     | Marks      |
| 1.              | English  | 150        | 50         | -          | -          | 150         | 50         |
| 2.              | General Foundation course                        | 150        | 50         | -          | -          | 150         | 50         |
| <b>Part-B</b>   |  |            |            |            |            |             |            |
| 3.              | <b>Paper-1</b><br>Medical and Surgical Condition | 110        | 50         | 115        | 50         | 225         | 100        |
| 4.              | <b>Paper-II</b><br>Orthopedics and Neurology     | 110        | 50         | 115        | 50         | 225         | 100        |
| 5.              | <b>Paper-III</b><br>Electrotherapy.              | 110        | 50         | 115        | 50         | 225         | 100        |
| 6.              | <b>OJT</b>                                       | -          | -          | 450        | 100        | 450         | 100        |
| <b>Total</b>    |  | <b>630</b> | <b>250</b> | <b>795</b> | <b>250</b> | <b>1425</b> | <b>500</b> |
| <b>I+II+III</b> |  |            |            |            |            | <b>1000</b> |            |

on the Job Training[From 1<sup>st</sup> november to 31<sup>st</sup> December]

**EVALUATION OF ON THE JOB TRAINING:**

The “On the Job Training” shall carry 100 marks for each year and pass marks is 50. During on the job training the candidate shall put in a minimum of 90 % of attendance.

The evaluation shall be done in the last week of January.

**Marks allotted for evaluation:**

| S.No | Name of the activity                | Max. Marks allotted for each activity |
|------|-------------------------------------|---------------------------------------|
| 1    | Attendance and punctuality          | 30                                    |
| 2    | Familiarity with technical terms    | 05                                    |
| 3    | Familiarity with tools and material | 05                                    |
| 4    | Manual skills                       | 05                                    |
| 5    | Application of knowledge            | 10                                    |
| 6    | Problem solving skills              | 10                                    |
| 7    | Comprehension and observation       | 10                                    |
| 8    | Human relations                     | 05                                    |
| 9    | Ability to communicate              | 10                                    |
| 10   | Maintenance of dairy                | 10                                    |
|      | <b>Total</b>                        | <b>100</b>                            |

**NOTE:** The On the Job Training mentioned is tentative. The spirit of On the Job training is to be maintained. The colleges are at liberty to conduct on the job training according to their local feasibility of institutions & industries. They may conduct the entire on the job training periods of (363) I year and (450) II year **either by conducting classes in morning session and send the students for OJT in afternoon session or two days in week or weekly or monthly or by any mode which is feasible for both the college and the institution.** However, the total assigned periods for on the job training should be completed. The institutions are at liberty to conduct On the Job training during summer also, however there will not be any financial commitment to the department.

## SCHEME OF INSTRUCTION PER WEEK

|    | <b>Part-A</b>             | <b>Theory</b> | <b>Practicals</b> | <b>Total</b> |
|----|---------------------------|---------------|-------------------|--------------|
| 1. | English                   | 4             | -                 | 4            |
| 2. | General Foundation Course | 4             | -                 | 4            |
|    | <b>Part-B</b>             |               |                   |              |
| 3. | Paper –I                  | 4             | 4                 | 8            |
|    | Paper-II                  | 4             | 4                 | 8            |
|    | Paper-III                 | 4             | 4                 | 8            |
|    | <b>Total</b>              | <b>20</b>     | <b>12</b>         | <b>32</b>    |

**PHYSIOTHERAPY**  
I YEAR  
PART B – VOCATIONAL SUBJECTS  
**PAPER – I: ANATOMY & PHYSIOLOGY (THEORY)**

Theory: 135hours

Marks: 50

| S.No | NAME OF THE UNIT   | No. Of Periods | Weightage in marks | Short answer questions | Essay/ Problem questions |
|------|--|----------------|--------------------|------------------------|--------------------------|
| 1    | <b>Emphasis to be placed on Topographical , skeletal, Neuro Muscular and functional aspects of Anatomy</b><br>a) Planes of the Human body<br>b) Systems of the body<br>c) The Units of structure and Functions of Cell   | 5              | 4                  | 2                      | -                        |
| 2.   | <b>Osteology</b><br>a) Anatomical Position , planes, surfaces, relationship of parts of the body – proximal and distal<br>b) Bones- Types of bones, Function, repair, structure of long bone, vertebral column, types of vertebral bones and surface land marks.         | 8              | 6                  | -                      | 1                        |
| 3.   | <b>Arthology</b><br>a) Classification of Joints<br>b) Construction of Joints<br>c) Motions of Joints<br>d) Articulations – articular surfaces and types of joints  | 8              | 6                  | -                      | 1                        |
| 4.   | <b>Myology</b><br>a) Types of Muscle tissue and Fascia<br>b) Muscles of upper extremity, lower extremity, trunk, eye and face etc.<br>c) Origin, function, nerve supply and actions<br>d) Muscle spindle in detail   | 9              | 6                  | -                      | 1                        |
| 5.   | <b>Cardio-vascular system</b><br>a) The heart main arteries, veins and capillaries<br>b) Lymphatic circulation   | 5              | 8                  | 1                      | 1                        |
| 6.   | <b>Nervous System</b><br>a) Division and function of Nervous System<br>b) Nerve tissue- neuron , nerve fiber<br>c) Spinal cord, brain, and their structure<br>d) Name the peripheral and cranial nerves, supplying the major functional group<br>e) Cerebra Spinal Fluid | 10             | 8                  | 1                      | 1                        |
| 7.   | <b>Respiratory System</b><br>a)Anatomy of respiratory organs, Air  | 5              | 2                  | 1                      |                          |



| S.No       | NAME OF THE UNIT   | No. Of Periods | Weightage in marks | Short answer questions | Essay/ Problem questions |
|------------|--|----------------|--------------------|------------------------|--------------------------|
|            | passages, lungs, bronchial tree and segments   |                |                    |                        |                          |
| <b>8.</b>  | <b>Digestive System</b><br>a. Anatomy of Digestive organs, Oesophagus stomach, intestines<br>b. The digestive glands   | <b>5</b>       | <b>2</b>           | <b>1</b>               |                          |
| <b>9.</b>  | <b>Urinary System:</b><br>a) Anatomy of urinary organs, kidney, urinary bladder.   | <b>3</b>       | <b>2</b>           | <b>1</b>               | -                        |
| <b>10</b>  | <b>Reproductive System</b><br>a) Male and female reproductive organs physiology.   | <b>5</b>       | <b>2</b>           | <b>1</b>               | -                        |
|            | <b>Physiology</b>  |                |                    |                        |                          |
| <b>11.</b> | <b>Animal Cell</b>   | <b>1</b>       |                    |                        |                          |
| <b>12.</b> | <b>Blood</b><br>a) Composition of blood – plasma, coagulation phenomenon, blood groups   | <b>3</b>       | <b>2</b>           | <b>1</b>               | -                        |
| <b>13.</b> | <b>Heart and circulation</b><br>a) Properties of heart muscles<br>b) cardiac cycle<br>c) Heart sounds<br>d) B.P.   | <b>5</b>       | <b>8</b>           | <b>1</b>               | <b>1</b>                 |
| <b>14.</b> | <b>Respiration</b><br>a) Mechanism of breath<br>b) Lung volumes and capacities.<br>c) Dyspnoea   | <b>6</b>       | <b>8</b>           | <b>1</b>               | <b>1</b>                 |
| <b>15.</b> | <b>Neuromuscular system</b><br>a) Phenomenon of Muscle contraction<br>b) Change in body during exercise.<br>c) synapse<br>d) Neuro muscular junction<br>e) Degeneration and generation of nerves<br>f) C.N.S 5 hrs.<br>a. Functions of Hypothalamus<br>b. Cerebellum<br>c. Thalamus<br>d. Basal ganglia. | <b>5</b>       | <b>15</b>          | <b>2</b>               | <b>1</b>                 |
| <b>16.</b> | <b>Metabolism of fat, carbohydrates proteins</b>   | <b>3</b>       |                    |                        |                          |
| <b>17.</b> | <b>Excretory System</b><br>a) Functions of kidney<br>b) Micturation phenomenon<br>c) Skin functions and temperature regulation   | <b>6</b>       | <b>2</b>           | <b>1</b>               |                          |

| S.No | NAME OF THE UNIT   | No. Of Periods | Weightage in marks | Short answer questions | Essay/ Problem questions |
|------|--|----------------|--------------------|------------------------|--------------------------|
| 18.  | <b>Endocrine system</b><br>a) Function of pancreas, pituitary and Thyroid.   | 5              | 2                  | 1                      |                          |
| 19.  | <b>Reproductive system</b><br>a) Menstruation<br>b) Physiological Changes during pregnancy<br>c) Contraceptive method. | 5              | 2                  | 1                      |                          |

**PHYSIOTHERAPY  
ANATOMY & PHYSIOLOGY  
1<sup>ST</sup> YEAR  
PART-B (VOCATIONAL)  
PAPER-1 (PRACTICALS)**

Theory : 135 hrs

Marks: 50

| S.NO.             | Name of the unit   | No.of periods | Weight age in marks |  |  |
|-------------------|--|---------------|---------------------|--|--|
| 1.                | Identification and description of skeletal system and joints | 35            | 15                  |  |  |
| 2.                | Demonstration of Thorax with organs in situations            | 10            | 5                   |  |  |
| 3.                | Identification of various organs with the abdomen            | 10            | 5                   |  |  |
| 4.                | Description of brain and peripheral nerves                   | 20            | 5                   |  |  |
| 5.                | Records of various system diagram and labeling               | 10            | -                   |  |  |
| <b>PHYSIOLOGY</b> |  | <b>50</b>     |                     |  |  |
| 1.                | Study of Microscope  | 5             | 5                   |  |  |
| 2.                | Recording of changes during exercise.                        |               |                     |  |  |
|                   | a) B.P.  | 5             | 5                   |  |  |
|                   | b) Pulse rate  | 5             | 5                   |  |  |
|                   | c) Respiratory rate  | 5             |                     |  |  |
| 3.                | Recording of B.P.  | 10            | 2                   |  |  |
| 4.                | T.P.R. Description   | 10            | 2                   |  |  |
| 5.                | Records of various physiological system with labels          | 10            | 1                   |  |  |

**PHYSIOTHERAPY**  
I YEAR  
PART B – VOCATIONAL SUBJECTS  
**PAPER – II: PSYCHOLOGY & ABNORMAL PSYCHOLOGY (THEORY)**

Theory: 135 hours

Marks : 50

| S.No | NAME OF THE UNIT  | No. Of Periods | Weightage in marks | Short answer questions | Essay/ Problem questions |
|------|---|----------------|--------------------|------------------------|--------------------------|
| 1    | What is psychology                                      | 5              | 8                  | 1                      | 1                        |
| 2.   | Behavior<br>a) Types of abnormal behaviors              | 10             | 8                  | 1                      | 1                        |
| 3.   | Intelligence<br>a) Evaluation, Mental Retardation, I.Q. | 8              | 8                  | 1                      | 1                        |
| 4.   | Aptitudes   | 8              | 8                  | 1                      | 1                        |
| 5.   | Motivation<br>a) Types and methods                      | 8              | 8                  | 1                      | 1                        |
| 6.   | Personality development, assessment and disorder        | 8              | 8                  | 1                      | 1                        |
| 7.   | Learning  | 8              | 2                  | 1                      | -                        |
| 8.   | Remembering and forgetting.                             | 8              | 2                  | 1                      | -                        |
| 9.   | Thinking perception and attending.                      | 8              | 6                  | -                      | -1                       |
| 10.  | Individual differences                                  | 8              | 2                  | 1                      | -                        |
| 11.  | Frustrations and conflicts                              | 8              | 2                  | 1                      | -                        |
| 12.  | Psycho neurotic and psychosomatic disorder              | 8              | 2                  | 1                      | -                        |
| 13.  | Child adolescent and geriatric psychology               | 10             | 6                  | -                      | 1                        |
| 14.  | Alcoholism and drug addiction                           | 10             | 2                  | 1                      | -                        |
| 15.  | Menopausal syndrome.                                    | 5              | 2                  | 1                      | -                        |
| 16.  | Functional psychosis.                                   | 10             | 6                  | -                      | 1                        |

135

**PHYSIOTHERAPY**  
I YEAR  
PART B – VOCATIONAL SUBJECTS  
**PAPER – II: PSYCHOLOGY & ABNORMAL PSYCHOLOGY (PRACTICALS)**

Theory: 135 hours

Marks: 50

| S.No | NAME OF THE UNIT   | No. Of Periods | Weightage in marks |  |  |
|------|--|----------------|--------------------|--|--|
| 1.   | Intelligence Evaluation  | 20             | 10                 |  |  |
| 2.   | Intelligence test  | 20             | 5                  |  |  |
| 3.   | Binets scale & Stanford Binet scale  | 20             | 5                  |  |  |
| 4.   | Personality evaluation<br>a) Human Figure test, drawing, painting & play<br>b) Wechrlers memory scale. | 20             | 10                 |  |  |
| 5.   | Visits to psychiatric institutions.  | 20             | 5                  |  |  |
| 6.   | Evaluation of psychiatric patients.<br>a) Patients with different behavioral disorders.                | 15             | 5                  |  |  |
| 7.   | Treatment of patients with Alcoholism and drug addiction.  | 10             | 5                  |  |  |
| 8.   | Treating different psychiatric conditions under supervision of psychiatrist.                           | 10             | 5                  |  |  |

135

**PHYSIOTHERAPY**  
I YEAR  
PART B – VOCATIONAL SUBJECTS  
**PAPER – III: BIOMECHANICS & EXERCISE THERAPY (THEORY)**

Theory : 135 hours

Marks : 50

| S.No      | NAME OF THE UNIT   | No. Of Periods | Weightage in marks | Short answer questions | Essay/ Problem questions |
|-----------|--|----------------|--------------------|------------------------|--------------------------|
| <b>I.</b> | <b>Biomechanics:</b>   |                |                    |                        |                          |
| 1.        | Mechanical Principles<br>Definition of Biomechanics, Axis and planes, kinematics, kinetics, gravity, center of gravity, line of gravity, base of support, equilibrium, fixation and stabilization, force, type of forces, levers of the body and their mechanical advantage, pulleys, springs, elasticity, types of muscle contraction, range of muscle work the group action of muscles, limb length measurement. | 10             | 4                  | 2                      | -                        |
| 2.        | Gait Analysis<br>Definition, stages of gait, pathological gaits  | 10             | 8                  | 1                      | 1                        |
| <b>II</b> | <b>Exercise Therapy:</b><br>Introduction to Physiotherapy – role of physiotherapy General considerations, principles of treatment- Methods and effects.  | <b>1</b>       | -                  | -                      | -                        |
| 1.        | Starting positions   | 2              | 2                  | 1                      | -                        |
| 2.        | An introduction to exercise therapy:<br>Aims of exercise therapy, techniques of exercise therapy Goniometry in detail.   | 10             | 6                  | -                      | 1                        |
| 3.        | Passive Movements<br>Definition, classification, principles effects and uses of passive movements.   | 5              | 6                  | -                      | 1                        |
| 4.        | Active Movements<br>Definition, classification, techniques, effects and uses of active movements.  | 10             | 6                  | -                      | 1                        |
| 5.        | Relaxation<br>Definition, techniques of general and local relaxation   | 20             | 6                  | -                      | 1                        |
| 6.        | Joint Mobility<br>Introduction, classification of Joints, limitation of joint range of motion, mobilizing methods, Hip, Knee and Ankle.  | 10             | 6                  | -                      | 1                        |

|     |   |    |   |   |   |
|-----|---|----|---|---|---|
| 7.  | Muscle strength<br>Introduction type of muscle work, range of muscle work, muscular weakness and paralysis, prevention of muscle wasting.   | 10 | 6 | - | 1 |
| 8.  | Stretching.<br>Definition, classification, effects and uses.  | 5  | 2 | 1 | - |
| 9.  | Neuromuscular coordination<br>Frankel's Exercises.  | 2  | 2 | 1 | - |
| 10. | Proprioceptive Neuromuscular facilitation<br>Definition, classification, effects and uses   | 5  | 2 | 1 | - |
| 11. | Hydro Therapy<br>Definition, indications, contraindications, dangers and precautions.   | 3  | 2 | 1 | - |
| 12. | Breathing exercises, postural drainage.   | 7  | 2 | 1 | - |
| 13. | Posture<br>Definition, classification, postural training.   | 4  | 2 | 1 | - |
| 14. | Suspension therapy [ types] Mat exercises, Re-education board, Swiss ball, shoulder wheel, CMP, finger ladder, parallel bars, medicine balls, equilibrium board [ definition, uses of all the above equipments] | 10 | 2 | 1 | - |
| 15. | Walking aids and gait training  | 3  | 2 | 1 | - |
| 16. | Massage in detail.  | 8  | 6 | - | 1 |

**PHYSIOTHERAPY**  
**I YEAR**  
**PART B – VOCATIONAL SUBJECTS**  
**PAPER – III: BIOMECHANICS & EXERCISE THERAPY (PRACTICALS)**

Theory: 135 hours

Marks: 50

| S.No | NAME OF THE UNIT   | No. Of Periods | Weightage in marks |  |  |
|------|--|----------------|--------------------|--|--|
| 1.   | Description of Exercise Therapy equipments and its uses.       | 5              | 5                  |  |  |
| 2.   | Passive Movements, Active movements [ resisted exercise]       | 25             | 5                  |  |  |
| 3.   | Gait and Gait training   | 10             | 5                  |  |  |
| 4.   | Goniometry, suspension therapy                                 | 25             | 10                 |  |  |
| 5.   | Joint mobilization technique<br>Shoulder, elbow, hip and knee. | 15             | 5                  |  |  |
| 6.   | Muscle strengthening techniques                                | 15             | 5                  |  |  |
| 7.   | Breathing Exercises, postural drainage                         | 15             | 5                  |  |  |
| 8.   | Massage  | 15             | 5                  |  |  |
| 9.   | Manual Muscle testing.   | 10             | 5                  |  |  |

135



**PHYSIOTHERAPY**  
**II YEAR**  
**PART B – VOCATIONAL SUBJECTS**  
**PAPER – I: MEDICAL & SURGICAL CONDITIONS (THEORY)**

Theory: 110 hours

Marks: 50

| S.No | NAME OF THE UNIT  | No. Of Periods | Weightage in marks | Short answer questions | Essay/ Problem questions |
|------|---|----------------|--------------------|------------------------|--------------------------|
|      | <b>General Medicine with Physiotherapy Management</b>   |                |                    |                        |                          |
| 1.   | Infectious Diseases – Bones and Joints  | 15             | 8                  | 1                      | 1                        |
| 2.   | Nutritional Disorders<br>Rickets, scurvy, Osteo malacia and osteoporosis  | 6              | 4                  | 2                      |                          |
| 3.   | Respiratory disorders<br>Asthma<br>Bronchitis<br>Emphysema<br>Bronchiectasis  | 7              | 6                  |                        | 1                        |
| 4.   | Cardio Vascular disorders<br>Myocardial infraction<br>Angina<br>Congenital heart diseases<br>Ischechemic heart diseases | 15             | 10                 | 2                      | 1                        |
| 5.   | Endocrinal disorders<br>Dwarfism<br>Gigantism   | 3              | 2                  | 1                      |                          |
| 6.   | Tetanus   | 3              | 2                  | 1                      |                          |
| 7.   | Gas Gangrene  | 3              | 2                  | 1                      |                          |
| 8.   | S.T.D<br>AIDS, Syphilis, Gonorrhoea   | 3              | 2                  | 1                      |                          |
| 9.   | Leprosy and tuberculosis  | 5              | 6                  |                        | 1                        |
|      | <b>Surgery with Management</b>  |                |                    |                        |                          |
|      | Types of incisions  | 3              | 14                 | 1                      | 2                        |
|      | Anaesthesia Types   | 2              |                    |                        |                          |
|      | Burns-Classification, degree of burns   | 10             |                    |                        |                          |
|      | Contractures, skin graft and flaps.   |                |                    |                        |                          |
|      | Pre and post operative physiotherapy Management for following surgeries   | 5              | 2                  | 1                      |                          |
|      | Cardiac surgery   | 5              | 6                  |                        | 1                        |
|      | Respiratory Surgery   |                |                    |                        |                          |
|      | 3) Knee Replacement   |                |                    |                        |                          |
|      | <b>Gynaecology</b>  | <b>8</b>       | <b>6</b>           |                        | <b>1</b>                 |

|  |  |           |          |          |          |
|--|--|-----------|----------|----------|----------|
|  | 1. Various stages of Labour and clinical Management<br>2. Physiological changes during pregnancy and physiotherapy Management  |           |          |          |          |
|  | <b>Pediatrics</b>  | <b>15</b> | <b>8</b> | <b>1</b> | <b>1</b> |
|  | 1. cerebral palsy and Pt Management<br>2. Developmental milestones<br>3. Hydro Cephalous and meningocele.<br>4. Polio-Causes, Stages, prevention medical and P.T. Management |           |          |          |          |
|  | Dermatology  | 5         | 4        | 2        |          |
|  | Dermality, Eczema, acne, Psoriasis, Leucoderma, Alopecia.  |           |          |          |          |

110

**PHYSIOTHERAPY**  
**II YEAR**  
**PART B – VOCATIONAL SUBJECTS**  
**PAPER – I: MEDICAL & SURGICAL CONDITIONS (PRACTICALS)**

Theory: 115 hours

Marks: 50

| S.No | NAME OF THE UNIT   | No. Of Periods | Weightage in marks |  |  |
|------|--|----------------|--------------------|--|--|
| I.   | Case history of each patient<br>Respiratory conditions – Aasthma, Bronchitis, Emphyrema, Bronchiectasis.                               | 20             | 10                 |  |  |
| 2.   | Case history of Cardiac Patients<br>1. Myocardial infraction<br>2. Angina<br>3. Tschemic heart disease<br>4. Congenital heart disease. | 20             | 10                 |  |  |
| 3.   | Postural drainage and Breathing Exercises  | 15             | 5                  |  |  |
| 4.   | Description and Physiotherapy Management for Medical conditions.<br>1) Burns<br>2) Leprosy   | 20             | 10                 |  |  |
| 5.   | Pre and post operative Management for<br>1) Cardiac Surgery<br>2) Respiratory Surgery  | 20             | 5                  |  |  |
| 6.   | Physiotherapy Management for<br>1. Acne Vulgaris<br>2. Psoriasis   | 20             | 10                 |  |  |

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**PHYSIOTHERAPY**  
**II YEAR**  
**PART B – VOCATIONAL SUBJECTS**  
**PAPER – II: ORTHOPAEDICS AND NEUROLOGY (THEORY)**

Theory: 110 hours

Marks: 50

| S.No | NAME OF THE UNIT  | No. Of Periods | Weightage in marks | Short answer questions | Essay/ Problem questions |
|------|---|----------------|--------------------|------------------------|--------------------------|
|      | <b>ORTHOPAEDICS &amp; PHYSIOTHERAPY</b>   |                | <b>40</b>          | <b>5</b>               | <b>5</b>                 |
| 1.   | Introduction, Orthopaedic Surgery definition and scope brief history.   | 4              |                    |                        |                          |
| 2.   | Sprains and strains, dislocation – its types – causes and principle of treatment.   | 4              |                    |                        |                          |
| 3.   | Fractures – types, displacement, general symptoms healing process of treatment, union, delayed union and malunion and non union.  | 4              |                    |                        |                          |
| 4.   | Fractures of upper limb and lower limb, pelvis and vertebra including MP and IP joint dislocation and Colle's montegial Galezzi Fratures of phalanges and meta carpals. | 4              |                    |                        |                          |
| 5.   | Crush injury of Head.   | 4              |                    |                        |                          |
| 6.   | Bennets fracture, mallet finger, tenosynovites trigger finger.  | 4              |                    |                        |                          |
| 7.   | Myositis, tennis elbow, supracondylar   | 4              |                    |                        |                          |
| 8.   | Volkman's contracture, recurrent dislocation of shoulder and periathritis of shoulder   | 4              |                    |                        |                          |
| 9.   | Brachial Plexus, carpel tunnel syndrome.  | 4              |                    |                        |                          |
| 10.  | Osteo arthritis, Rheumatoid arthritis, arthritis alkalosis, spondylitis, osteoporosis.  | 4              |                    |                        |                          |
| 11.  | Metabolic disorder- Ricketes, Scurvy, Osteomalacia  | 4              |                    |                        |                          |
| 12.  | Scoliosis, Kyphosis, lordosis, cervical spondylosis, lumbar spondylitis.  | 3              |                    |                        |                          |
| 13.  | C.T.E.V. C.D.H Torticolis   | 3              |                    |                        |                          |
| 14.  | I.V.D.P.  | 3              |                    |                        |                          |
| 15.  | Genuvalgum, Genuvarum, knee deformities, Genu recurvatum  | 3              |                    |                        |                          |
| 16.  | Tuberculosis of Bones   | 3              |                    |                        |                          |
| 17.  | Amputations and types role of Physiotherapy counseling  | 3              |                    |                        |                          |
| 18.  | Orthopedic appliances – splints prosthesis and orthotics.   | 3              |                    |                        |                          |
| 19.  | Quadriceps contracture  | 3              |                    |                        |                          |
| 20.  | Foot deformities – flat foot calcaneal spur. Plantar falsities.   | 3              |                    |                        |                          |
| 21.  | Paraplegia, Quadriplegia.   | 3              |                    |                        |                          |

| <b>NEUROLOGY &amp; PHYSIOTHERAPY</b> |  | 28 | 5 | 3 |
|--------------------------------------|--|----|---|---|
| 22.                                  | Introduction – approach to Neurologica Case  | 3  |   |   |
|                                      | 1. Cerebral Cortex   |    |   |   |
|                                      | 2. Pyramidal tract   |    |   |   |
|                                      | 3. Extra pyramidal tract   |    |   |   |
|                                      | 4. Cerebellum  |    |   |   |
|                                      | 5. Spinal Cord   |    |   |   |
|                                      | 6. Peripheral Nerve  |    |   |   |
|                                      | Brief outline of their structure and functions.<br>Difference between  |    |   |   |
| 23.                                  | Cerebral circulation and its disorders,<br>hemiplegia, coma  | 3  |   |   |
| 24.                                  | Infections and inflammation<br>Meningitis, encephalitis, encephalomyelitis,<br>poliomyelitis, intracranial tumours [gliomas,<br>meningiomas] | 3  |   |   |
| 25.                                  | Extrapyramidal syndromes<br>Chorea, Athetosis, Hemiballisums, tremors,<br>rigidity, parkinsonism.  | 3  |   |   |
| 26.                                  | Syphilis and its neurological complications  | 3  |   |   |
| 27.                                  | Demyelinating and degenerative disorders,<br>Multiple sclerosis, Motor neurone disorder.   | 3  |   |   |
| 28.                                  | Disorders of peripheral nerves   | 3  |   |   |
| 29.                                  | Polyneuropathy GBS, Diabetic neuropathy.   | 3  |   |   |
| 30.                                  | Disorders of spinal cord- spin bifida,<br>syringomyelia, transverse, myelitis, and spinal<br>tumors.   | 3  |   |   |
| 31.                                  | Convulrine disorders.  | 3  |   |   |
| 32.                                  | Ataxia-Types of ataxia, clinical features<br>pathology, medical and physiotherapy treatment.   | 3  |   |   |
| 33.                                  | Head injury.   | 3  |   |   |

**PHYSIOTHERAPY**  
**II YEAR**  
**PART B – VOCATIONAL SUBJECTS**  
**PAPER – II: ORTHOPAEDICS & NEUROLOGY [PRACTICALS]**

Theory: 115 hours

Marks: 50

| S.No  | NAME OF THE UNIT  | No. Of Periods | Weightage in marks |  |  |
|-------|---|----------------|--------------------|--|--|
| 1.    | Taking case history of different Orthopaedic and neurological conditions. | 30             | 15                 |  |  |
| 2.    | Identification of different Orthotics and prosthetics                     | 10             | 5                  |  |  |
| 3.    | Description and Physiotherapy Management of following conditions          | 75             | 30                 |  |  |
| i.    | Hemiplegia patients   |                |                    |  |  |
| ii.   | Polio Myelitis  |                |                    |  |  |
| iii.  | Parkinsonism  |                |                    |  |  |
| iv.   | Multiple sclerosis.   |                |                    |  |  |
| v.    | CBS   |                |                    |  |  |
| vi    | Spin bifida   |                |                    |  |  |
| vii.  | Cerebral Ataxia   |                |                    |  |  |
| viii. | Head injury   |                |                    |  |  |
| ix.   | Different types of fractures.   |                |                    |  |  |
| x.    | TKR   |                |                    |  |  |
| xi.   | Paraplegia  |                |                    |  |  |
| xii.  | Peripheral nerve injuries.  |                |                    |  |  |
| xiii. | Amputations.  |                |                    |  |  |
| Xiv   | OA,RA etc.  |                |                    |  |  |

**PHYSIOTHERAPY**  
**II YEAR**  
**PART B – VOCATIONAL SUBJECTS**  
**PAPER – III: ELECTROTHERAPY [ THEORY]**

Theory: 110 hours

Marks: 50

| S.No | NAME OF THE UNIT  | No. Of Periods | Weightage in marks | Short answer questions | Essay/ Problem questions |
|------|---|----------------|--------------------|------------------------|--------------------------|
| 1.   | Physics and Basic Electrical Components<br>Electromagnetic radiation, Conductors & Non-conductors of electricity, Transmission of heat, physical effects of heat, static electricity, electric shock, earth shock | 20             | 16                 | 2                      | 2                        |
| 2.   | Methods of heating the tissue:<br>Physiological effects of heat, paraffin Wax bath, Hot packs, Moist packs, infra-red rays, U.V.rays.   | 20             | 10                 | 2                      | 1                        |
| 3.   | Low frequency currents:<br>Faradic & Galvanic currents, SD curve, Iontophoresis, TENS   | 20             | 10                 | 2                      | 1                        |
| 4.   | Cryotherapy   | 10             | 8                  | 1                      | 1                        |
| 5.   | Medium Frequency Current<br>Interferential Therapy  | 15             | 8                  | 1                      | 1                        |
| 6.   | High Frequency currents:<br>SWD, MMD, US [ Basics of Lazer]<br>Difference between low frequency & high frequency currents.  | 25             | 16                 | 2                      | 2                        |
|      | In all the above units definition, production, preparation of apparatus & Patient, physiological effects, techniques, dosage indication, contraindication, dangers and precautions are to be covered.             |                |                    |                        |                          |

**PHYSIOTHERAPY**  
**II YEAR**  
**PART B – VOCATIONAL SUBJECTS**  
**PAPER – III: ELECTROTHERAPY [PRACTICALS]**

Theory: 115 hours

Marks: 50

| S.No  | NAME OF THE UNIT   | No. Of Periods | Weightage in marks |  |  |  |
|-------|--|----------------|--------------------|--|--|--|
| 1.    | Details of electrotherapy equipment its knowledge and its operation. | 15             | 5                  |  |  |  |
| 2.    | Assisting to qualified Physiotherapist in treating patients 35 hrs.  | 35             | 15                 |  |  |  |
| 3.    | Treatment or application of equipment on models.                     | 65             | 30                 |  |  |  |
| i.    | Wax bath   |                |                    |  |  |  |
| ii.   | Moist Pack   |                |                    |  |  |  |
| iii.  | Infra red  |                |                    |  |  |  |
| iv.   | Hot packs  |                |                    |  |  |  |
| v.    | SWD  |                |                    |  |  |  |
| vi.   | US   |                |                    |  |  |  |
| vii.  | TENS   |                |                    |  |  |  |
| viii. | IFT  |                |                    |  |  |  |
| ix.   | Stimulator   |                |                    |  |  |  |
| x.    | Traction   |                |                    |  |  |  |
| xi.   | Cryotherapy  |                |                    |  |  |  |
| xii.  | U.V. Rays  |                |                    |  |  |  |
| xiii. | Lontophoresis  |                |                    |  |  |  |



**VII. List of Equipment**

1. Wheel Chair
2. Goniometer
3. Inch tape
4. Knee hammer
5. BP apparatus
6. Suspension table
7. Examination table
8. Shoulder wheel
9. Quadriceps table
10. static Bicycle
11. Supination – pronation board
12. Ankle Exercises.
13. Swiss ball, Medicine balls
14. Traction table
15. finger ladder
16. parallel bars
17. All types of walkers
18. All types of crutches, sticks.
19. Ropes and pulleys
20. Springs, slings
21. Cervical collar, LS belt
22. Equilibrium board
23. Re-education board
24. Splints
25. Crepe bandage
26. Electrotherapy equipments.
  - i) Wax bath
  - ii) Auto tract [ Cervical & lumbar traction machine ]
  - iii) US ( Ultra Sound]
  - iv) Electrical Muscle stimulator
  - v) Interferential therapy
  - vi) Short wave diathermy
  - vii) Ultra Violet radiation
  - viii) TENS
  - ix) Massager [ Vibrator ]
  - x) Infra red [ luminous/ non-luminous]
  - xi) Hydro collator packs
  - xii) Heat pads.

**VIII. Address for the Procurement of Equipment**

1. Prashant Physiotherapy Training and Surgical Unit – Opp. Kumar Theatre, Kachiguda, Ph.No.9391017833, 9393321420
2. Electro care – Chennai.
3. Gemi- Mumbai

**IX. A Suggested list of Collaborating Institutions**

1. All the Government hospitals and Medical Colleges.
2. NIMHS, Hyderabad
3. Sweekar Rehabilitation Institute, Secunderabad.
4. Thakur Hari Prasad Institute, Dilshuknagar, Hyderabad
5. Any Hospital with well equipped Physiotherapy Center with minimum 40 bed capacity.
6. Prashant Physiotherapy Center, Kachiguda, Hyderabad Ph.No.9391017833.

**B. On the Job Training [1st year & 2<sup>nd</sup> year]****OJT Site:**

General Hospitals  
Private Nursing Homes  
Special Hospitals  
Special Rehabilitation Centers  
Leading clinics /Prashant Physiocentre Ph.No.939107833  
The clinic attached to the College  
NGO dealing with the handicapped.  
National and state level institute working for the rehabilitation of the handicapped.

**X. Qualifications for Lecturers.**

1. Lecturers: MPT passouts / Assistant Professor /BPT with 5 years /DPT with 10 years.
2. Diploma in Physiotherapy from recognized Institute with 5 years experience in teaching /clinical experience.

**XI. Vertical Mobility****1. Without Bridge Course**

- i. B.P.T
- ii. B.O.T
- iii. Bachelor of Orthotic and Prosthetic Technology
- iv. B.A
- v. B.Com

**2. With Bridge Course**

They are eligible for B.Sc [ B.Z.C] and all the Medical Courses under EAMCET examinations.

**XII. Reference Books.****I. Biomechanics**

1. Cynthia & Norkins : Joint Structure and function
2. Gardiner M.D: The Principles of Exercise Therapy

**II. Exercise Therapy**

1. Kendall: Manual Muscle testing
2. Gardiner M.D. The Principles of Exercise Therapy
3. Margaret Hollis : Exercise Therapy
4. Kisner : Therapeutic Exercise.
5. Cyriax J: massage, Manipulation & local Anesthesia.
6. Cynthia's: Goniometry.
7. Margaret Hollis : Massage Therapy

8. Resistance Exercise Sports Training, Body Shaping, Obesity, Joint Pains by Prashant Shah – 9391017833.
9. Exercise Therapy by prashant shab : 9391017833
10. Swiss Ball, Medicine Ball, Tubes Exercises by Prashant shah – 9391017833.

**III. Electrotherapy**

1. Calayton's : Electrotherapy
2. Low & Reed: Electrotherapy Explained.
3. Joseph Khan : Electrotherapy
4. Sayeed Ahmeed : electrotherapy

**IV. Psychology**

1. S.K.Mangal: Textbook of Psychology & abnormal psychology
2. Murgesh: psychology.

**V. Anatomy & Physiology**

1. B.D.Chaurasia: 3 Volumes, Text book of Anatomy
2. Toratora : Anatomy & Physiology
3. Guyton : Text book of Physiology
4. Chaudari : Text book of Physiology
5. Gray : Gray's Anatomy
6. B.D.Chaurasis: Handbook of Anatomy
7. Evelyn pearce: Anatomy & Physiology for Nurses.
8. Murgesh: anatomy & physiology.

**VI. Medical & Surgical Condition.**

1. Tidy's Physiotherapy
2. Cash Medicine
3. Cash Surgery
4. Polden: PT in obstetrics & Gynecology
5. Bailey & Love: Text Book of Surgery
6. Davidson: Textbook of Medicine.
7. Golwalla: Text book of Medicine.
8. Das: Clinical
9. P.J.Mehta: Clinical Examination
10. Das: Textbook of Surgery
11. Phyotherapy Dictionary
12. Hutchison's [ hand book]: Clinical Examination.

**VII. Orthopaedics & Neurology**

1. Cash Orthopaedics
2. Cash Neurology
3. O.Sullivan: Physical Rehabilitation
4. Ian Bramely : Paraplegia & tetraplegia
5. Jon Ebunzer : Orthopaedics in Physiotherapy
6. Adams J.C: Outline of fractures including injuries.
7. Jayant Joshi: Essential of Orthopaedics.
8. Natrajan: Textbook of orthopedics.
9. Maheshwari: Textbok of Orthopaedics.
10. Brain & Branister : Neurology
11. Inderbersing : Neuro Anatomy.

**MODEL PAPER  
ANATOMY & PHYSIOLOGY  
1<sup>ST</sup> YEAR – PAPER-I  
PHYSIOTHERAPY**

**Marks: 50**

**Section –A**

**Note:** [i] Answer all the questions  
[ii] Each question carries 2 marks.

2X10=20

1. Describe the anatomical positions?
2. Differentiate between right and left lung.
3. Name the various reproductive organs.
4. Name the movement possible in shoulder joint
5. Explain planes of human body
6. Name the muscles of Eye ball.
7. Differentiate between proximal and distal.
8. Give the various functions of bone.
9. Draw a labeled diagrams of Heart
10. Define anatomy.

**Section –B**

**Note:** [i] Answer five questions  
[ii] Each question carries 6 marks.

5X6=30

11. Describe the construction and movement possible in knee joint.
12. Explain briefly about mechanism of Respiration
13. Write a note on composition of blood.
14. Give the division and function of nervous system
15. Write a note on digestive glands.
16. Explain about functions of Cerebellum functions.
17. Describe briefly about Thyroid Gland its functions and secretions.
18. Write about muscle spindle.

**MODEL PAPER**  
**1<sup>ST</sup> YEAR – PAPER-II**  
**PSYCHOLOGY & ABNORMAL PSYCHOLOGY**

**Marks: 50**

**Section –A**

**Note:** [i] Answer all the questions  
[ii] Each question carries 2 marks.

2X10=20

1. What is meant by abnormal Psychology?
2. What are the types of behavior?
3. What is meant by remembering and forgetting?
4. Define Ebbingau/s cure of forgetting?
5. What is meant by individual difference?
6. Define personality?
7. What is meant by functional psychosis?
8. What is meant by mental Retardation?
9. Write about child adolescent?
10. What is Delinquency?

**Section –B**

**Note:** [i] Answer five questions  
[ii] Each question carries 6 marks.

5X6=30

11. Write about Psychosomatic disorders briefly?
12. What are the branches of the psychology?
13. What are the causes for the delinquency?
14. What is meant by schizophrenia? Explain briefly.
15. What are the causes for mental retardation?
16. What are the therapies used in the treatment for abnormal behavior? Explain them in detail?
17. Explain about the drug addiction.
18. Briefly write about abnormal behaviors.

**MODEL PAPER**  
**1<sup>ST</sup> YEAR – PAPER-III**  
**BIOCHEMISTRY & EXERCISE THERAPY**

**Marks: 50**

**Section –A**

**Note:** [i] Answer all the questions  
[ii] Each question carries 2 marks.

2X10=20

1. Define Bio-Mechanics.
2. Define Force and types of forces
3. Name the different types of levers with example.
4. Define exercise therapy
5. Write the classification of exercise therapy
6. Define massage.
7. What is shoulder wheel?
8. Define posture.
9. Write the stages of gait.
10. Name different mobilizing methods.

**Section –B**

**Note:** [i] Answer five questions  
[ii] Each question carries 6 marks.

5X6=30

11. Explain starting positions.
12. Short note on active movements.
13. Explain Breathing Exercise.
14. Write types of muscle work and uses of kneading.
15. Short note on walking aids
16. Explain hydrotherapy and its indication and contraindication?
17. Write about Pathological gaits.
18. Write about Suspension therapy.

**MODEL PAPER**  
**2<sup>nd</sup> YEAR – PAPER-I**  
**MEDICAL SURGICAL CONDITIONS**

**Marks: 50**

**Section –A**

**Note:** [i] Answer all the questions  
[ii] Each question carries 2 marks.

2X10=20

1. Define infections.
2. Define Inflammation
3. What is Angina?
4. Short note on Rickets
5. What is Dwarfism
6. Define Asthma
7. Define Pyoriasis
8. Write the clarification of burns
9. Write the causes of polio.
10. Name the types of incisions used for cardiac surgery.

**Section –B**

**Note:** [i] Answer five questions  
[ii] Each question carries 6 marks.

5X6=30

11. Write details about Osteoporosis.
12. Short non on congenital heart diseases.
13. Describe leprosy and P.T. Management
14. Short note on Cardiac Surgery and its P.T. Management.
15. Explain Polio and P.T. Management.
16. Short no on Burns.
17. Explain Emphysema in detail.
18. Explain the respiratory disorders of Bronchitis.

**MODEL PAPER**  
**2<sup>nd</sup> YEAR – PAPER-II**  
**ORTHOPAEDICS AND NEUROLOGY**

**Marks: 50**

**Section –A**

**Note:** [i] Answer all the questions  
[ii] Each question carries 2 marks.

2X10=20

1. What is Mallet finger?
2. What are different types of prosthesis used?
3. Write about Genu-Valgum.
4. Write PT Management of Calcaneal Spur.
5. What is coin test?
6. What is festinating gait?
7. What is wrist drop?
8. Write the functions of cerebellum.
9. What is chorea.
10. What is the difference between UMN and LMN lesions?

**Section –B**

**Note:** [i] Answer five questions  
[ii] Each question carries 6 marks.

5X6=30

11. Write about multiple sclerosis and its PT Management.
12. Write briefly on Hemiplegic with PT Management.
13. Write briefly on paraplegia and its complications with PT management.
14. Write on Shoulder dislocation with PT Management.
15. Write on Pott's fracture with PT Management.
16. Write on Osteo arthritis and its physiotherapy Management
17. Amputation –Types, complications and PT Management.
18. Write short notes on Spinal Cord.



**MODEL PAPER  
2<sup>nd</sup> YEAR – PAPER-III  
ELECTROTHERAPY****Marks: 50****Section –A**

**Note:** [i] Answer all the questions  
[ii] Each question carries 2 marks.

2X10=20

1. Write about conductors & Non-conductors of electricity.
2. Write briefly about physiological effects of heat
3. What is Lewy's hunting phenomenon.
4. Write contra indications of US
5. Explain LASEER and its uses.
6. Write the difference between low frequency & high frequency currents.
7. Write about different types of TENS
8. Write indications of IFT
9. Mention different techniques for applying wax bath.
10. What is Iontophoresis.

**Section –B**

**Note:** [i] Answer five questions  
[ii] Each question carries 6 marks.

5X6=30

11. Write about SD curve.
12. Write the types of UV rays, physiological effects, Indications & Contra indications.
13. Write briefly on infrared rays.
14. Write about techniques of application and physiological effects of SWD.
15. Write about electric shock & earth shock.
16. Write about Faradic foot bath.
17. Write about physiological effects, types, techniques, dosages of US.
18. Write short notes on Cryotherapy.

**LIST OF PARTICIPANTS.**

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