

**Outline of Curriculum
of
Diploma in Optometry Technician course**

FIRST YEAR

THEORY (Classes: 9 AM to 12 Noon)

First paper : Syllabus covers -

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

Second paper : Syllabus covers -

1. Detailed Ocular Anatomy and Physiology.
2. Basic physics related to light and physical, physiological optics.
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/ Optometry lab for practicals.

- Hands on training of Vision monitoring.
- Hands on training of Subjective refraction.
- Hands on training of Retinoscopy(wet and dry).
- Hands on training of Prescribing lenses & prisms.
- Hands on training of Tonometry (Schiotz).
- Hands on training of Corneal staining.
- Hands on training of Ishihara charting.
- Hands on training of Schirmer's test & TBUT.

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 Optometry Technician course**

SECOND YEAR

THEORY (classes:9 AM to 12 Noon)

First paper : Syllabus covers -

1. Details of Diseases of eye.
2. Nursing Procedures like vital recording, IM/IV/SC injection, Oxygen therapy, Nebulization, IV infusion.

Second paper : Syllabus covers -

1. Mechanical optics and Lenses, Lenses prescription.
2. Instruments and equipments used in eye.
3. Community ophthalmology.
4. Drugs used in Optometry.

SECOND YEAR

PRACTICAL (classes:9 AM to 12 Noon)

Practical exams syllabus should cover-

- Hands on training of slit lamp biomicroscope examination.
- Hands on training of Gonioscopy.
- Hands on training of Applanation tonometry.
- Hands on training of Syringing.
- Hands on training of Perimetry.
- Hands on training of Keratometry, A scan.
- Hands on training of B Scan.
- Hands on training of Direct ophthalmoscopy.
- Hands on training of Indirect Ophthalmoscopy.
- Hands on training of assistance in Common Ocular surgeries.
- Hands on training of Fundus Camera & FFA.

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. Only basic idea of 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 & Ocular Pharmacology.</p>	75	25	100	50	3 Hours
<u>Second Paper Theory</u>	<p>1. Detailed Ocular Anatomy and Physiology.</p> <p>2. Basic physics related to light and physical, physiological optics.</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>	1. Details of Diseases of eye 2.Nursing Procedures like vital recording, IM/IV/SC injection, Oxygen therapy, Nebulization, IV infusion.	75	25	100	50	3 Hours
<u>Second Paper Theory</u>	1.Mechanical optics and Lenses, Lenses prescription. 2.Instruments and equipments used in eye. 3.Community ophthalmology 4.Drugs used in Optometry .	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. Only basic idea of General Anatomy & Physiology (Cytology, Histology, Osteology and only basics of all organ systems of body).	150 Hrs.
	2. Only basics of relevant Pathology, Pharmacology, Microbiology & Ocular Pharmacology.	150Hrs
<u>Second Paper Theory</u>	1. Detailed Ocular Anatomy and Physiology	160 Hrs
	2. Basic physics related to light and physical, physiological optics	140 Hrs
	3. Hand hygiene & prevention of cross infection.	30 Hrs
	4. Basic life support (BLS) & Cardio-pulmonary resuscitation (CPR).	40 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. Details of Diseases of eye	250 Hrs
	2. Nursing Procedures like vital recording, IM/IV/SC injection, Oxygen therapy, Nebulization, IV infusion.	20 Hrs
<u>Second Paper Theory</u>	1. Mechanical optics and Lenses, Lenses prescription .	300 Hrs
	2. Instruments and equipments used in eye	100 Hrs
	3. Community ophthalmology.	50 Hrs
	4. Drugs used in Optometry .	60 Hrs
<u>Third Paper Practical</u>	As described in curriculum	780 Hrs

Details of Curriculum for First Year Diploma in Optometry Technician

PAPER 1st Theory	Topics	Hours.
1. Only basic idea of 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.	02Hrs
	2. Structure of Animal cell, Cell organelles & their functions	02 Hrs
	3. Human tissue, types, structure & functions.	05 Hrs
	4. Osteology; Names, location, identification of all bones. (Details of skull bones is not required).	10 Hrs
	5. Joints: types, basic structure & examples.	02 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.	10 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 Optometry Technician

PAPER 1st Theory	Topics	Hours.
1. Only basic idea of 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).	10 Hrs
	13. Gross structure of brain & spinal cord. Functions of different parts of brain & spinal cord. (Details not required.)	10 Hrs
	14. Blood; Composition & Functions. Details about Plasma, RBCs, WBCs, Platelets, Clotting system.	10 Hrs
	15. Gross structure & functions of sensory Organs - Eye, Ear, Nose, Tongue. (Details not required).	05 Hrs
	16. Basic gross structure of heart, vessels opening into heart & Leaving the heart. Arterial & Venous tree of body.	10 Hrs
	17. Lymphatic system: Structure & Functions.	05 Hrs
	18. Innume system: Components & various mechanisms of defense.	07 Hrs

Details of Curriculum for First Year Diploma in Optometry Technician

PAPER 1st Theory	Topics	Hours.
2. Only basics of relevant Pathology, Pharmacology, Microbiology & Ocular Pharmacology.	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.	02 Hrs
	12. Basic idea of Anti Microbials.	20 Hrs
	13. Basic idea of Anti H-1 Histaminics & Corticosteroids.	02 Hrs
	14. Anti Glaucoma drugs.	15 Hrs
	15. Dyes used in Ophthalmology.	05 Hrs
	16. Artificial tears & Other drugs used in dry eye.	05 Hrs
	17. Topical Antimicrobials & NSAIDs and Steroids used in eye.	20 Hrs
	18. Mydriatics & Cycloplegics	05 Hrs
	19. Various methods of drug administration in eye.	15 Hrs

Details of Curriculum for First Year Diploma in Optometry Technician

PAPER 2nd Theory	Topics	Hours.
1. Detailed Ocular Anatomy and Physiology	1. Detailed Structure of Orbit & Contents of orbit.	10 Hrs
	2. Eye ball: Comprehensive anatomy.	05 Hrs
	3. Extra Ocular muscles: gross structure, origin, insertion, nerve supply and action.	10 Hrs
	4. Blood supply to eye & Nerve supply to eye.	15 Hrs
	5. Gross, microscopic anatomy, blood & nerve supply of Conjunctiva.	10 Hrs
	6. Gross, microscopic anatomy, blood & nerve supply of Cornea.	15 Hrs
	7. Gross, microscopic anatomy, blood & nerve supply of Sclera.	10 Hrs
	8. Gross, microscopic anatomy, blood & nerve supply of Uvea.	15 Hrs
	9. Gross, microscopic anatomy, blood & nerve supply of Lens.	10 Hrs
	10. Gross, microscopic anatomy, blood & nerve supply of Angle of AC.	05 Hrs
	11. Physiology of aqueous production and drainage.	10 Hrs
	12. Gross, microscopic anatomy, blood & nerve supply of Vitreous.	05 Hrs
	13. Gross, microscopic anatomy, physiology, blood & nerve supply of retina & optic nerve.	20 Hrs
	14. Gross, microscopic anatomy, physiology, blood & nerve supply of Visual/pupillary pathway.	20 Hrs

Details of Curriculum for First Year Diploma in Optometry Technician

PAPER 2nd Theory	Topics	Hours
2. Basic physics related to light and physical, physiological optics.	1. Introduction	05 Hrs
	2. Light – Definition & Theory	03 Hrs
	3. Properties of Light	05 Hrs
	4. Reflection & Refraction	07 Hrs
	5. Diffraction & Dispersion	05 Hrs
	6. Transmission & Absorption	05 Hrs
	7. Geometrical Optics	05 Hrs
	8. Spherical Lenses	05 Hrs
	9. Astigmatic & Toric Lenses	05 Hrs
	10. Prism	05 Hrs
	11. Vergence of Light	05 Hrs
	12. Magnification of Lenses	05 Hrs
	13. Homocentric Lenses System Gausse's Theorem	05 Hrs
	14. Optical Aberration of images -Spherical Aberration - Chromatic Aberration	05 Hrs
	15. Lasers Fundamental	10 Hrs
	16. Schematic & Reduced Eye Angle Alpha	05 Hrs
	17. Visual Acuity	05 Hrs
	18. VA-Testing	15 Hrs
	19. Retinocopy	20 Hrs
	20. Cycloplegic Drugs & Mydriatics	05 Hrs
	21. Subjective Refraction	05 Hrs
	22. Simple & Toxic Transposition	05 Hrs
	23. Spherical Equivalent	05 Hrs
	24. Accommodation & Convergence	15 Hrs

Details of Curriculum for First Year Diploma in Optometry Technician

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 Optometry Technician

Practical	Topics
	• Hands on training of Vision monitoring.
	• Hands on training of Subjective refraction.
	• Hands on training of Retinoscopy(wet and dry).
	• Hands on training of Prescribing lenses & prisms.
	• Hands on training of Tonometry (Schiotz).
	• Hands on training of Corneal staining.
	• Hands on training of Ishihara charting.
• Hands on training of Schirmer's test & TBUT.	

Details of Curriculum for Second Year Diploma in Optometry Technician

PAPER Ist Theory	Topics	Hours,
1. Details of Diseases of eye.	1. Common Symptoms in ophthalmology and Examination of eye.	15 Hrs
	2. Definition, Causes, s/s, investigations & management of error of refraction. (Myopia, Hypermetropia, Astigmatism, Presbyopia)	15 Hrs
	3. Definition, Causes, s/s, investigations & management of Diseases of Lacrimal apparatus. (Dacryocystitis, Lacrimal tumors, Dry eye, Watering of eye etc.)	15 Hrs
	4. Definition, Causes, s/s, investigations & management of Diseases of eyelids. (Ptosis, Lagophthalmos, blepharitis, stye, chalazion, int. hordeolum, Trichiasis, entropion, ectropion, Blepharospasm)	20 Hrs
	5. Definition, Causes, s/s, investigations & management of Diseases of Conjunctiva. (Conjunctivitis, Pterygium, Pinguecula, red eye, sub-conj. bleed)	15 Hrs
	6. Definition, Causes, s/s, investigations & management of Diseases of Cornea. (Keratitis, Corneal ulcer, Corneal opacity, keratoconus, keratoplasty)	15 Hrs
	7. Definition, Causes, s/s, investigations & management of Diseases of Sclera. (Episcleritis, Scleritis & Staphyloma)	10 Hrs
	8. Definition, Causes, s/s, investigations & management of Diseases of uvea. (Uveities, endophthalmitis, Pan ophthalmitis)	15 Hrs
	9. Definition, Causes, s/s, investigations & management of Diseases of lens. (Cataract, Latest techniques in surgery of Cataract, Subluxation/dislocation of lens)	20 Hrs
	10. Definition, Causes, s/s, investigations & management of Diseases of Angle of AC. (Glaucoma)	20Hrs
	11. Definition, Causes, s/s, investigations & management of Diseases of Vitreous. (Vitreous haemorrhage, Vitreal opacities, Vitrectomy)	05Hrs
	12. Definition, Causes, s/s, investigations & management of Diseases of Retina (Diabetic & hypertensive retinopathy, RD, CSR, CME, Retinoblastoma, CRAO, CRVO, BRAO, BRVO Eagle's disease)	20Hrs
	13. Definition, Causes, s/s, investigations & management of Diseases of Optic nerve. (Optic neuritis, papillaedema, Optic atrophy)	15Hrs

Details of Curriculum for Second Year Diploma in Optometry Technician

1. Details of Diseases of eye.	14. Destructive surgeries of eyeball	05Hrs
	15. Definition, Causes, s/s, investigations & management of Diseases of Strabismus	10Hrs
	16. Definition, Causes, s/s, investigations & management of Diseases of Orbit. (Ptosis, Orbital fracture, Orbital cellulitis)	05Hrs
	17. Community ophthalmology (Blindness, Various programmes related of blindness)	05Hrs
	18. Miscellaneous Vitamin A deficiency, Low vision aids, first aid in Ocular injuries.	10Hrs
	19. Definition, Causes, s/s. investigations & management of Amblyopia	10Hrs
	20. Color blindness	05Hrs

Details of Curriculum for Second Year Diploma in Optometry 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.	01 Hrs
	8. SC Injection.	01 Hrs
	9. Oxygen Therapy.	03 Hrs
	10. Nebulization	03 Hrs
	11. IV Infusion (Also with infusion pump).	01 Hr
	12. Care of Unconscious patient.	02 Hrs

Details of Curriculum for Second Year Diploma in Optometry Technician

PAPER 2nd Theory	Topics	Hours
1. Mechanical optics and Lenses, Lenses prescription.	1.A Brief History of Ophthalmic Lenses, Spectacles	05 Hrs
	2.Terms Used in Lens Workshop	05Hrs
	3.Ophthalmic Lens Material	20Hrs
	4.Lens Standard	10Hrs
	5.Ophthalmic Lens Blank Manufacture- Glass & Plastic	20Hrs
	6.Ophthalmic Prescription Lens Making	20Hrs
	7.Lens Defects	10Hrs
	8.Ophthalmic Lens Designs	20Hrs
	9.Types of Ophthalmic Lenses : Aspheric, High Index, Multifocal, Bifocal & Trifocal Lenses, Photo Chromatic Lenses, Polaroid Lenses, Tinted Lenses, Protective Lenses.	30Hrs
	10.Spectacles Frames: History, Nomenclature & Terminology, Classification.	10Hrs
	11.Types of Frame Material	10Hrs
	12.Types of Human Faces, Choice of Frames	10Hrs
	13.Cosmetic & Functional Dispensing of Spectacles	10Hrs
	14.Measurement for Ordering Spectacles : IPD, VD	10Hrs
	15.Special Measurement for Fitting Special Types of Lenses	10Hrs
	16.Fitting of Lenses in Various Types of frames	10Hrs
	17.Spectacles Intolerance	10Hrs
	18.Special types of Spectacles	10Hrs
	19.Dispensing of Prisms, Prismatic effect of lens	20Hrs
	20.Contact Lenses	20Hrs
	21.Low Vision Aids	10Hrs
	22.Magnification by Lenses	20Hrs

Details of Curriculum for Second Year Diploma in Optometry Technician

PAPER 2nd Theory	Topics	Hours.
2. Instruments and equipments used in eye.	1. Refractometer	10Hrs
	2. Lensometer	05Hrs
	3. Keratometer	05Hrs
	4. Ophthalmoscope	10Hrs
	5. Slit Lamp	10Hrs
	6. Corneal Loupe	05Hrs
	7. Operating Microscope	05Hrs
	8. Perimeter	03Hrs
	9. Tonometer	05Hrs
	10. Gonioscope	03Hrs
	11. Pachymeter	02Hrs
	12. Exophthalmometer	02Hrs
	13. ERG, EOG, VER	05Hrs
	14. Orthoptic instruments like synoptophore etc	15Hrs
	15. A and B scan	05Hrs
	16. Retinoscopes	05Hrs
	17. Ishihara Chart	05Hrs

PAPER 2nd Theory	Topics	Hours.
3. Community ophthalmology.	Introduction	03Hrs
	National Programme for Control of Blindness	17Hrs
	National Immunization Programme	10Hrs
	Blindness : Causes and its Prevention	20Hrs

PAPER 2nd Theory	Topics	Hours.
4. Drugs used in Optometry.	1. Topical NSAIDS.	05Hrs
	2. Topical Steroids.	05Hrs
	3. Anti Glaucoma drugs.	10Hrs
	4. Anti VEGF drugs.	05Hrs
	5. Cycloplegics & Mydriatics.	10Hrs
	6. Drugs used in dry eye.	10Hrs
	7. Dyes used in ophthalmology.	05Hrs
	8. Topical Antimicrobials.	10Hrs

Curriculum
for
Practical :- Second Year
Diploma in Optometry Technician

	Topics
Practical	• Hands on training of slit lamp biomicroscope examination.
	• Hands on training of Gonioscopy.
	• Hands on training of Applanation tonometry.
	• Hands on training of Syringing.
	• Hands on training of Perimetry.
	• Hands on training of Keratometry, A scan.
	• Hands on training of B Scan.
	• Hands on training of Direct ophthalmoscopy.
	• Hands on training of Indirect Ophthalmoscopy.
	• Hands on training of assistance in Common Ocular surgeries.
	• Hands on training of Fundus Camera & FFA.

**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.

Diploma in Physiotherapy Technician course

FIRST YEAR

Paper	Name of Paper	Internal	External	Total
Theory First Paper	Anatomy, Physiology, Pathology, Microbiology & Pharmacology.	25	75	100
Theory Second Paper	Basics of exercise & electrotherapy.	25	75	100
Practical		25	75	100

SECOND YEAR

Paper	Name of Paper	Internal	External	Total
Theory First Paper	Relevant medical & surgical diseases.	25	75	100
Theory Second Paper	Applied Physiotherapy in medical & surgical diseases.	25	75	100
Practical		25	75	100

**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.
I. 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
I. 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.	03 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).	15 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. Mechanical Principles:- 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. LASERS Definition, Types, Production, Indications, contraindications Technique of Application	20 Hrs
	12. Mechanical traction and CPM Uses and Technique of application, Precautions.	10 Hrs
	13. MASSAGE THERAPY 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.	01 Hrs
	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.
I. 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 & rôle 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 fasciitis & role of Physiotherapy in Tennis elbow, Golfer's, elbow Tenosynovitis, Plantar fasciitis.	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 JFT 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**

Practical	Topics
	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.

**Syllabus and Curriculum
of
Diploma in Operation Theatre 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 **OT technician** who –

- Can prepare OT before surgery including process of sterilization.
- Can assist common surgeries to respective surgeons as first assistant.
- Can use C-Arm and other imagings effectively.
- Can take care of patient in post operative room.
- Can maintain all records.
- Can do CPR.
- Can perform basic nursing procedures like IV/IM/SC injections, Nebulization, catheterization ,Oxygen therapy.
- Can provide Psychological support to the patient & counsel him & his/her relatives.

Diploma in Operation Theatre Technician course

FIRST YEAR

Paper	Name of Paper	Internal	External	Total
Theory First Paper	Anatomy, Physiology, Pathology, Microbiology & Pharmacology.	25	75	100
Theory Second Paper	Surgical Anatomy & Basics of O.T. Techniques.	25	75	100
Practical		25	75	100

SECOND YEAR

Paper	Name of Paper	Internal	External	Total
Theory First Paper	Relevant medical & surgical diseases.	25	75	100
Theory Second Paper	Practical O.T. techniques & CSSD techniques.	25	75	100
Practical		25	75	100

**Outline of Curriculum
of
Diploma in Operation Theatre 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 (including anaesthetic agents) & Microbiology.

Second paper : Syllabus covers -

1. Detailed Surgical Anatomy.
2. Basics of OT techniques, CSSD techniques and Anaesthesia techniques.
3. Hand hygiene & prevention of cross infection.
4. Basics 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/ OT for practicals.

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

(Observership for Pre-operative preparation, Intra-operative assistance, Post operative care & CSSD techniques).

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 Operation Theatre Technician course**

SECOND YEAR

THEORY (classes:9 AM to 12 Noon)

First paper : Syllabus covers -

1. Only relevant surgical & medical conditions (relevant to OT technician).
2. Nursing Procedures like vital recording, IM/IV/SC injection, Oxygen therapy, Nebulization,, catheterisation, IV infusion.

Second paper : Syllabus covers -

1. Details of common surgeries & applied OT techniques.
2. Basics of CSSD & sterilization practices, biomedical waste management.
3. Basic biomedical engineering physics of OT equipments & instrument.

SECOND YEAR

PRACTICAL (classes:9 AM to 12 Noon)

Practical exams syllabus should cover-

- Hands on training of Hand wash/scrubbing & sterilization practices.
- Hands on training of pre operative preparation.
- Assisting surgeries.
- Hands on training of Post operative care.
- Hands on training of biomedical waste management.
- Hands on training of BLS.
- Hands on training of basic anaesthesia techniques.
- Hands on training of use of drugs used in OT.

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 (including anaesthetic agents) & Microbiology.</p>	75	25	100	50	3 Hours
<u>Second Paper Theory</u>	<p>1.Detailed Surgical Anatomy.</p> <p>2.Basics of OT techniques, CSSD techniques and Anaesthesia techniques.</p> <p>3.Hand hygiene & prevention of cross infection.</p> <p>4.Basics 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>	1. Only relevant surgical & medical conditions (relevant to OT technician). 2. Nursing Procedures like vital recording, IM/IV/SC injection, Oxygen therapy, Nebulization, IV infusion.	75	25	100	50	3 Hours
<u>Second Paper Theory</u>	1. Details of common surgeries & applied OT techniques. 2. Basics of CSSD & sterilization practices, biomedical waste management. 3. Basic biomedical engineering physics of OT equipments & instrument.	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).	300 Hrs
	2.Only basics of relevant Pathology, Pharmacology (including anaesthetic agents) & Microbiology.	120 Hrs
<u>Second Paper Theory</u>	1.Detailed Surgical Anatomy.	50 Hrs
	2.Basics of OT techniques, CSSD techniques and Anaesthesia techniques.	140 Hrs
	3.Hand hygiene & prevention of cross infection.	30 Hrs
	4.Basics life support (BLS) & Cardio-pulmonary resuscitation (CPR).	40 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 OT technician).	450 Hrs
	2. Nursing Procedures like vital recording, IM/IV/SC injection, Oxygen therapy, Nebulization, IV infusion	20 Hrs
<u>Second Paper Theory</u>	1. Details of common surgeries & applied OT techniques.	190 Hrs
	2. Basics of CSSD & sterilization practices, biomedical waste management.	60 Hrs
	3. Basic biomedical engineering physics of OT equipments & instrument.	60 Hrs
<u>Third Paper Practical</u>	As described in curriculum	780 Hrs

**Details of Curriculum for First Year
Diploma in Operation Theatre 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.)	30 Hrs
	8. Respiratory tract: Location, Gross structure, various parts & their functions. Details of breathing mechanism, different respiratory volumes. (Microscopic structure is not required.)	30 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.)	10 Hrs
	11. Female reproductive system: Only gross structure & functions of different parts. (Microscopic structure is not required.) Menstrual cycle.	10 Hrs

**Details of Curriculum for First Year
Diploma in Operation Theatre Technician**

PAPER 1st Theory	Topics	Hours.
I. 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.)	30 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.	20 Hrs

**Details of Curriculum for First Year
Diploma in Operation Theatre Technician**

PAPER 1st Theory	Topics	Hours
2. Only basics of relevant Pathology, Pharmacology (including anaesthetic agents) & Microbiology.	1. Basic steps of Acute & chronic inflammation and Healing of wound.	05 Hrs
	2. Basics of Necrosis & apoptosis.	02 Hrs
	3. Basics of Shock.	02 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.	02 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.	03 Hrs
	15. Basic idea of Anti Microbials.	20 Hrs
	16. Basic idea of Anti H-1 Histaminics & Corticosteroids.	01 Hrs
	17. Drugs used in anaemia.	02 Hrs
	18. Anaesthetic agents(LA&GA).	25 Hrs
	19. Muscle relaxants.	05 Hrs

**Details of Curriculum for First Year
Diploma in Operation Theatre Technician**

PAPER 2nd Theory	Topics	Hours.
1.Detailed Surgical Anatomy.	1. Detailed Structure of Anterior abdominal wall including clinical anatomy of Hernia.	10 Hrs
	2. Detailed Structure of Posterior abdominal wall.	03 Hrs
	3. Detailed Structure of thoracic wall.	03 Hrs
	4. Concept of meninges & SCALP.	03 Hrs
	5. Surface anatomy & Important bony land marks.	13 Hrs
	6. Concept of Mediastinum.	03 Hrs.
	7. Skin as sensory organ.	03 Hrs
	8. Applied Ocular anatomy.	02 Hrs
	9. Location of major muscles of body.	10 Hrs

**Details of Curriculum for First Year
Diploma in Operation Theatre Technician**

PAPER 2nd Theory	Topics	Hours.
2. Basics of OT techniques, CSSD techniques and Anaesthesia techniques.	1. Hand wash & surgical scrubbing.	03Hrs.
	2. Pre-operative preparation of patient including surgery site.	07 Hrs
	3. Post operative care including dressing.	05 Hrs
	4. Basic idea of various methods of sterilization & basic functioning of CSSD.	15 Hrs
	5. Various positions used in different surgeries.	15 Hrs
	6. Types of anaesthesia, Boyle's machine & anaesthesia work station.	10 Hrs
	7. Gases used in anaesthesia.	08 Hrs
	8. Triage of patients.	02 Hrs
	9. Diagram & details of hand instruments used in common surgeries.	40 Hrs
	10. Pre anaesthetic check up	03 Hrs
	11. Infection control in OT	05 Hrs
	12. Basic idea of different IV fluids	05 Hrs
	13. Needles , sutures and knots.	15 Hrs
	14. Caution.	05 Hrs

**Details of Curriculum for First Year
Diploma in Operation Theatre Technician**

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 Operation Theatre Technician**

Practical	Topics
	1. Hand wash & scrubbing.
	2. Basics of various methods of sterilization.
	3. Care & identification of all equipments, instruments & hand instruments related to OT.
	4. Pre-operative care & preparation.
	5. Post-operative care of patient.
	6. BLS.
	7. Using medical gases.
	8. Working as second assistant.
	9. Details about sutures, needles, knots.
	10. IV fluids use.
	11. Recording vitals.
	12. IV, IM injection, Urinary catheterization.
	13. Glove, Gown, Personal protection equipments.

**Details of Curriculum for Second Year
Diploma in Operation Theatre Technician**

PAPER Ist Theory	Topics	Hours.
1. Only relevant surgical & medical conditions (relevant to OT technician).	1. History taking. General examination of the patient. Filling Case-sheet. Common clinical words.	15 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.	30 Hrs
	7. <u>Diseases of GIT & Liver & GB</u> :-Reflux Oesophagitis, Peptic ulcers, Gastritis, Intestinal Obstruction, Hepatitis, Cirrhosis of liver, Cholecystitis, appendicitis, Hernia, Piles, Fissure, Fistula, Pancreatitis, Pancreatic Cancer.	60 Hrs
	8. <u>Diseases of Nervous system</u> :- Stroke, Meningo-encephalitis, Glasgow coma scale, Epilepsy, Head Injury.	30 Hrs
	9. <u>Diseases of Urinary tract</u> :- Urolithiasis, Benign prostatic hyperplasia, Hydrocoele, Cancer prostate, urethral stricture, Hypo & epi-spadias.	40 Hrs
	10. <u>Endocrine system</u> :- Diabetes mellitus, hypo & Hyper thyroidism.	10 Hrs
	11. <u>Miscellaneous</u> :- Hypo & Hyper Nairaemia, Hypo & Hyper Kalaemia, Hypo & Hyper Calcaemia.	10 Hrs
	12. <u>Infections diseases</u> :- TB, Typhoid, Malaria, Dengue fever, Leprosy, AIDS, Amoebiasis.	30 Hrs

**Details of Curriculum for Second Year
Diploma in Operation Theatre Technician**

PAPER 1st Theory	Topics	Hours.
1. Only relevant surgical & medical conditions (relevant to OT technician).	13. Head injury & Intracranial bleed.	20 Hrs
	14. D's of G& O: Caesarian section, fibroid uterus, Cancer uterus, prolapse uterus, PID.	20 Hrs
	15. Basics about fracture & management.	50 Hrs
	16. PIVD, Potts spine.	10 Hrs
	17. Oral cavity tumors.	10 Hrs
	18. Eye d's : Cataract, Glaucoma.	10 Hrs
	19. ENT: CSOM, ASOM, Laryngeal tumor, Nasal polyp, DNS.	20 Hrs
	20. Paediatric surgery:- Diaphragmatic Hernia, Meningo-Myelocoele & Spina bifida, Cystic hygroma, Basic of Congenital Heart d's, Hirschsprung d's, Ano-rectal malformation.	40 Hrs

**Details of Curriculum for Second Year
Diploma in Operation Theatre 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.	01 Hr
	3. BP monitoring.	01 Hr
	4. Respiration monitoring.	01 Hr
	5. Types of Injection routes.	01 Hr
	6. IM Injection.	01 Hr
	7. IV Injection.	01Hr
	8. SC Injection.	01 Hr
	9. Oxygen Therapy.	03 Hrs
	10. Nebulization	01 Hr
	11. IV Infusion (Also with infusion pump).	01 Hr
	12. Care of Unconscious patient.	02 Hrs
	13. Urinary Catheterization.	03 Hrs

Details of Curriculum for Second Year Diploma in Operation Theatre Technician

PAPER 2nd Theory	Topics	Hours.
1. Details of common surgeries & applied OT techniques.	1. Various Incisions and Suterings.	10 Hrs
	2. Use of Cautery machine.	05 Hrs
	3. Incision & drainage.	05 Hrs
	4. Mastectomy & MRM.	05 Hrs
	5. Open reduction & internal fixation.	15 Hrs
	6. Laboratory.	10 Hrs
	7. Craniotomy.	05 Hrs
	8. EDH, SDH & Intra parenchymal bleed drainage.	05 Hrs
	9. Cholecystectomy : Open & Laparoscopic.	10 Hrs
	10. Appendectomy: Open & Laparoscopic.	10 Hrs
	11. Hernioplasty & Herniotomy.	10 Hrs
	12. Haemorrhoidectomy : Conventional & stapler.	10 Hrs
	13. Lower segment caesarian section.	10 Hrs
	14. Hysterectomy : Abdominal, Vaginal & laparoscopic.	10 Hrs
	15. Surgery for fistula in ano.	05 Hrs
	16. Surgery for Rectal prolapse.	05 Hrs
	17. Surgery for Intestinal perforation.	10 Hrs
	18. Surgery for Gastric perforation.	05 Hrs
	19. ureteroscopic removal of urinary stone.	05 Hrs
	20. TURP.	05 Hrs
	21. Surgery for Cataract.	05 Hrs

**Details of Curriculum for Second Year
Diploma in Operation Theatre Technician**

PAPER 2nd Theory	Topics	Hours.
1.Details of common surgeries & applied OT techniques.	22. Surgery for Glaucoma.	05 Hrs
	23. Surgery for DNS.	05 Hrs
	24. Thyroid surgery.	05 Hrs
	25. Thoracotomy.	10 Hrs

PAPER 2nd Theory	Topics	Hours.
2.Basics of CSSD & sterilization practices, biomedical waste management.	1. Various methods of Sterilization.	20 Hrs
	2. Aseptic practices.	20 Hrs
	3. Basics of Biomedical waste management.	20 Hrs

PAPER 2nd Theory	Topics	Hours.
3.Basic biomedical engineering physics of OT equipments & instrument.	1. Boyle's apparatus.	05 Hrs
	2. Anaesthesia work station.	20 Hrs
	3. Cautery machine.	10 Hrs
	4. Surgical endoscopes & Laparoscopes.	15 Hrs
	5. Monitors.	05 Hrs
	6. C- Arm.	05 Hrs

**Curriculum
for
Practical :- Second Year
Diploma in Operation Theatre Technician**

	Topics
Practical	1. Hand on training as first assistant in common surgeries as listed in paper second.
	2. Hand on training of maintaining Asepsis in OT.
	3. Hand on training of biomedical waste management.
	4. Hand on training on taking various consents & keeping records.