

Syllabus and Curriculum
of
Diploma in Physiotherapy Technician course

(To be implemented From 2015 - 16 session)

Uttar Pradesh State Medical Faculty, Lucknow.

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OBJECTIVES OF THE COURSE

To prepare a **Physiotherapy technician** who –

- Can examine and assess deficits of neurological & musculoskeletal systems.
- Can advise and execute appropriate exercise & electrotherapy.
- Can maintain rich communication with related consultant surgeons & physicians & follow their order.
- Can give psychological support to the patients and their relatives.

Outline of Curriculum of Diploma in Physiotherapy Technician course

FIRST YEAR

THEORY (Classes: 9 AM to 12 Noon)

First paper : Syllabus covers -

1. General Anatomy & Physiology (Cytology, Histology, Osteology and only basics of all organ systems of body).
2. Only basics of relevant Pathology, Pharmacology & Microbiology.

Second paper : Syllabus covers -

1. Detailed Anatomy of bones, muscles, joints, nerves of body.
2. Basics of exercise therapy, electrotherapy, physics used in physiotherapy, biomechanics & kinesiology.
3. Hand hygiene & prevention of cross infection.
4. Basic life support (BLS) & Cardio-pulmonary resuscitation (CPR).

FIRST YEAR

PRACTICAL (Classes: 1 PM to 4 PM)

Practical classes will be after lunch; from 1 PM to 4 PM.

Students must present in the hospital/ physiotherapy lab for practicals.

During first year, they should be there only as “Observers” in practical classes.

(Observership for Various technics of exercise & electrotherapy, Vital monitoring.)

Following subjects must be taught; though there will not be any exam from these-

1. Basic Computer skills.
2. Basic English.
2. **Soft skills like** - Interpersonal relationship skills & moral education.

Outline of Curriculum
of
Diploma in Physiotherapy Technician course

SECOND YEAR

THEORY (classes:9 AM to 12 Noon)

First paper : Syllabus covers -

1. Only relevant surgical & medical conditions (relevant to Physiotherapy but other than Orthopedics and neurological systems).
2. Nursing Procedures like vital recording, IM/IV/SC injection, Oxygen therapy, Nebulization, IV infusion.

Second paper : Syllabus covers -

1. Physiotherapy in Orthopaedics, Neurological, Medical, Surgical & Sports related conditions.
2. Drugs used in Physiotherapy & BLS.
3. Basic biomedical engineering physics of machines used in physiotherapy.

SECOND YEAR

PRACTICAL (classes:9 AM to 12 Noon)

Practical exams syllabus should cover-

- Hands on training of Vital Monitoring .
- Hands on training of various exercise therapies.
- Hands on training of various electrotherapies.
- Hands on training of BLS.

ELIGIBILITY CRITERIA FOR ADMISSION & DURATION OF THE COURSE

COURSE DURATION:-

- It is 2 years, **full time** Diploma Course.

ELIGIBILITY:-

- Candidate must have passed 12th with
Physics, Chemistry, Biology
Or
Physics, Chemistry, Maths
with 35% marks in Intermediate exams.

(From UP board or any other recognised board).
- Candidate must have completed age of 17 years of age as on 31st December of admission year. There is no maximum age limit for the admission.

SCHEDULE OF EXAMINATION

FIRST YEAR

<u>Paper</u>	<u>Subjects</u>	<u>Mark</u>	<u>Internal Assessment Marks</u>	<u>Total Marks</u>	<u>Pass Marks</u>	<u>Duration of Exam.</u>
<u>First Paper Theory</u>	<p>1.General Anatomy & Physiology (Cytology, Histology, Osteology and only basics of all organ systems of body).</p> <p>2.Only basics of relevant Pathology, Pharmacology & Microbiology.</p>	75	25	100	50	3 Hours
<u>Second Paper Theory</u>	<p>1.Detailed Anatomy of bones, muscles, joints, nerves of body.</p> <p>2.Basics of exercise therapy, electrotherapy, physics used in physiotherapy, biomechanics & kinesiology.</p> <p>3.Hand hygiene & prevention of cross infection.</p> <p>4.Basic life support (BLS) & Cardio-pulmonary resuscitation (CPR).</p>	75	25	100	50	3 Hours
<u>Practical</u>	Oral & Practical	75	25	100	50	3 Hours

SCHEDULE OF EXAMINATION

SECOND YEAR

<u>Paper</u>	<u>Subjects</u>	<u>Mark</u>	<u>Internal Assessment Marks</u>	<u>Total Marks</u>	<u>Pass Marks</u>	<u>Duration of Exam.</u>
<u>First Paper Theory</u>	<p>1. Only relevant surgical & medical conditions (relevant to Physiotherapy but other than Orthopedics and neurological systems).</p> <p>2. Nursing Procedures like vital recording, IM/IV/SC injection, Oxygen therapy, Nebulization, IV infusion.</p>	75	25	100	50	3 Hours
<u>Second Paper Theory</u>	<p>1. Physiotherapy in Orthopaedics, Neurological, Medical, Surgical & Sports related conditions.</p> <p>2. Drugs used in Physiotherapy & BLS.</p> <p>3. Basic biomedical engineering physics of machines used in physiotherapy.</p>	75	25	100	50	3 Hours
<u>Practical</u>	Oral & Practical	75	25	100	50	3 Hours

SCHEDULE OF COURSE

(List of holidays, Total hours, Subject wise allotment of hours)

- **List of Holidays:-**

Sundays	- 52 days
Summer vacation	- 10 days
Winter vacation	- 10 days
Gazetted holidays	- 23 days
Preparatory holidays	- 10 days
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Total Holidays	- 105 days
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- **Total Hours :-**

Theory classes per day	- 3 Hours
Practical classes per day	- 3 Hours
Total hours per day	- 6 Hours
Total days & hours in One year (after deduction of holidays)	- 260 days or - 1560 Hours

SCHEDULE OF COURSE

Subject wise allotment of hours

FIRST YEAR

Theory (780 Hours) Practical (780 Hours)

<u>First Paper Theory</u>	1.General Anatomy & Physiology (Cytology, Histology, Osteology and only basics of all organ systems of body).	235 Hrs
	2.Only basics of relevant Pathology, Pharmacology & Microbiology.	100 Hrs
<u>Second Paper Theory</u>	1.Detailed Anatomy of bones, muscles, joints, nerves of body.	190 Hrs
	2.Basics of exercise therapy, electrotherapy, physics used in physiotherapy, biomechanics & kinesiology.	160 Hrs
	3.Hand hygiene & prevention of cross infection.	15 Hrs
	4.Basic life support (BLS) & Cardio-pulmonary resuscitation (CPR).	10 Hrs
<u>Third Paper Practical</u>	As described in curriculum	780 Hrs
<u>Theory: Other Subjects</u> (These subjects must be taught; though there will not be any exam from these)	1.Basic Computer skills.	30 Hrs
	2.Basic English.	30 Hrs
	3.Soft skills like - Interpersonal relationship skills & moral education	10 Hrs

SCHEDULE OF COURSE

Subject wise allotment of hours

SECOND YEAR

Theory (780 Hours) Practical (780 Hours)

<u>First Paper Theory</u>	1. Only relevant surgical & medical conditions (relevant to Physiotherapy but other than Orthopedics and neurological systems).	280 Hrs
	2. Nursing Procedures like vital recording, IM/IV/SC injection, Oxygen therapy, Nebulization, IV infusion.	20 Hrs
<u>Second Paper Theory</u>	1. Physiotherapy in Orthopaedics, Neurological, Medical, Surgical & Sports related conditions.	400 Hrs
	2. Drugs used in Physiotherapy & BLS.	30 Hrs
	3. Basic biomedical engineering physics of machines used in physiotherapy.	50 Hrs
<u>Third Paper Practical</u>	As described in curriculum	780 Hrs

Details of Curriculum for First Year Diploma in Physiotherapy Technician

PAPER 1st Theory	Topics	Hours.
1.General Anatomy & Physiology (Cytology, Histology, Osteology and only basics of all organ systems of body).	1. General Orientation about parts of human body. Various terms used in Anatomy. Total numbers of bones, their names & location. Basic idea about organization of body ,from cell to organ systems.	06 Hrs
	2. Structure of Animal cell, Cell organelles & their functions	06 Hrs
	3. Human tissue, types, structure & functions.	10 Hrs
	4. Osteology: Names, location, identification and basic details of all bones. (Details of skull bones is not required).	20 Hrs
	5. Joints: types, basic structure & examples.	06 Hrs
	6. Skin & appendages.	02 Hrs
	7. GIT: : Location, Gross structure, various parts & their functions. Details of process of food ingestion, digestion, absorption & defaecation. (Microscopic structure is not required.)	20 Hrs
	8. Respiratory tract: Location, Gross structure, various parts & their functions. Details of breathing mechanism, different respiratory volumes. (Microscopic structure is not required.)	20 Hrs
	9. Urinary tract: Gross structure, various parts & their functions. (Microscopic structure is not required.) Process of urine formation & voiding.	20 Hrs
	10. Male reproductive system: Only gross structure & functions of different parts. (Microscopic structure is not required.)	05 Hrs
	11. Female reproductive system: Only gross structure & functions of different parts. (Microscopic structure is not required.) Menstrual cycle.	05 Hrs

Details of Curriculum for First Year Diploma in Physiotherapy Technician

PAPER 1st Theory	Topics	Hours.
1. General Anatomy & Physiology (Cytology, Histology, Osteology and only basics of all organ systems of body).	12. Endocrine system: Hormones secreted by Pituitary, Thyroid, Parathyroid, Pancreas, Adrenal cortex, Adrenal medulla, Gonads & functions of different hormones. (Details of structure of these glands not required).	20 Hrs
	13. Gross structure of brain & spinal cord. Functions of different parts of brain & spinal cord. (Details not required.)	20 Hrs
	14. Blood: Composition & Functions. Details about Plasma, RBCs, WBCs, Platelets, Clotting system.	30 Hrs
	15. Gross structure & functions of sensory Organs - Eye, Ear, Nose, Tongue. (Details not required).	20 Hrs
	16. Basic gross structure of heart, vessels opening into heart & Leaving the heart. Arterial & Venous tree of body.	20 Hrs
	17. Lymphatic system: Structure & Functions.	10 Hrs
	18. Inumune system: Components & various mechanisms of defense.	10 Hrs

Details of Curriculum for First Year Diploma in Physiotherapy Technician

PAPER 1st Theory	Topics	Hours.
2.Only basics of relevant Pathology, Pharmacology & Microbiology.	1. Basic steps of Acute & chronic inflammation.	03 Hrs
	2. Basics of Necrosis & apoptosis.	03 Hrs
	3. Basics of Shock.	03 Hrs
	4. Basics of Disorders of blood coagulation system.	08 Hrs
	5. Basics of Disorders of Immune system of body.	05 Hrs
	6. Modes of disease transmission & prevention of infection.	05 Hrs
	7. Sterilization & methods of sterilization used in hospitals.	10 Hrs
	8. Basic idea about types of Bacteria, Virus, Fungi.	20 Hrs
	9. Routes of drug administration.	02 Hrs
	10. Adverse effects & side effects of drugs.	02 Hrs
	11. Basic idea of Analgesics : Opioid & NSAIDs & Skeletal muscle relaxants .	06 Hrs
	12. Basic idea of Drugs use in Cough & expectoration.	01 Hrs
	13. Basic idea of Drugs used in B. asthma & COPD.	02 Hrs
	14. Basic idea of Drugs used in GIT.	08 Hrs
	15. Basic idea of Anti Microbials.	20 Hrs
	16. Basic idea of Anti H-1 Histaminics & Corticosteroids.	03 Hrs

Details of Curriculum for First Year Diploma in Physiotherapy Technician

PAPER 2nd Theory	Topics	Hours.
1.Detailed Anatomy of bones, muscles, joints, nerves of body.	1. General structure of long bone, flat bones (Histology & gross).	05 Hrs
	2. Detailed Histology & Physiology of skeletal muscles, ligaments & tendons.	10 Hrs
	3. Details of bones of upper limb.	05 Hrs
	4. Details of bones of lower limb.	05 Hrs
	5. Details of bones of vertebral column.	03 Hrs
	6. Details of ribs & sternum.	02 Hrs
	7. Details of muscles of upper limb (origin, insertion, action, nerve supply & surface marking).	25 Hrs
	26 Details of muscles of lower limb (origin, insertion, action, nerve supply & surface marking).	25 Hrs
	26 Details of muscles of abdomen & pelvic floor (origin, insertion, action, nerve supply & surface marking).	10 Hrs
	11 Details of muscles of neck (origin, insertion, action, nerve supply & surface marking).	05 Hrs
	12 Details of shoulder girdle, Shoulder, Elbow, Wrist, Hip, Knee & ankle, sub talar joints).	35 Hrs
	13 Details of Basics of other joints of body.	10 Hrs
	14 Details of Brachial, sacral & lumbar plexes.	20 Hrs
	15 Details of spinal & cranial nerves.	20 Hrs
	16 General structure of Arteries, veins, capillaries.	05 Hrs
	17 Arterial & Venous tree of body.	05 Hrs

Details of Curriculum for First Year Diploma in Physiotherapy Technician

PAPER 2nd Theory	Topics	Hours.
2. Basics of exercise therapy, electrotherapy, physics used in physiotherapy, biomechanics & kinesiology.	1. <u>Mechanical Principles:-</u> Definition of Biomechanics, Axis and Planes, Kinematics, Kinetics, gravity, centre of gravity, line of gravity, base of support, Equilibrium, fixation and stabilization, force, types of forces, levers of the body and their mechanical advantage, pulleys, springs, Elasticity, type of muscle contraction, range of muscle work, the group action of muscles, spurt and shunt muscles	25 Hrs
	2. Gait	10 Hrs
	3. Posture	05 Hrs
	4. Joint structure and function of all joints of the body -type, articulating surface, osteokinematics, Arthrokinematics, Pathomechanics.	30 Hrs
	5. Physics and Basic Electrical Components. Electromagnetic radiation, conductors, & Non Conductors of electricity, Transmission of heat, Physical effects of heat, static electricity, electric shock, earth shock.	20 Hrs
	6. Methods of heating the tissue. Physiological effects of heat, Paraffin wax bath, Hot packs, moist packs, Infra-red rays, U.V. rays. Definition, production, preparation of apparatus & patient, Physiological effects, techniques, dosage, indication, contraindication, dangers and precautions are to be covered.	20 Hrs
	7. Low Frequency Currents. Faradic & Galvanic currents, SD Curve, Iontophoresis, TENS. Definition, production, preparation of apparatus & patient, Physiological effects, techniques, dosage, indication, contraindication, dangers and precautions are to be covered.	20 Hrs
	8. Cryotherapy definition, production, preparation of apparatus & patient, Physiological effects, techniques, dosage, indication, contraindication, dangers and precautions	20 Hrs
	9. Medium Frequency current. definition, production, preparation of apparatus & patient, Physiological effects, techniques, dosage, indication, contraindication, dangers and precautions	20 Hrs
	10. HIGH FREQUENCY CURRENTS SWD, MWD, US. definition, production, preparation of apparatus & patient, Physiological effects, techniques, dosage, indication, contraindication, dangers and precautions	30 Hrs

Details of Curriculum for First Year Diploma in Physiotherapy Technician

PAPER 2nd Theory	Topics	Hours.
2. Basics of exercise therapy, electrotherapy, physics used in physiotherapy, biomechanics & kinesiology.	11. <u>LASERS</u> Definition, Types, Production, Indications, contraindications Technique of Application	20 Hrs
	12. Mechanical traction and CPM Uses and Technique of application, Precautions.	10 Hrs
	13. <u>MASSAGE THERAPY</u> History and development, Types and techniques, Physiological and therapeutic effects of various Manipulations, Indications and contraindications, Massage protocol for various conditions.	20 Hrs

PAPER 2nd Theory	Topics	Hours.
3. Hand hygiene & prevention of cross infection.	1. Hand hygiene & method of Hand washing.	15 Hrs
	2. Prevention of cross infection.	15 Hrs

PAPER 2nd Theory	Topics	Hours.
4. Basic life support (BLS) & Cardio-pulmonary resuscitation (CPR).	1. Code blue.	05 Hrs
	2. Details of basic life support (BLS) & Cardio-pulmonary resuscitation (CPR).	35 Hrs

Curriculum
for
Practical :- First Year
Diploma in Physiotherapy Technician

	Topics
Practical	1. Observing various types of electro therapies.
	2 Observing various types of exercise therapy.
	3.Care of Unconscious patient.
	4.Monitoring Temperature(manual).
	5.Monitoring Pulse (manual).
	6.Monitoring Respiration (manual).
	7.Monitoring BP (manual).
	8.Basic life support (BLS).

Details of Curriculum for Second Year Diploma in Physiotherapy Technician

PAPER 1st Theory	Topics	Hours.
1. Only relevant surgical & medical conditions (relevant to Physiotherapy but other than Orthopedics and neurological systems).	1. History taking. General examination of the patient. Filling Case-sheet. Common clinical words.	10 Hrs
	2. Hypertension:- Def, Causes, Pathology, Clinical features, Investigation & Management.	05 Hrs
	3. Hypotension :- Def, Causes, Pathology, Clinical features, Investigation & Management.	02 Hrs
	4. Diabetes mellitus :- Def, Causes, Pathology, Clinical features, Investigation & Management.	10 Hrs
	5. <u>Diseases of blood</u> :- Anaemia, Basics of coagulation Bleeding disorders & Haemophilia.	20 Hrs
	6. <u>Respiratory Tract</u> :- Pneumonia, Tuberculosis, B. asthma, COPD, Bronchiectasis, Collapse of lung, Pneumonitis, Pleural effusion, Pneumothorax, Empyema thoracis, Cancer lung.	50 Hrs
	7. <u>Diseases of GIT & Liver & GB</u> :-Reflux Oesophagitis, Peptic ulcers, Gastritis, Intestinal Obstruction, Hepatitis, Cirrhosis of liver, Cholecystitis.	40 Hrs
	8. <u>Disease of Heart</u> :- CHF, Condiac arrest, Isaemic heart disease, Rheumatic Heart diseases.	30 Hrs
	9. <u>Diseases of Urinary tract</u> :- Urolithiasis, Benign prostatic hyperplasia.	03 Hrs
	10. <u>Endocrine system</u> :- Diabetes mellitus, hypo & Hyper thyroidism.	20 Hrs
	11. <u>Miscellaneous</u> :- Hypo & Hyper Natraemia, Hypo & Hyper Kalaemia, Hypo & Hyper Calcaemia.	10 Hrs
	12. <u>Infections diseases</u> :- TB, Typhoid, Malaria, Dengue fever, Leprosy, AIDS, Amoebiasis.	50 Hrs
	13. Burn & Physiotherapy management of burn.	05 Hrs

Details of Curriculum for Second Year Diploma in Physiotherapy Technician

PAPER 1st Theory	Topics	Hours.
2.Nursing Procedures like vital recording, IM/IV/SC injection, Oxygen therapy, Nebulization, IV infusion.	1. Temperature monitoring & Fever.	02 Hrs
	2. Pulse monitoring.	02 Hrs
	3. BP monitoring.	02 Hrs
	4. Respiration monitoring.	01 Hrs
	5. Types of Injection routes.	01 Hrs
	6. IM Injection.	01 Hrs
	7. IV Injection.	01Hrs
	8. SC Injection.	01 Hrs
	9. Oxygen Therapy.	03 Hrs
	10. Nebulization	03 Hrs
	11. IV Infusion (Also with infusion pump).	01 Hrs
	12. Care of Unconscious patient.	02 Hrs

Details of Curriculum for Second Year Diploma in Physiotherapy Technician

PAPER 2nd Theory	Topics	Hours.
1. Physiotherapy in Orthopaedics, Neurological, Medical, Surgical & Sports related conditions	1. Details of examination of nervous system.	20 Hrs
	2. Details of Stroke & role of Physiotherapy in Stroke.	30 Hrs
	3. Details of Meningo-encephalitis & role of Physiotherapy in Meningo-encephalitis. .	20 Hrs
	4. Details of Epilepsy & role of Physiotherapy in Epilepsy.	10 Hrs
	5. Details of Intracranial bleed & Head injury & role of Physiotherapy in Intracranial bleed & Head injury.	30 Hrs
	6. Details of Traumatic Para & Quadriplegia & role of Physiotherapy in Traumatic Para & Quadriplegia.	30 Hrs
	7. Details of Facial nerve palsy & role of Physiotherapy in Facial nerve palsey.	10 Hrs
	8. Details of Parkinsonism & role of Physiotherapy in Parkinsonism.	05 Hrs
	9. Details of M.gravis & role of Physiotherapy in M. gravis.	05 Hrs
	10. Details of Motor neuron d's, GB syndrome & role of Physiotherapy in Motor neuron d's, GB syndrome.	20 Hrs
	11. Details of cerebral palsy & role of Physiotherapy in Cerebral palsy.	10 Hrs
	12. Details of Ataxia & role of Physiotherapy	05 Hrs
	13. Details of Types of fracture, basic principle of management of all types of fractures.	15 Hrs
	14. Details of Important fractures & role of Physiotherapy in Important fractures.	40 Hrs
	15. Details of Osteo-arthritis, Rheumatoid arthritis, Gouty arthritis, ankylosing spondylitis & role of Physiotherapy in Osteo-arthritis, Rheumatoid arthritis, Gouty arthritis, ankylosing spondylitis	20 Hrs
	16. Details of Tennis elbow, Golfer's elbow, Tenosynovitis, Plantar fascitis & role of Physiotherapy in Tennis elbow, Golfer's, elbow Tenosynovitis, Plantar fascitis.	10 Hrs

Details of Curriculum for Second Year Diploma in Physiotherapy Technician

PAPER 2nd Theory	Topics	Hours.
1. Physiotherapy in Orthopaedics, Neurological, Medical, Surgical & Sports related conditions	17. Basics of Subluxation & dislocations of joints & role of Physiotherapy in Subluxation & dislocations of joints.	20 Hrs
	18. Details of Osteoporosis, Osteomalacia & role of Physiotherapy in Osteoporosis, Osteomalacia.	10 Hrs
	19. Details of PIVD & role of Physiotherapy in PIVD.	10 Hrs
	20. Details of Spondylolisthesis & role of Physiotherapy in Spondylolisthesis.	05 Hrs
	21. Various types of sprains & strains & their basic principle of management.	15 Hrs
	22. Details of CTEV & role of Physiotherapy in CTEV.	05 Hrs
	23. Details of Scoliosis, lordosis, Kyphosis & role of Physiotherapy in Scoliosis, lordosis, Kyphosis.	05 Hrs
	24. Basic idea of Genu/ cubitus varum, Genu/cubitus valgum,	05 Hrs
	25. Details of TB of Bone, Osteomyelitis & role of Physiotherapy in TB of Bone, Osteomyelitis.	15 Hrs
	26. Splints & Prosthesis used in Orthopaedics.	30 Hrs

Details of Curriculum for Second Year Diploma in Physiotherapy Technician

PAPER 2nd Theory	Topics	Hours.
2. Drugs used in Physiotherapy & BLS.	1. Use of NSAIDs ,opioid analgesics.	10 Hrs
	2. Use of skeletal muscle relaxants.	03 Hrs
	3. Use of topical analgesics and muscle relaxants.	02 Hrs
	4. Use of emergency drugs.	15Hrs

PAPER 2nd Theory	Topics	Hours.
3. Basic biomedical engineering physics of machines used in physiotherapy.	1. About USG machine	10 Hrs
	2. About TENS machine.	10 Hrs
	3. About IFT machine.	10 Hrs
	4. About Diathermy machine.	10 Hrs
	5. About tread mill.	05Hrs
	6. About infra red machine.	05Hrs

Curriculum
for
Practical :- Second Year
Diploma in Physiotherapy Technician

	Topics
Practical	1. Hand on training on various types of electro-therapies.
	2. Hand on training on various types of exercise therapy.
	3. IM Injection.
	4. IV Injection.
	5. SC Injection.
	6. Use of Infusion pump.
	7. Nebulisation.