



Govt. of Jammu & Kashmir
Govt. Unani Medical College & Associated Hospital
Nawabagh, Ganderbal Kashmir

Subject:- Engagement of staff under SO 364 of 2020 dated 17.11.2020-
 Syllabus therefor.

OFFICE ORDER NO:- 50 -GUMC OF 2025
D A T E :- 18 -03-2025

WHEREAS, vide Notification No. 01 of 2022 dated 02.08.2022, following posts were advertised, in the relevant pay scales and prescribed qualifications, for selection of candidates under the Jammu and Kashmir Medical & Dental Education (Appointment on Academic Arrangement Basis) Rules, 2020, notified vide SO 364 of 2020 dated 27.11.2020, in the Govt. Unani Medical College cum Hospital, Nawabagh Ganderbal, Kashmir :-

S.No	Department	Name of the post	Number of the post(s)	Category
01	Operation Theater	Operation Theater Assistant	01	OM
02	X Ray Unit	X Ray Technician	01	OM
03	ECG Section	ECG Technician	01	OM

AND WHEREAS, subsequently, vide another notification bearing No. 01 of 2024 dated 01.07.2024, following posts were advertised for engagement, under SO 364 of 2020 dated 27.11.2020, in the college & its associated hospital: -

S.No	Department	Name of the post	Number of the post(s)	Category
01	Associated Hospital	Junior Staff Nurse Dresser Dark Room Attendant	02 01 01	OM=01 SC=01 OM=01 OM=01
02	Operation Theater	Dresser	01	OM=01
03	Technical Staff	Dental Assistant	01	OM=01
04	Clinical Laboratory	Lab. Technician	02	OM=01 SC=01

AND WHEREAS, vide SO 180, dated 28th May, 2020, issued by the **General** Administration Department, vide endorsement No. GAD(ADMN)160/2015-I dated 28.05.2020, it has been inculcated that there shall be no oral test for the posts upto and including pay level 5 (Rs. 29200-92300) and the selection for all such posts shall be made on the basis of written test only with further stipulation that trade test/skill

test wherever prescribed shall continue to be held as per the relevant recruitment rules; .

AND WHEREAS, the above advertised posts other than the post of Dark Room Attendant fall within the pay level 4(Rs. 25500-81100) and the post of Dark Room Attendant fall within the pay level SL-2 (15900-50400) ;

AND WHEREAS, from the interpretation of above rule position, all the above posts are to be filled up by way of written test, to be conducted by the designated committee, as prescribed in Rule 6 of the SO 364 of 2020 dated 27.11.2020;

AND WHEREAS, in order to appear in the written test by the eligible candidates, the syllabus for such posts is mandatory to be notified, so that candidates will prepare for the exams as per the notified syllabus.

Now therefore, taking on board the provisions of SO 180 dated 28.05.2020, the syllabus for the above referred posts is hereby notified, forming annexure, A, B,C,D,E and F of this order, for the cognizance of the candidates, appearing for the written tests, to be conducted by this institution, shortly, after completion of the other requisite formalities.

By order.


(Mohammad Abdullah)
Administrative Officer,

No:-GUMC/Admn/02/2025

DATED:- -03-2025

Copy to the:-

- 01/ Secretary to the Govt. Health and Medical Education Department, Civil Secretariat, Srinagar/Jammu.
- 02/ Administrator, Govt. Medical College, Srinagar.
- 03/ Director AYUSH, J&K, Jammu/Srinagar
- 04/ Joint Director Information, J&K, Srinagar. He is requested to give the wide publicity to the order in the leading local dailies of Jammu & Kashmir as well as national newspapers, for three consecutive days, for the appraisal of the students.
- 05/ Incharge Website, GUMC Ganderbal. He is requested to upload the order together with syllabus, on the official website of the GUMC Ganderbal, at an earliest.
- 06/ Nodal Officer, Govt. GUMC, Ganderbal
- 07/ Accounts Officer, GUMC Ganderbal.
- 08/ Private Secretary to the Principal, Govt. Unani Medical College Cum Hospital, Ganderbal, Kashmir.
- 09/ Office order file.

Annexure - "A"

**Syllabus
for
TWO YEARS DIPLOMA COURSE IN
OPERATION THEATRE ASSISTANT /
TECHNOLOGY (OTT)**



**JAMMU & KASHMIR
STATE PARA-MEDICAL AND
NURSING COUNCIL**

**Government Medical College
Jammu / Srinagar**

1st YEAR
PAPER - A

A. ANATOMY & PHYSIOLOGY

1. Elementary Physics & Chemistry
2. Characteristics of Living Matter
3. Structure of Living Matter
4. The Tissues
5. Systems and Various Parts of Human Body
6. Development & Types of Bones
7. Bones of Head & Trunk
8. Bones of the Limbs.
9. Joints of Articulations
10. Structure and action of muscles.
11. The chief muscles of the body.
12. The Brain.
13. The Heart and Blood vessels.
14. The circulatory system.
15. The Lymphatic System
16. The Respiratory System.
17. The Digestive System
18. The Liver, Biliary System and Pancreas.
19. Nutrition & Metabolism

20. Endocrine Glands and Exocrine Glands. 2
21. The Urinary System.
22. The Nervous System.
23. The Ear
24. The Eye
25. The Skin
26. The Reproductive System.

B. PHARMACOLOGY

1. Introduction - IV fluids, Blood and it's products, surgical nutrition (Enteral & Parenteral)
2. Analgesics & Antipyretics
3. Antibiotics and Disinfectants
4. Anaesthetic agents.

C. BIOCHEMISTRY

1. Introduction
2. Metabolism of Carbohydrate, Protein, Fat
3. Common biochemical examinations.
4. Collection and sending of materials.

D. MICROBIOLOGY:

1. Introduction to common pathogens
2. Bacterial & Viral disorders - transmission & prevention.
3. Principles of diagnosis & sending of materials.
Sterilization and other preventive aspects.

E. SURGICAL INSTRUMENTS

(Including Sterilization and Disinfection, Different Methods, Protection of Patients in Surgery, preparation of patients)

1. Preoperative Consideration

Psychological Support of the Surgical Patient.

2. Protection of the Patient in Surgery.

- Admission Process
- Transfer Procedure Position.
- Environmental Controls
- Electro Surgery
- Operative Records
- Counting Procedure
- Sterilization

- Emergencies & Disasters

3. Surgical Instruments

- Instruments for General Surgery
- Operation of Face & Neck
- Operation of Nose, Throat and accessory Nasal Sinuses
- Ophthalmic Surgery
- Sinuses, Ear and Throat
- Operations on the Chest
- Operations on the Genito-Urinary Tract
- Gynaecological & Obstetric Operations
- Orthopedic Operations
- Neuro-Surgical Operations
- Operations on the Vascular System
- Radium Insertion
- Traumatic Surgery

PAPER - B**A. SURGICAL PROCEDURES:****a. Neck Surgery**

- Thyroidectomy
- Parathyroidectomy

b. Breast Procedures

- Breast Biopsy
- Mastectomy

c. Abdominal Extra intestinal Surgery

- Abdominal Laprotomy
- Abdominal Herniography
- Cholecystectomy
- Drainage of Pancreatic Cyst (Pseudo Cyst)
- Pancreatectomy
- Hepatic Resection
- Splenectomy

d. Gastrointestinal Surgery

- Esophagoscopy
- Gastroscopy
- Colonoscopy

- Sigmoidoscopy
- Gastrectomy
- Small Bowel Resection
- Appendectomy
- Colostomy
- Closure of Colostomy
- Haemorrhoidectomy
- Pilonidal Cystectomy and Sinusotomy

e. **Gynaecological and Obstetric Surgery**

- Dilatation of the Cervix and Curettage of the Uterus (D&C)
- Therapeutic Abortion by Suction Curettage
- Abdominal Ligation (Different Procedures)
- Vaginal Hysterectomy
- Laparoscopy
- Total Abdominal Hysterectomy
- Tuboplasty of the Fallopian Tubes
- Caesarian Section

f. **Genito-Urinary Surgery**

- Hypospadias Repair
- Epispadias Repair
- Penile Implant

- Hydrocoelelectomy
- Vasectomy
- Spermatocoelectomy
- Orhectomy
- Cystoscopy
- Transurethral Resection of the Prostate (TURP)
- Open Prostectomy
- Nephrectomy
- Upper Tract Urolithotomy
- Ureterolithotomy, Phelolithotomy, Nephrolithotomy
- Extracorporeal shock Wave Lithotripsy (ESWL)
- Ultrasonic Lithotripsy

g. Thoracic Procedures

- Bronchoscopy
- Mediastioscopy
- Segment Resection of the Lung
- Pulmonary Lobectomy
- Pneumonectomy
- Insertion of Intravenous Endocardial Pacemaker

h. Cardiovascular Surgery

- Carotid Endartectomy

- Abdominal Aortic procedures
- Abdominal Aortic Aneurysmectomy,
- Abdominal Aortic Endartectomy
- By-pass surgery (Different procedures)

i. **Orthopedic Surgery**

- Open Reduction of Carpal Bone Fracture
- Excision of a ganglion
- Carpal Tunnel Release
- Open Reduction of the Humerus
- Open Reduction of the radius and Ulna
- Repair of Recurrent Anterior Dislocation of the Shoulder
- Open Reduction of Fracture of the Humerus Head.
- Internal Fixation of the Hip
- Femoral Head prosthetic Replacement
- Total Hip Replacement
- Open Reduction of the Femoral Shaft
- Total Ankle Joint Replacement
- Open Reduction of Ankle
- Arthrotomy of the Knee
- Total Knee Replacement

- Open Reduction of the Tibial Shaft
- Procedure for Correction of Scoliosis.
- Amputation of Lower Extremity

J. Neurological Surgery

- Craniotomy
- Cranioplasty
- Transphenodal Hypophysectomy
- Ventricular Shunts
- Laminectomy

**2nd YEAR
PAPER - A****1. Plastic Surgery**

- Cleft Lip Repair
- Cleft Palate Repair
- Reduction of Nasal Fracture
- Reduction of Mandibular Fracture
- Reduction of Zygomatic Fracture
- Open Reduction of an orbital Floor Fracture
- Rhinoplasty
- Digital Flexor tendon repair
- Peripheral nerve repair
- Palmar fasciectomy
- Reduction Mamoplasty
- Abdominoplasty / Abdominal Liposuction
- Liposuction

2. Otorhinolaryngologic (ENT) Surgery

- Myringotomy
- Mastoidectomy
- Tympanoplasty
- Stapedectomy
- Submucous resection of nasal septum/
septoplasty
- Nasoantral Wall
- Nasal Polypectomy
- Drainage of the Frontal Sinus
- Tonsillectomy and adenoidectomy (T and A)
- Laryngectomy

- Radical Neck Dissection

3. Ophthalmic Surgery:

- General Information
- Excision of a Chlazion
- Canthotomy
- Corection of Ectroplon
- Lacrimal Duct Probing
- Correction of Strabismus
- Orbital Extenteration
- Corneal Transplant / Ekeratoplasty
- Cataract Extraction
- Iridectomy
- Trabeculectomy
- Vitrectomy
- Refractive Keratoplasty

4. Pediatric Procedures:

- Pediatric General Information.
- Pediatric Sinusectomy
- Repair of Congenital Diaphragmatic Hernia
- Omphalocele repair.
- Pediatric Umbilical Herniography
- Insertion of a central Venous Catheter (Pediatric)
- Pediatric Gastrostomy
- Relief of Intestinal Obstruction (Pediatric)
- Reduction of Pediatric intususception
- Pediatric Colostomy

PAPER - B**A. DIFFERENT METHODS AND PROCEDURES FOR ANAESTHESIA,**

Preparation of Patient for Anaesthesia, Intensive Care etc.

1. Anaesthesia

- General Information

2. General Anaesthesia**3. Conduction Anaesthesia**

- Spinal
- Epidural
- Caudal
- Local
- Topical

4. Methods for Preparation of the Patients for Anaesthesia: Sterilization, Disinfection and Waste Disposal

1. Sterilization of equipments and instruments. CSSD
2. OT Sterilization
3. Prevention of Transmission & care of Immuno compromised Waste disposal.

5. Surgical Procedures and Monitoring
6. Operation Theatre Ethics / Discipline, Safety for operating room personnel, preparation of instrumental trays, national health programmes & policy and health care delivery system in the country etc.

a. **Safety for operation room personnel**

- In service education
- Body mechanic
- Fatigue factors
- Radiation Safety
- Infection Control
- Chemical hazards

b. **Preparation of Instrumental Trays**

- Major procedures tray
- Basic/Minor procedures tray
- Limited procedures tray
- Thyroid tray
- Long instruments tray
- Biliary Tract procedures tray
- Choledochoscopy tray
- Basic rigid sigmoidoscopy tray
- Gastrointestinal procedures tray

- Rectal procedures tray

c. **Gynaecological and Obstetric Trays**

- Dilatation of the cervix and curettage of the Uterus (D&C Tray)
- Cervical cone tray
- Laparoscopy
- Abdominal Hysterectomy
- Caesarian section tray
- Vaginal Hysterectomy tray

d. **Genito-Urinary Tray**

- Vasectomy tray
- Open Prostatectomy
- Kidney tray

e. **Thoracic Trays**

- Mediastinoscopy tray
- Thoractomy tray
- Pacemaker tray

f. **Cardiovascular trays**

- Vascular procedures tray
- Vascular shunt tray
- Cardiac procedures tray

g. Orthopedic tray

- Basic orthopedic procedures tray
- Minor orthopedic procedures tray
- Bone holding instruments tray
- Hip Retractor tray
- Knee Arthrotomy tray
- Knee or Ankle Anthroscopy tray

h. Neurologic Procedures Tray

- Craniotomy tray
- Laminectomy tray
- Kerrison Rongeurs and Pituitary corceps tray

i. Otorhinolaryngologic (ENT) Tray

- Basic ear procedures tray
- Nasal procedures tray
- Tonsillectomy and Adenoidectomy tray
- Tracheostomy tray
- Antral puncture tray

J. Ophthalmic Trays

- Basic Eye procedures tray
- Eyelid and Conjuncnional procedures tray
- Basic eye muscle procedures tray
- Corneal procedures tray

- Cataract Extrecton and Lens procedures tray
- Glaucoma procedures tray
- Basic eye procedures / Laparoscope tray
- Retinal procedures tray

k. Pediatric Tray

- Pediatric major procedures tray
- Pediatric minor procedures tray
- Pediatric gastro intestinal procedures tray.

(With special emphasis on National Health Programmes & Policies including Health Care delivery System of India).

"Annexure - B"

Syllabus for TWO YEARS DIPLOMA COURSE IN DENTAL ASSISTANT/TECHNOLOGY



JAMMU & KASHMIR
STATE PARA-MEDICAL AND
NURSING COUNCIL

Government Medical College
Jammu / Srinagar

1st YEAR

Anatomy & Physiology Including Histology

A. PRIMARY (FIRST YEAR)

ANATOMY (GENERAL AND DENTAL)

General structures

- i. Muscles - Especially muscles of mastication & facial expression.
- ii. Bones - Bones of skull-Especially Maxilla, Mandible and Facial, Bony Joints especially Tempo-mandibular joint.
- iii. Blood Vessels
- iv. Lymphatics
- v. Glands-Especially Submandibular, Sub-lingual and Parotid.
- vi. Nerves

DENTAL ANATOMY:

- i. Parts of a Tooth:
- ii. Human Dentition-Primary/Deciduous and permanent/secondary-Different stages of human dentition. Difference between primary and permanent dentition.
- iii. Tooth Numbering Systems:
 - a) FDI
 - b. Zsigmondy Palmer System
- iv. Sequence of Eruption of Primary and Secondary dentition and eruption dates; different types of Malocclusion.
- v. Functions of Teeth.
- vi. Gross morphology of teeth; tooth surfaces (mesial, distal, labial, lingual, incisal, occlusal), Cusps, ridges, lingulum, sulcus, grooves/fissure, pit & fissure, roots & root canals-brief.
- viii. Blood and nerve supply to the face, & associated structures.

- a) Facial Nerve and Facial Artery.
- b) Trigeminal Nerve.
- viii. Tongue-Muscles, Nerve and blood supply, taste buds.

HISTOLOGY:

- i. General Histology-Animal Cell Structure, structure of mucous membrane.
- ii. Dental Histology - Enamel, Dentin, Pulp, Gingiva, periodontal Ligaments, Cementum.

PHYSIOLOGY:

- i. Blood-Composition, function etc. in detail.
- ii. Cardiovascular system-Pulmonary & System circulation.
- iii. Respiratory System in brief.
- iv. Excretor System in brief.
- v. Digestive system - structure, function, digestive secretions etc.

vi. Dental Physiology-

- a) Saliva - Composition, function, different types of saliva (i.e. Mucous, serous, mixed).
- b. Mastication and deglutition.

PRACTICAL

Study of prepared histological slides of oral and dental tissues, Sections of a tooth, Routine blood and urine examination.

B. PHARMACOLOGY, PATHOLOGY AND BACTERIOLOGY / MICROBIOLOGY:**PHARMACOLOGY:**

- i. General Pharmacology.
- ii. **Antibiotics-** especially - Penicillins, Tetracyclines, Metronidazole, Ciprofloxacin (Functions, dosage, uses, contraindications, adverse reactions etc.)

- iii. **Analgesics-** Steroids, Non-steroidal and anti-inflammatory.
- iv. **Anaesthesia-** General and Local
Local- Composition and function of each component, dosage, classification, action, adverse reaction and route of administration.
- v. **Hypnotics, Sedative and Epileptic drugs** - in brief.
- vi. **Drugs used in hypertension.**
- vii. **Drugs acting on GIT (Antacids, H₂ blockers - ranitidine) brief.**
- viii. **Dentrifices** - Composition (function of each component - dental).
- ix. **Mouthwashes and Gumpaints.**

PATHOLOGY: (Including Microbiology and Bacteriology)

- i. **General Principles of Pathology** - inflammation, degeneration and repair.
- ii. **Dental Anomalies-**
 - a. **Development defects of the jaws-**

- Agnathia, Micrognathia & Macrognathia.
- b. D.D. of Lips and Palate - Cleft lip, Cleft palate.
 - c. D.D. of Tongue - Microglossia, Macroglossia, Ankyloglossia.- Cleft and Fissured Tongue, Hairy tongue.
 - d. D.D. of Salivary Glands - Aplasia of salivary gland, Xerostomia
 - f. D.D. of size of teeth - Microdontia and Macrodontia.
 - g. D.D. of shape of teeth - Gemination, fusion, concrescence. dilaceration, talon cusp, dense in dente, dense evaginatus, taurodontism, upernumery roots.
 - h. D.D. in number of teeth - Anodontia, supernumery teeth.
 - i. D.D. of structure of teeth- Amelogenesis Imperfecta - Hypoplastic, hypocalcified, hypomaturation.
- Environmental enamel hypoplasia

- Dentogenesis imperfecta in brief.
- J. Disturbance in the Eruption of the teeth -
Premature, Delayed and Impacted.
- k. Regressive alterations of teeth - Abrasion,
Erosion, Attrition.
- i. Pathology of Dental Caries - Definition,
etiology of dental caries-acidogenic,
proteogenic, proteolysis -chelation theory
 - Contributing factors in dental caries
 - Clinical aspects of dental caries
 - Microbiology of dental caries - in brief.Methods of Caries control.
- m. Diseases of the pulp - Etiology of pulp
diseases and its classification.
- n. Diseases of Periapical tissues - Periapical
granuloma, apical periodontal cyst and
periapical abscess.
- o. Oral Manifestation of Systemic Disease -
Diabetes Mellitus, Hypertension, Anaemia,
Thyroid Disorders, Vitamin Deficiency

disease, Syphilis, Tuberculosis, Herpes simplex, Measles, Aphthous ulcers.

BACTERIOLOGY:-

Elementary knowledge of Bacteriology; infection, immunity; asepsis; brief description of dental caries & gingival infections.

C. RADIOLOGY AND FOOD NUTRITION

RADIOLOGY

- i. Production of X-Rays
- ii. **Exposing Factors relating to X-Rays.**
Exposure Time (Kvp.mAs), FFD, Collimation, Filtration.
- iii. Radiation Hazards and their protection for the patient and operator.
- iv. **X-Ray films-** Structure and image formation.
Intra-Oral, Peri-apical, Bitewing, Occulusal.
- v. Intra-Oral Techniques
Bisecting angle and paralleling.

- Principle, Placement of film, angulation of tube during radiography.
- vi. X-Ray film processing
- vii. Artefacts on the finished radiographs.
- viii. Extra-Oral Radiology
 - Indications
 - OPG and Cephalometry.

FOOD & NUTRITION

- i. **Carbohydrates:** Definition - Types -
Monosaccharides, disaccharides,
Oligosaccharides, Polysaccharides
Metabolism of Carbohydrate - in brief.
Introduction to diabetes in brief.
- ii. **Lipids-** Definition - Types - Simple, Compound,
Waxes.
Properties of Simple lipids (Fats)
Fatty Acids - definition, Types.
- iii. **Proteins** - Definition - Classification.
Amino Acids - Definition, Classification.

Protein Caloric Malnutrition in brief.

iv. **Vitamins-** Definiton - Classification.

Vitamin-A,C, D, E, K, and Vitamin B complex.

v. **Minerals-** Definition - Classification.

Macro and Micro

vi. **Water-** In brief.

vii. **Balanced Diet.**

D. GENERAL DENITISTRY INCLUDING ORAL SURGERY

General knowledge of various materials used in Dentistry such as impression material, Gypsum products, waxes investing materials and various filling materials for temporary and permanent restoration.

2nd YEAR

A. DENTAL HYGIENE AND ORAL PROPHYLAXIS

- Objectives of dental hygiene
- Oral Prophylaxis
- Stains - Intrinsic & extrinsic stains and their management Dental Plaque and Dental Calculus.
- Brief description & Management of Gingivitis, Periodontitis, Periodontal abscess.
- Gingival Enlargement
- Periodontal grade II - Medically compromised patients - in brief.
- Instruments and Technique of oral prophylaxis
- Polishing of Teeth
- Topical application of fluorides
- Care of oral cavity and appliances during treatment of Maxillo- facial cases.

**B. DENTAL HEALTH EDU. SOCIAL & PUBLIC
HEALTH DENTISTRY, CONSERVATIVE AND
PREVENTIVE DENTISTRY.**

- i. Definition:- Health, Dental Public Health
- Health education for the general public
objectives, Functions and Services Provided by
the Dental Public Health Dentistry.
- ii. Periodontitis & Gingivitis.
- iii. Levels of prevention.
- iv. Plaque and Plaque control
- v. Calculus and Types
- vi. Maintenance of Oral Hygiene (in detail)
- vii. Pit & Fissure Sealants (in detail)
- viii. Various Interdental Aids (in detail)
- ix. Types of Tooth Brush and tooth Brushing
methods
- x. Effects of Improper tooth brushing
- xi. Dentifrices (in detail)
- xii. Disclosing Agents (in detail)
- xiii. Oral Cancer

- xiv. Malocclusion and Angle's Classification of Malocclusion
- xv. Habbits affecting the Oral Muscultature
- xvi. Dental Auxillary and its types.
- xvii. Flourides in detail
- xviii. Dental caries - Prevalence and prevention.
- xix. Periodontial disease
- xx. Dental Health and Disease.
- xxi. Dietary Habits and Dental Health.

C. OPERATING ROOM TECH. DENTAL MATERIALS.

DENTAL ETHICS & JURIS-PRUDENCE,

ORIENTATION IN DENTISTRY.

- Brief overview of physical properties and mechanical properties.
- Impression Materials - Hydrocolloid, Rubber based impression material.
- Inelastic Impression Material - Zinc Oxide eugenol impression paste, Impression compound.

- Gypsum Products- Types according to composition and uses.
- Proportioning, mixing technique, factors affecting its setting time.
- Synthetic Resins - Composition in brief, Types of resins (Cold Cure and Heat Cure, their properties, methods of processing and usage) Cross linked resin.
- Waxes - Types method of use & uses and bases plates.
- Liner Varnishes.
- ZnO Eugenol- Zn Phosphate; Varnish; Zn Polycarboxylate; GIC, Ca(OH)_2 , Filling Material, Silver amalgam, Composite resin (LC, SC), Materials used in root Canal Treatment - Hydrogen peroxide & Sodium hypochloride, saline paper points, Root canal sealant, Intra Canal medicaments & Filling Materials.
- Stainless Steel Wires.

Cleaning & Maintenance of Dental Chair and Equipments

- Functional Maintenance of dental chair and related equipments.
- Sterilisation and Upkeep of the dental instruments.
- Upkeep of dental materials.

Orientation in Dentistry

- Various branches of dentistry

D. CHAIR-SIDE ASSISTANCE

Reception of a patient, lay-out of reception room, Dental Surgery Chamber and Dental Hygienist Clinic, chair-side assistance and Techniques, Local anesthesia and Equipments. Methods of sterilization and care of Dental Instruments, Basic principles in surgery. the use of instruments in Dental practices, examination of oral cavity and charting of teeth.

E. PROSTHO-DONTICS AND COSMETOLOGY

- Introduction and applied Anatomy

"Annexure - C"

**Syllabus
for
TWO YEARS DIPLOMA COURSE IN
MEDICAL LABORATORY TECHNOLOGY
(D-MLT)**



**JAMMU & KASHMIR
STATE PARA-MEDICAL AND
NURSING COUNCIL**

**Government Medical College
Jammu / Srinagar**

SCHEME OF STUDIES

The Training Course of Laboratory Assistant shall comprise of two Parts, i.e. Part -I and Part-II, each of one Year duration.

1st Year

This part shall include basic sciences i.e. Anatomy, Physiology, Bio-Chemistry, Clinical Pathology. The duration of the Study of the Basic Sciences is as under:-

1. Laboratory Management & Ethics.
2. Anatomy
3. Physiology
4. Bio-Chemistry
5. Basic Clinical Pathology
6. Blood Banking.

2nd Year

The Part shall include Pathology parasitology, cytology, Microbiology and Blood Banking. The duration of study for these subjects shall be as below:-

1. Microbiology & Parasitology.
2. Blood Banking
3. Histopathology
4. Advanced Clinical Pathology
5. Cytology

f) **Guiding Principles for planning Hospital laboratory Services:**

- Factors
- Guiding Principles for Planning.
- Functional Criteria.
- Operational demand.
- Sections of a Hospital Laboratory.
- Common area.
- Design aspect.
- Space requirement.

g) **Planning for a basic health Laboratory.**

D. **Laboratory Organisation (Laboratory Management Techniques):**

- i) **General Principles.**
- ii) **Components and functions of a laboratory.**

2. ANATOMY THEORY

A. Introduction

- i) **Different Parts of the human body, Common Anatomical Terms, Anatomical Positions and important planes.**
- ii) **Animal Cell.**
- iii) **Tissue of the body, classification and function.**
- iv) **Primary tissues of the body.**

B. Skeletal System

- i) **Joints & Movements**
- ii) **Muscle & Monce.**

C. Gastro-Intestinal System

LABORATORY MANAGEMENT AND ETHICS

- A. Role of the Laboratory in the Health Care Delivery System:
- i) General
 - ii) Human Health & Diseases.
 - a) Types of Diseases
 - b) Process of Diagnosis
 - c) Laboratory at different levels.
 - d) Duties and responsibilities of Laboratory personnel.
- B. Laboratory Service in the Health care Delivery System in India.
- i) Laboratory Service in India.
 - ii) The Health Administration System in India.
 - a) At the National Level.
 - b) At the State Level.
 - c) At the District Level.
 - d) At the Village Level.
 - e) Voluntary health Organizations in India.
- C. Laboratory Planning:
- i) General Principals.
 - ii) Laboratory Goals.
 - iii) Operational Data.
 - a) Market Potential
 - b) Hospital / Laboratory relatives.
 - c) Competitions.
 - d) Laboratory Trends.
 - e) Planning at different levels.

f) Guiding Principles for planning Hospital laboratory Services:

- Factors
- Guiding Principles for Planning.
- Functional Criteria.
- Operational demand.
- Sections of a Hospital Laboratory.
- Common area.
- Design aspect.
- Space requirement.

g) Planning for a basic health Laboratory.

D. Laboratory Organisation (Laboratory Management Techniques):

- i) General Principles.
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2. **ANATOMY THEORY**

A. **Introduction**

- i) Different Parts of the human body, Common Anatomical Terms, Anatomical Positions and important planes.
- ii) Animal Cell.
- iii) Tissue of the body, classification and function.
- iv) Primary tissues of the body.

B. **Skeletal System**

- i) Joints & Movements
- ii) Muscle & Monce.

C. **Gastro-Intestinal System**

- i) Mouth and Pharynx.
- ii) Salivary Glands and Tonsils.
- iii) Oesophagus and Stomach
- iv) Location of different organs in the Abdomen in situ.

D. Genito-Urinary System

- i) Kidney
- ii) Ureters, Bladder and Urthra
- iii) Male Reproductive System.
- iv) Female Reproductive System

E. Respiratory System

- i) Thoracic Cavity, Pleura and Lungs.

F. Cardio-Vascular System

- i) Heart and Pericardium
- ii) Arterial System
- iii) Venous and Lymphatic System

G. Nervous System

- i) Meanings and cerebrospinal fluid.
- ii) Brain, Spinal Cord and the Nerves

H. Loco-Motor System

- i) Parts of Upper Limb :- Bones Land marks and important vessels, parts of lower limb.

3. PHYSIOLOGY THEORY

A. Blood

- i) Composition and General function of Blood.

- ii) Description of Blood Cells:- Normal Counts and function.
- iii) Anti-coagulants

B. Cardio-vascular System

- i) Functions of heart and blood vessels.
- ii) Circulation:- Systemic Circulation.
Pulmonary Circulation

C. Respiratory System:

- i) Name of the Structure involved in respiration and their function.
- ii) External and Internal Respiration. How respiration and expiration are brought about.
- iii) Transport of O_2 and CO_2 in the blood.
- iv) Definition of Respiratory Rate, Tidal Volume, Vital Capacity, Cyanosis, Hypoxia.

D. Excretory System

- i) Functions of Kidney.
- ii) Formation & Composition of Urine-normal and abnormal constituents.

E. Skin

- i) Functions of Skin

F. Digestive System

- i) Composition and functions of Saliva. Mastication and deglutition.
- ii) Functions of Stomach, Composition of Gastric,

Juice, Pancreatic Juice, Bile and Succus entericus.

G. Endocrine Glands

- i) Definition, name and the hormones secreted by them.
- ii) Major action of each hormone.

H. Reproductive System

- i) Male Genital System.
- ii) Female Genital System.
- iii) Names of Primary and Accessory Sex organs in male and female, Secondary Sexual characters in male and female.
- iv) Functions of Ovary, formation of Ova, actions of ovarian hormones.
- v) Functions of Testis-Spermatogenesis and actions of testosterone.

I. BLOOD GROUP, ABO and Rh, basis for classification, basis for determination, importance of Blood Groups.

J. Cerebrospinal Fluid, Formation, composition and functions.

ANATOMY PRACTICAL

- 1. Demonstration of Parts of Body (Bony) landmarks on the surface.
- 2. Identification of Cells and basic tissues.
- 3. Skeletal System, Identification of Bones and Joints.
- 4. Demonstration of Interior of Thorax with organs in Situ.

5.
 - a) Respiratory System and Pleurae.
 - b) Heart and Blood Vessels.
6. Demonstration and identification of various organs within abdomen.
 - a) Liver and Gall Bladder
 - b) Peritoneum Stomach and Intestine.
7. Male Genital System.
8. Female Genital System.
9. Central Nervous Systems, Spinal Cord and site of Lumbar Puncture.

Examination will be:

- a) Identification of bones or parts of Skeletal System.
- b) Identification of basic tissues under the microscope.
- c) Identification of Certain organs and Viva.
- d) Surface marking of any of the important organs.
- e) Identification of sites of blood vessels or muscles for injections and site of lumbar puncture.

PHYSIOLOGY PRACTICALS

1. Microscope-Usage, Maintenance and minor repairs
 - i) Behaviour of RBC in Isotonic, Hypotonic and Hypertonic Sodium Chloride Solution.
2. Identification of Blood Cells focused under Microscope:-
 - i) RBC
 - ii) Various types of WBC
 - iii) Platelets
 - iv) Reticulocytes

3. To obtain samples of Plasma and Serum.
4. Preparations of Anti-Coagulants: double oxalate and Sodium citrate.
5. Haematocrit
6. Identification of ruled area in Neubauer's Chamber, RBC and WBC Pipettes and Wintrobe and Westergren Pipettes.
7. Demonstration of Normal Constituents of Urine and Abnormal Constituents e.g. Glucose and Protein.
8. Record writing.

4. CLINICAL BIO-CHEMISTRY

- A. Elementary knowledge of Inorganic Chemistry-Atomic Weight, Molecular weight, Equivalent weight - Acids, bases and Salts -indicators - molar solutions, Buffer Solution, Titration (Acid Base) Definition of Solutions. Methods of expressing concentration: Dilution.
- B. Elementary knowledge of Organic Chemistry - Organic Compounds. Aliphatic and Aromatic. Alcohols, Aldehydes, Ketones, Amines, Esters, Phenol, Acids Colloids etc.
- C. Elementary knowledge of Analytical chemistry - Instrumentation, centrifuge Balances, Colorimeter, Spectrophotometer, Flamephotometer, Fluorimeter etc.

- D. Aims and Scope of Biochemistry.
- E. CARBOHYDRATES - Importance, Definition, classification, some properties.
- F. PROTEINS -Amino Acids, essential amino acids, peptides, denaturation of proteins, Physiologically important proteins, functions of plasma proteins.
- G. LIPIDS - Definition, classificaion, steroids, examples.
- H. NUCLEIC-ACIDS :- DNA and RNA, their importance.
- I. HAEMOGLOBIN.
- J. ENZYMES AND CO-ENZYMES-Elementary.
- K. GASTRIC JUICE collection, Acidity.
- L. CARBOHYDRATE-METABOLISM- elementary aspects, definition of Glycolysis, Glycogenolysis Hormonal regulation of Blood Sugar, Diabetes-Mellitus - Ketosis, Glycosuria, Renal Glycosuria, Penotosuria.
- M. METABOLISM OF LIPIDS-elementary aspects, Triglycerides, Cholestrol. Plasma Lipoproteins - Ketone bodies and Ketonuria.
- N. PROTEIN METABOLISM- Formation of Urea, Creatinine, Proteinuria. Edema, Transaminases.
- O. WATER AND MINERAL METABOLISM-Dehydration Calcium, Phosphorus, Sodium, Potassium, Chloride, Iron, Iodine, their physiological functions and disease

state.

- P. HARMONES-definition, functions of some important hormones.
- Q. Blood and cerebrospinal Fluid functions of Blood & CSF.
- R. Urine Normal and abnormal tests. Al, Sugar, K, bile,

BIOCHEMISTRY PRACTICAL:-

Practical Part must Learn Following

1. Basic Techniques:-
 - i) Cleaning of Glassware.
 - ii) Preparation of Chromic acid was solution.
 - iii) Preparation of salturated solution.
 - iv) Types and use of pipettes.
 - v) Balance-types and uses.
 - vi) Preparation of percent solution/volume/volume components (V/V/)
 - vii) Preparation of percent solution weight by volume (W/V) solution.
 - viii) Preparation of Molar Solution.
 - ix) Preparation of Buffer Solution.
 - x) Indicators pH, determination of unknown solutions.
 - xi) Preparation of Normal Solutions.
 - xii) Titration -(Acid Base) Preparation of Primary Standards.
 - xiii) Titration preparation of Normal Solutions.
 - xiv) Preparation of Protein filtrates.
 - xv) Use and maintenance of centrifuge.
 - xvi) Colorimeter-types, components, use and maintenance.
 - xvii) Colorimetry.

- xviii) Colorimetry-Choice of filters.
- xix) Spectrophotometer-components, use and wavelength selection.
- xx) Flamephotometer components and use demonstration.
- xxi) List of spare parts of equipments maintenance.
- xxii) Distillation of water-setting up Glass Distillation Unit and Metal water Distillation Unit.

CLINICAL BIOCHEMISTRY PRACTICAL:-

1. Diagnostic tests on urine:-

- i) Collection and preservation.
- ii) Physical characteristics and specific gravity.

2. u

- i) Qualitative tests for urea, Uric Acid, Creatinine, Calcium. Phosphorous, sodium, Potassium and chloride.
- ii) PH.
- iii) Urea clearance and Creatinine clearance.

3. Abnormal Constituents of Urine.

- i) Qualitative test for -Sugar, Albimin, Ketone Bodies, Blood, Bile Salt and Bile Pigment.

4. Da-----tests on Blood.

- i) Collection and preservation of Blood, Serum and Plasma b/w
- ii) Estimation of Blood Sugar.
- iii) Glucose Tolerance test.

5. Non-Protein nitrogenous compound:

- i) Determination of Serum Urea, Uric Acid and creatinine.

6. Determination of Serum Protein:
 - i) Albumin, Globulin, Fibrinogen & AG ratio.
7. Serum-Electrolytes.
 - i) Determination of Na^+ , K^+ and Cl^- .
 - ii) Determination of inorganic Phosphorus.
 - iii) Determination of Calcium.
8. Serum Enzymes:
 - i) Determination of transaminases (GOT and GPT)
 - ii) Determination of Phosphatase (Alkaline phosphate and Acid Phosphate)
 - iii) Determination of amylase.
9. Serum Bilirubin:
 - i) Determination of total and direct bilirubin.
10. Serum Lipids:
 - i) Lipid Profile.
 - ii) Determination of Serum Cholesterol.
11. Liver Function Tests.
12. Diagnostic test on other body fluids.
 - i) Gastric juice:-
 - a) Tests of HCl. Blood and Starch.
 - b) Free and total acidity.
 - c) Gastric function tests.
 - ii) Cerebrospinal Fluid
 - a) Determination of Sugar
 - b) Determination of Proteins.
 - c) Determination of Proteins.
 - d) Pandy's Test.
13. Kidney or Renal function test.:
 - i) Importance of renal function tests.

ii) Tests:

- a) Concentration / Specific Gravity tests.
- b) Dilution test.
- c) Urea Clearance Test.
- d) Creatinine Clearance test.

14. Laboratory Maintenance and improvement

- i) Quality control
- ii) Automation and kits.
- iii) Laboratory Management.

5. **Basic Clinical Pathology:-**

- Pathology
- Haematology
- Collection of Blood
- Composition of Blood
- Types of Anti-Coagulant Tubes and their Uses
- RBC's and various process of counting RBC's manually/
clinically / automatically.
- Erythropoiesis
- Haemocytometer and its uses
- Types of WBC's and process of Counting, manually/
automatically.
- Colour indexes, its types and methods of calculation
- PBF(Peripheral Blood Film) its preparation, Staining.

- Various Types of Romansky Stains and Uses
- Leishman's Stains
- Buffer Solution
- PBF staining by Romansky Staining
- Platelet Count. Process of counting Manually and Automatically.
- Absolute Eosinophil Count & its estimation.
- ESR and various methods of estimation of ESR in detail.
- PCV and its procedure for conducting.
- Urine, Composition of Urine in detail, Urine Examination under Microscope.
- Various methods of sampling Urine for conducting various examinations like
 - ❖ Albumin, Sugar, Acetone, Bile pigmentation, Bile Salt, Urobilinogen, Occult Blood , KFT etc.
- Microscope, Parts and Functions in Laboratory.
- Haemoglobin in detail, Its estimation manually and clinically.
- Preparation of N/10 HCL role In estimation of Haemoglobin
- Centrifuge , and its uses.
- Haemometer Set.

6. Blood Banking:-

- Blood Banking
- Types of Blood Banking
- Process of Coagulation
- Rh- Factor.
- Erythroblastosis Foetalis
- MN- Group System

PRACTICAL PART MUST INCLUDE FOLLOWING

- Haemoglobin estimation.
- Preparation of N/10 HCL / Buffer Water
- ROMANOSKY Stains
- Preparation , Staining , Examining , Counting of WBS's in PBF
- Preparation of Acetic Acid Solution and Ammonia Solution
- Preparation of Benedict's reagents.
- Estimation of ESR / PCV its advantages / Disadvantages
- Urine Examination(Physically / Chemically/Microscopically)
- Estimation of TLC , RBC's, Platelet Count etc.

2nd Year D-MLT

1. a. MICROBIOLOGY AND PARASITOLOGY

MICROBIOLOGY AND PARASITOLOGY THEORY

A. Requirement and use of Common Laboratory Equipments

Incubator, Hot Air Oven. Autoclave, Water-Bath, Anaerobic jar, Vacuum Pump, Media Pouring chamber, Refrigerator, Centrifuge.

B. Microscope

Principle, Operation, Care and use of Microscope

C. Sterilization and Dis-infection

Classification and general principles of Sterilization. Physical, Chemical and Mechanical Methods. Disposal of contaminated Media, Syringes, Glassware, Apparatus.

D. Classification and Morphology of Bacteria:

Brief outline of:-

- i) Structure of Cell, Capsule, Flagella and spores.
- ii) Growth of Bacteria
- iii) Nutrition of Bacteria.

E. Staining of Bacteria:

- i) Simple, Grams, Ziehl-Neelsen, Albert, Spore stain,
- ii) Composition and preparation of Staining reagents.

F. Cultivation of Micro-Organisms-I: (In detail)

Classification of Media, Composition of Laboratory culture Media, and Special Media.

G. Cultivation of Micro-Organisms-II: (In detail)

H. Identification of Bacteria:

Cultural Characters, Bio-Chemical reactions and serotyping.

I. Normal flora of micro-organisms in the human body.

J. Gram Positive and Gram Negative, Staphylo-coccus, Pneumo-coccus, Neisseriae (in brief)

K. Gram Negative Bacilli:

Salmonella, Shigella, E. Coli, Klebsiella, protein, Pseudomona, Vibrio cholerae, Haemophilus. (In Brief)

L. Gram Positive Bacilli:

i) Aerobic

a) Corynebacterium diphtheriae. (In Brief)

b) Mycobacterium tuberculosis and Mycobacterium leprae.

ii) Anaerobic bacilli-Clostridia. (In Brief)

M. Antibiotic Sensitivity test - Principles and methods of determination of sensitivity.

Candida. Asperigillus. Dermatophytes. (In Brief)

N. HIV & AIDS:

Brief Account

O. Immunity, Antigens, Antibodies and antigen antibody reaction and their applications in diagnosis of diseases.

P. Principles, Procedures and Diagnostic significance of agglutination Precipitation, Neutralisation and complement fixation reactions.

Q. Collection and processing of Clinical materials like Sputum, Urine, Swabs, Stool, Blood, CSF and Aspirates.

1. b. PARASITOLOGY:**A. Brief Account of:-****Morphology, Life Cycle, Pathogenicity and Laboratory diagnosis of:-**

- E. histolytica, E. Coli, Giardia, Trichomonas, Plasmodia, Leishmania, Hook worm, round worm, whip worm, Tape worm, Echinococcus granulosus, granulosus, dracunculus, Wucheraria bancrofti.

MICROBIOLOGY PRACTICALS:

1. Personal safety and precautions.
2. Emergency treatment for Laboratory accidents.
3. Care and cleaning of Glasswares, syringes, apparatus, preparation of Pasteur pipettes and sealing of ampules.
4. Operation of Autoclave, incubator, Water bath, PH meter, Scitz filter, Ph comparator, Vacuum pump.
5. Operation of Anaerobic system.
6. Urine c/s & Colony count.
7. Pus C/S.
8. Sputum C/S and Blood C/S.
9. Sterilization, Packing, Loading of materials in Autoclave, Hot Air Oven, Inspissator.
10. Handling care of Microscope.
11. Preparation of various Media-Pouring and Storage.
12. Hanging Drop Method.
13. Collection of Clinical Materials - Blood Urine, Stool, Pus Swab, Thorat Swab.
14. Receipt and Recording of Specimen in the Laboratory and dispatch of specimen to reference laboratory for tests.

15. Gram Stain, Z.N. Stain, Albert's Stain, Capsule Staining.
16. Inoculation of Clinical Material in Media.
17. Isolation of Organisms in pure culture.
18. Antibiotic Sensitivity test.
19. Disposal of contaminated materials.
20. Fungus Examination by wet mount of culture.
21. Animal house training collection of blood of sheep and horse.

PARASITOLOGY PRACTICALS:

1. Collection, Preservation and Transportation of fecal material for examination of Parasites.
2. Preparation of stained and unstained, fecal material for parasites.
3. Concentration Techniques of Stool.
4. Preservation of Parasites.
5. Identification of Ova and Cyst in Stool. occult Blood.
6. Parasites Blood films.
7. Serology:-
 - Widal
 - VDRL
 - Ra Test
 - CRP Test
 - ASO Test
 - Elisa for HIV-1 & 2
 - HBsAg (Australia Antigen)
 - Pregnancy Test.
8. **DIAGNOSTIC SKIN TEST:**
 - Mauntoux Test, Casoni's Test.

**LECTURE WILL BE WITH THE AID OF
CHARTS & OTEHR TEACHING AID MATERIALS**

2. Blood Banking:-

- * Definition of Blood Banking
- * Blood Grouping and procedures for testing.
- * Cross matching in Blood Bank.
- * AIDS , Various procedures for Testing.
- * Blood Donor / Receptor , Procedure of Blood Collection from a donor.
- * Precautions to be taken before Blood Collection.
- * Storage of Blood
- * Anticoagulants, Used is Blood banks.

- A. Introduction of Haematology.
- B. Collection of Blood
- C. Anticoagulants
- D. Red Cell Count:
 - i) Haemocytometer
 - ii) Methods
 - iii) Calculation
- E. White Cell Count. (Total Leucocyte Count):
 - i) Morphology of White Cells.
 - ii) Normal Values.
 - iii) Romanowsky Stains.
 - iv) Staining Procedures.

- v) Counting Methods.
- F. Absolute Eosinophil Count:
- G. Erythrocyte Sedimentation Rate (ESR):
 - i) Westergren's Method.
 - ii) Wintrobe's Method.
 - iii) Factors effecting ESR.
 - iv) Importance and Limitations.
 - v) Normal Values.
- H. Packed Cell Volume.
 - i) Macro and Micro Methods.
 - ii) Normal Values.
- I. Haemoglobin Estimation and its clinical importance.
- J. Red Cell indices
 - i) Calculations and importance.
- K. Reticulocyte Count:
 - i) Methods
 - ii) Appearance
 - iii) Normal Values.
- L. Sickle Cell Preparation.
- M. Osmotic Fragility Test:
 - i) Scoring Test.
 - ii) Qualitative and Quantitative Test
 - iii) Normal Values.
 - iv) Factors allocating fragility.
 - v) Interpretation.
- N. Peripheral Blood Film

O. Preparation of Bone Marrow Smears.

P. Coagulation Tests:

i) Process of Coagulation.

ii) Factors of Coagulation.

iii) Tests of Coagulation:

a) Bleeding time.

b) Whole Blood Coagulation Time.

c) Clot Retraction Test.

d) Prothrombin Test.

e) Tourniquette.

f) Platelet Count.

Q. Urine-Analysis:

i) Normal Constituent.

ii) Physical Examination.

iii) Chemical Examination.

iv) Microscopic Examination.

R. CSF Examination.

i) Normal and abnormal Cell count.

S. Semen Analysis:

i) Physical Examination

ii) Motility.

iii) Morphology.

T. Coomb's Test

3. HISTO-PATHOLOGY

* Sections of Pathology

* Chemical used in Tissue Processing

* Decalcification, Methods of Decalcification, &

Decalcification of Bones, Solutions used for Bone Decalcification

- * Grossing / Embedding , Procedure of Embedding tissue in Paraffin Wax.
- * Microtomy , Procedure of Paraffin Wax Tissue Block.
- * Various Instruments used in Microtomy
- * Microtome Machine
- * Tissue Processing in Histopathology manually / Clinically / Automatically.
- * Automatic Tissue Processor and its uses in detail
- * Tissue Staining. Steps of Tissue Staining.
- * Haematoxylin Stain / Eosin Stain/ 1% Acid Alcohol / 1 % Ammonia Solution / ESS Albumin.
- * H & E Staining
- * Frozen Section its Preparation and staining.
- * Fixative and Fixation and their uses.
- * Tissue Grossing
- * Special Procedures of staining a tissue in Histopathology.
- * Tissue staining in IHC.
- * Honing / Strapping of Microtome Knife.
- * Mounting Materials
- * Procedure of Mounting Museum Specimen
- * Laboratory Safety, Precautions, Washing Techniques, etc for laboratory Equipment's.
- * Incubator and its uses.
- * Disposal of Pathology specimens.

11. Autopsy Technique:

- i) Assisting in Autopsy.
- ii) Preservation of organs & Processing of

Tissues.

12. Waste disposal and safety in Laboratory.

LECTURER WILL BE WITH THE AID OF CHARTS & OTHER TEACHING AND MATERIALS

4. ADVANCED CLINICAL PATHOLOGY

- Anemia, Various types of Anemia.
- Bone Marrow , Preparation and Staining of Bone Marrow.
- Procedures for BT/CT/PTT/INR Test.
- Reticulocyte and Counting of reticulocyte
- Preparation of sickle Cell.
- Osmotic fragility test.
- Procedure & Precautions for collecting Bone Marrow
- Coombs Test
- CSF Test , Preparation, Collection , Staining procedures.
- Bacteriologically Testing of Urine.
- Bence Jones Testing
- Semen Testing , Counting , Staining (Physically/ Clinically/ Automatically)
- Foetal Haemoglobin
- Haemophilia and its detection
- Stool Collection and Testing(Physically /Chemically/ Microscopically/Bacteriologically)
- Analysers , Handling and maintenance
- Jaundice and investigations
- Diabetes Mellitus , Types , Investigations

5. Cytology

- Description of cytology in detail
- Fixatives used in cytology
- Dry Fixation and Wet Fixation
- Stains used in Cytology ; Preparation of stains in cytology , Various Types of Stains in Cytology.
- BLF Cytology
- Sex Chromatin staining in Cytology.

PRACTICALS MUST INCLUDE FOLLOWING:

Practical Part must include following:

1. Use of Microscope & Care.
2. Haemoglobin estimation.
3. ESR
4. RBC Count.
5. WBC Count
6. Platelet Count
7. Absolute Eosinophil Count.
8. Reticulocyte Count.
9. PCV.
10. Leishman Staining and PBF -Normal and abnormal cells.
11. Bleeding time.
12. Clotting time.
13. Bone Marrow Aspiration-Staining, Staining for Iron Stores.
14. Prothrombin Time-PTI
15. Tests for G6PD deficiency.
16. foetal Haemoglobin Estimation.
17. Serum / Urine Electrophoresis.
18. Coomb's Test.

URINE EXAMINATION:

1. Physical Examination - Colour, Reaction, Odour, Specific gravity Urinary Volume.

CHEMICAL EXAMINATION:

1. Tests for protein, 24 hours urinary proteins.
2. Bence Jones Proteins.
3. Tests of Sugar, Ketone bodies.
4. Urine for bile salts, bile pigments and Urobilinogen.
5. Microscopic examination of urine.
6. Semen Analysis.

PRACTICALS MUST INCLUDE FOLLOWING:

1. Fixation Processing, Embedding, Section cutting and preparation of Slides.
2. Staining of Sides H & E Reticulin, PAS, Masson Trichrome.
3. Sharpening of knives for microtomes.
4. Preparation of adhesive to fix the section to the slide.

PRACTICALS MUST INCLUDE FOLLOWING:

1. Collection of sample for Cytological examination of various body fluids.
2. Preparation and fixation of cytology smears. Giemsa and papanicolaou staining technique.
3. Sex Chromatin technique.
4. FNAC.

2. BLOOD BANKING:

- A. Introduction and Historical aspects.
- B. Human Blood Group Antigens, their inheritance and antibodies.
- C. ABO Blood Group System.
 - i) Sub-Groups

- ii) Source of Antigens, types of antibodies.
- D. Rh. Blood Group System:
 - i) Nomenclature and types of Antigens.
 - ii) Mode of inheritance.
 - iii) Types of Antibodies.
- E. Other Blood Group System.
- F. Techniques of Grouping and Cross Matching.
- G. Blood Collection:
 - i) Selection and Screening of Donor.
 - ii) Collection of Blood.
 - iii) Various anticoagulants used.
 - iv) Storage of Blood.
- H. Blood Transfusion:
 - i) Procedures and Complications.
 - ii) Blood Transfusion Reaction, Types, Investigation and Presentation of Transfusion Reaction.
- I. Coomb's Test.
- J. Organization, operation & Administration and Blood transfusion techniques.

RACTICALS MUST INCLUDE FOLLOWING:

- 1. ABO Grouping
 - i) Slide Technique.
 - ii) Tube Technique.

2. Cross Matching:
 - i) Methods of Major Cross Matching.
3. Rh. Typing:
 - i) Rapid Tube Test.
 - ii) Saline Anti-D
 - iii) One Stage Albumin Technique.
 - iv) Two Stage Albumin Technique.
 - v) Coomb's antihuman globulin technique.
4. Coomb's Test:
 - i) Direct Coomb's
 - ii) Indirect Coomb's.
5. Donor Screening and Selection:
 - i) Identification.
 - ii) Recording
 - iii) Haemoglobin estimation.
 - iv) Relevant Medical History of the Donor.
 - v) Grouping and Typing of Donor's blood.
6. Drawing of Blood.
 - i) Asepsis.
 - ii) Reassurance.
 - iii) Vein Puncture and Collection.
 - iv) Care of Donor.
7. Blood Storage:
 - i) Anticoagulants preparation.
 - ii) Recording the details and storage of Blood.
 - iii) Maintenance and cleaning of various equipments used in Blood Bank.

Annexure - "D"

Syllabus
for
**TWO YEARS DIPLOMA COURSE IN
X-RAY ASSISTANT / TECHNOLOGY**



JAMMU & KASHMIR
STATE PARA-MEDICAL AND
NURSING COUNCIL

Government Medical College
Jammu / Srinagar

1st YEAR

A. HUMAN ANATOMY AND PHYSIOLOGY

1. **Terms used in Anatomy.** Surface anatomy markings and location of important body parts, organs, bones, arteries and veins. Important body Planes of thoracic, abdominal and pelvic cavities.
2. **Musculo-Skeletal System.** Functions and anatomy, skeletal system, skeletal system, skeletal muscles, smooth muscles. (bones, joints, types of joints, muscles, types of muscles, vertebral column, upper and lower limbs, Skull, Rib cage, pelvis).
3. **Cardio-Vascular System** including heart, major blood vessels, arteries, veins, capillaries, lymphatic system. Blood cells, Blood groups, blood cells, plasma, blood groups.

Physiology of Cardio-vascular system of heart, blood pressure. Cardiac cycle, Coronary

circulation. Conduction system of heart-Systemic circulation, pulmonary circulation, Portal circulation.

4. **Respiratory System** Nose, Pharynx, Larynx, Lungs, trachea, bronchus, broncho-pulmonary segments, alveoli, arterial supply, venous drainage.

Physiology of Respiration, different Lung Volumes, Gas exchange.

5. **Central Nervous system** including the brain, spinal cord, central and peripheral nervous system, cranial nerves.

Function of the nervous system including autonomic nervous system, CSF, cranial nerves, sensory and motor systems. Neuron.

6. **Head and Neck including external ear**, middle ear, inner ear, temporal bone, paranasal sinuses, pharynx, larynx, oral cavity, tongue, nasal cavity, Orbit.

7. **Gastro-Intestinal tract** including the Esophagus, Stomach, Small Intestine - Duodenum, Jejunum, Ileum, Cecum, appendix, Large intestine - Ascending, Transverse, Descending colon, Hepatic and Splenic flexures, Sigmoid Colon, Rectum and anal canal. Salivary glands. Hepato-Biliary system including the Liver, Gall Bladder, Biliary tree, Pancreas, Spleen.

Physiology of the hepato-biliary system including formation and circulation of bile, portal circulation, physiology of digestion, various reflexes in digestive stem.

8. **Urinary system** - including Kidneys, Ureters, Urinary Bladder, Urethra,

Structure of Nephron and physiology of excretion.

Process of Micturition

9. **Male and Female reproductive system**

including penis, testes, prostate, seminal vesicles, uterus, cervix, fallopian tubes, ovaries, vagina, vulva, Breast, Menstrual cycle, Ovulation, Spermatogenesis, Sex Hormones, Fertilization. Cell division.

10. **Endocrine system** including the Endocrine glands and hormones. Pituitary, Thyroid, parathyroid, Adrenal, Gonads, pancreas

Exocrine glands

Endocrine glands.

B. PHYSICS AND GENERAL RADIO-GRAPHY

1. **X-Ray production and properties:** Introduction to X-rays, history, origin, construction of X-ray tubes, requirements for X-ray production (electron source, target and anode material), tube voltage, current, space charge, stationary and rotating tubes, importance of kVp, mAs in radiology. Common factors affecting thermionic emission, focal spot, tube rating, heat units, operating

conditions, maintenance and Quality assurance procedures. Tube Rating charts, Anode Heat Effect.

Image and its characteristics: Formation of radiological image, latent image, intensifying screens, factors affecting image quality,

2. **Factors affecting image quality:** radiographic image contrast, density, sharpness, magnification, distortion of image, noise, blur. Scattered radiation, appliances to reduce scattered radiation, grids - stationary and moving, use of cones, diaphragm, light beam devices, collimation, Air Gap Technique.

X-Ray generators and circuits: Filament current and voltage, primary circuits, auto transformers, types of exposure switch and timers, principle of automatic exposure control (AEC), filament circuit, high voltage circuits, half and full wave rectification, three phase circuits. Types of generators, 3 phase, 6 and 12 pulse circuits, falling load generators, capacitors discharge and grid control systems.

3. **Radiation Hazard and Protection:** Units of radiation, SI units, ICRU definition of absorbed dose, quality factor, dose equivalent, relationship between absorbed and equivalent dose, patient dose, occupational exposure, natural and background radiation. Basic principles of ionization chamber, proportional counter, GM counters, scintillation detector, thermoluminescent dosimeters (TLD), Radiation Dosimetry, Film Badge, Inverse square Law.

Biological effects of ionizing radiation: excitation and free radical formation, DNA, RNA and tissue radio-sensitivity. Effects of ionizing radiation, stochastic and non-stochastic effects, mean and lethal dose.

Principles of radiation protection: ALARA principle time. distance, shielding AERB Guidelines, Bhaba Atomic Research Centre (BARC) Room layout, construction and installation Quality assurance, radiation leakage, devices to measure radiation, exposure during pregnancy, 10 day rule.

Uses of Protective devices, Lead Apron, Work practices, Radiation dose of common X-rays CXR, Spine, Abdomen, Barium, Mammography, CT Scan, Recommended dose limits for patient and Radiographer.

4. **Introduction of dark room**, layout ventilation, illumination, developer, fixer tanks. Dry bench, wet bench, pass boxes. Characteristics, features and requirements of safe light. Process of developing, fixing, rinsing.

Film material, construction of films, types of film, single emulsion, double emulsion, storage of films, sizes. Film speed, high speed, low speed. Newer film types - laser film, dry and wet laser films. Film artifacts.

Screens: Construction of screen, uses of screen, types of screens. High speed, low speed, care of screens, film-screen combination - advantages, technique modification in relation to speed. Principles of fluorescence and phosphorescence, rare earth screens, blue and green screens.

Film processing - manual, automatic film processing, washing, drying hangers - clip hangers, channel hangers. Chemicals - Developers, fixers, rinser, replenisher solution etc. Advantages, disadvantages of automatic, manual processing. Film fog - definition, types of fog, causes of fog. Effect of temperature, sunlight in improper storage old films, Cassetters - Design, care, construction, types and mounting.

Emergency drugs used in Radiology department, Informed consent, PCPNDT Act.

Radioactivity - Basic Principles, isotopes, Alpha. Beta, Gamma Rays commonly used radio-Active Isotopes in Imaging.

2nd YEAR

C. Radio-Graphic and Dark-Room Techniques

- A. Contrast Media,** Oral and IV, Barium sulphate (Low density, high density) Iodinated contrast agents (Ionic and Non-Ionic), Side effects of Ionic contrast media, Advantages of non Ionic Contrast media, Adverse reactions to contrast media, prophylaxis and treatment of adverse reactions, Contrast dosage & nephropathy, MRI Contrast agents and their side effects, Informed consent emergency drugs used in Radiology department, composition and properties of USG & ECG Jelly.
- B. Imaging of Genito-Urinary system** IVU. Patient consent, LMP, Patient preparation, indications, contraindications, Technique Tailored IVU, Double dose IVU, RGU, MCU, pericatheter study Nephrostogram, RGP.
- C. Skull Radiography** - including AP/Lateral views, base of skull view, radiological base line, radiography of the pituitary gland, mastoids, various specialized views of skull radiography.

Radiography of Para nasal sinuses (PNS), - Water's view, townes's view X-ray of nasal bone, styloid process & TM joints. Radiography of soft tissue of neck - special considerations.

- D. Radiography of upper extremity**, bones and joints - views techniques. Radiography of lower extremity - views, techniques. Special views for small joints - wrists, MCP, IP joints, tarsal bones etc.
- E. Chest Radiography** - various views, techniques, decubitus views. Radiography of ribs, soft tissues. Abdominal radiography - erect, supine, KUB - views, techniques. Radiography of pelvis -views and techniques.
- F. Radiography of hips**, pelvis - views and techniques, precautions. Radiography of spine, vertebral column - views, techniques. Special care in vertebral injury cases. Radiography in trauma patients, CV junction radiography techniques.
- G. Dental Radiography**, Orthopantomograms,

Pediatric Radiography, Mobile Radiography,

H. **HSG** (Patient Preparation, technique post procedure care), Ten Day Rule.

I. **Imaging of Digestive system** and biliary tract....
Barium Swallow, Meal, Follow Through, Enema (weight / volume concentration), Hypotonic duodenography Single Double contrast, Technique indications positioning and various views, Enteroclysis, OCG, T-Tube cholangiography. Gastrography, Conray swallow, IV Cholangiography, ERCP. Indications o iodinated contrast agents for GIT.

J. **Film - Screen Mammography** Special features of mammography equipments including tubes, grids, screens and films Equipment - tube, compression techniques, Automatic exposure control. Imaging Techniques and views - conventional and supplementary, grids, techniques in dense breast, compression techniques Tomosynthesis, CAD, screening and Diagnostic mammography, Dacrocystography, Sialography,

Myelography, Arthrography.

- K. **Basic Uses of Digital Technology** in Radiography, PACS, HIS, RIS, DICOM, Filmless Radiology. Artifacts in digital Radiography.
- L. **Computerized Radiography systems**, Digital Radiography systems, DR and CR systems - uses and advantages. Components of DR and CR System, Digital Fluoroscopy, Image intensifier.
- M. **Multi-Format cameras**, Thermal paper printers, Laser printers - Dry and wet laser printers.
- N. **C.T. Scan**, Basic physics, tube technology, detector technology, generators, gantry, console etc. Data acquisition, various methods of scanning, types and generation of CT Scanners, slip ring technology. Post processing, software's. Hounsfield units, values of normal tissues. Use of oral, rectal, IV contrast in CT scan, dose consideration, CTDI, administration, patient preparation. Principles of window, grey scale contrast optimization.

- O. **Clinical application** of CT scan. CT scan techniques of brain, chest, abdomen, head and neck, etc. Post processing and multi planar reconstruction.
- P. **Multislice C.T.**, Advantages and limitations of CT Scans, artifacts in CT scan and techniques of minimize artifacts dual energy CT.
- Q. **Basic physics of MRI**, data acquisition, relaxation time, gradient echo, spin echo techniques. Larmour frequency -equation and constant. Effect of magnetic field on cells. Magnets - types of magnets, permanent magnets, superconductor magnets, field strength - tesla. Close and open magnets Sequences in MRI, basic sequences, T1, T2 weighted images, IV contrast agents in MRI MRCP.
- R. **Application of MRI** in brain imaging, spine imaging, abdomen and pelvis imaging, imaging of joints, head and neck.
- S. **MRI room design** and installation. Safety factors,

precautions in MRI, MRI artifacts and methods to reduce them.

T. Angiographic techniques in radiology:

Historical perspective, principle of conventional angiography, Seldinger Technique angiographic equipment (single and biplane), image intensifiers, rapid sequence film techniques. Digital Subtraction Angiography, contrast dose, electromechanical injectors. Commonly used catheters, Guide wires and needles.

U. Patient care during interventional

radiography, preparation for the procedure, post procedure care, role of radiographer in interventional procedures, radiation protection during angiography.

V. Basic physics of Ultrasound Imaging,

interaction of Ultrasonic waves with matter. Transducer technology, display controls, recording and archiving of USG images. Advantages and uses of Ultrasound, Coupling agents USG Jelly - ingredients, preparation, application.

- W. **Basic Principles of Color Doppler**, uses of color Doppler, Pulsed Doppler Continuous wave Doppler, power angiography. B-mode, M-Mode, Color Doppler, Continuous wave Doppler.
- X. Artifacts and bio effects of ultrasound and safety considerations.
- Y. **Patient and radiographers** causes of conflict, Responsibilities, Negligence Ethical Responsibility, Legal Responsibilities.
- Z. **Procedure in The Event** of an accident, Patient safety.
- Aa. **Hygiene**, communication skills in Radiology department, Patient preparation.
- Ab. **Biomedical Waste segregation** (Yellow, White, Blue, Red) and disposal of Radioactive waste.
- Ac. **Radiation safety**, Radiography of children's Gonad dose, Protective measures.

Ad. PCPNDT ACT,

Ae. Informed consent.

Af. Bone Densitometry

Ag. Basics of Electrocardiography

Ah. Pediatric and emergency Radiography.

Ai. Radionuclide imaging Devices (Basic
Introduction) Gamma Camera, SPECT PET.
Radiopharmaceuticals.

Aj. Radiotherapy, Brachytherapy, Teletherapy,
Gamma radiation.

Annexure "E"

**Syllabus
for
TWO YEARS DIPLOMA COURSE IN
ECG ASSISTANT / TECHNOLOGY**



**JAMMU & KASHMIR
STATE PARA-MEDICAL AND
NURSING COUNCIL**

**Government Medical College
Jammu / Srinagar**

1st YEAR

A. BASIC ANATOMY AND PHYSIOLOGY

1. Anatomy. General Anatomical terms Regions of the body. Bones and Joints. General structures and forms; Important ligaments and muscular attachments; skull, spine, pelvis, bones of upper and lower extremities. Bones of hand and foot to be learnt with articulated only without detail, except Os calcis, Talus and scaphoid. Structure of a typical joint and general descriptions of main joints, Synovial fluid; movements in joints and their limitation, chief relation, group movements of joints.
2. Thorax and Abdomen: Structure of thoracic cage; abdominal cavity; Diaphragm; Mediastinum.
3. Heart and Vessels: Structure of heart. Names of main arteries and veins.
4. Respiratory System: Accessory structures; Larynx; trachea; bronchi; bronchioles.

auto, Rectilinear propagation of light. Umbra and pneumbra. Inverse square law.

9. **Electronics:** Theremionic emission. Construction and fuction of diode and triode values and their uses. Rectifier (Solid State).

B. PRODUCTION OF X-RAYS, X-RAYS TUBES: DEISGN.

1. **Diagnostic H.T. Circuits:** high tension generators, Half-wave, Full-wave, three phase, Condenser discharge, constant voltage, H.T. switches, control table, measuring instruments, voltmeters, ammeters, milliammeter.
2. **Focal spot:** inerent filtration, tube holders. mAs meter, mains compensafor, exposure timer, Interlock and safety devices. Grid: Ratio in relation to KV. Reciprocating and oscillating, Potter bucky diaphragms, stationary grids.
3. **Scattered radiation:** Control of Scattered radiation, cones, Diaphragms and filters.
4. **Special equipments:** Tomography, Magnification technique, Mobile units, portable units, image intensifier, Tele-radiography. Spot film devices.

5. **Genito-urinary system:** Straight X-ray of abdomen, pyelography, cystography, urethrography, gas insufflation, pneumoperitonium.
6. **Obstetrics and Gynaecology:** Radiation protection, pregnancy, pelvimetry, hysterosalpingography, placentography.
7. **Central nervous system:** Routine and special projections of skull, ventriculography and encephalography, cerebral angiography, myelograph.
8. **Alimentary system:** Barium suspension, Barium-meal and follow through Barium enema.
9. **Biliary system:** Cholecystography, Oral and I V Cholangiography - Direct and Indirect.
10. **Liver and spleen:** Spleno-portal venography.
11. **Salivary glands:** Sialography
Arthrography, sinography, Lymphangiography,
Operation theatre technique and ward radiography.
Stereoscopy, Magnification, High and Low K.V.
technique and Mammography.

7. **Processing:** Preparation of solution, suitable water supply, nature of mixing vessels, order mixing solutions, filtrations, making of stock solutions, storage of dry chemicals storage of solution.
8. **Processing apparatus:** Processing units, hangers, care of hangers, refrigeration and use of ice.
9. **Operation theatre processing:** Dish units.
10. **Technical and processing faults:** Chemical reduction.
Chemistry and characteristics of Farmer's reducer, local and characteristics of Farmer's reducer, local and general application.
11. **X-ray dark room:** Size, light proof entrancer, hatches, construction of walls for protection against chemicals and radiation, ceiling, colour schemes, water proofing of floors, loading bench design, disposition of processing and accessory equipment for efficient working, arrangement of drying cabinets in dark-room or in adjacent rooms, dark-room illumination and testing for safety, ventilation.

2nd YEAR

A. CARE AND MAINTENANCE OF EQUIPMENT

General principles and routine use of charts supplied by manufacturer, Radiographic calibration procedure, Tube rating chart.

B. FIRST AID

1. Shock, convulsion, asphyxia, artificial respiration, Administration of Oxygen, Burns and scalds. Electric shock and burns. Wound, haemorrhage, pressure points, Tourniquet Injuries to Bones, Joints and muscles, Dressing of Bandages, Plaster of Paris technique, Splints, Drug reaction, Poisons, Basic Nursing.
2. Drug in Department. Storage labeling. Checking, Regulation regarding dangerous drugs, Units of measurement.
3. Medical Ethics. Ethical law and professional etiquettes applied to members of profession associated with medicine.
4. Nursing and Handling of patients. Hospital and Departmental procedure, Hospital staffing and organization. Records and departmental statistics. Medico-legal aspects. Appoints. Stock taking and stock keeping.

& Hounsfield Number.

Image display; matrix, pixel, voxel, Window level, Window width, Double Window, Partial Volume phenomenon.

Image quality: Patient exposure; Resolution.

Ultrafast C.T., Dynamic C.T. & C.T. angiography, C.T. guided FNAC. 3D C.T./Artefacts.

Radiation dose aspects.

Clinical application - Scan planes specially in Cranial C.T. (Gross anatomy of conventional planes) Indication and contra-indication; Patient preparation and positioning

Contrast enhanced C.T.

10. Magnetic Resonance Imaging.

Basic Physics with Practical Applications:

Magnets - types, powers, magnetism Radio Frequency (RF) pulse T_1 (longitudinal relaxation time) T_2 (transverse relaxation time)

Basic sequences, basic parameter and basic tissue (like fat and water)

Different types of coils.

Contrast agents, MR angiography and dynamic MR. Spectroscopy.

Hazards, safety and limitations.

11. Ultrasonography-

Basic Physics: Characteristic of sound; Propagation of sound; Interaction between ultrasound and matter attenuation and reflection; Transducers; Ultrasound display, A, M, B-mode Gray scale imaging; Scanning

methods; Doppler techniques; Artefacts Safety Application.

12. Elementary Physics in Relation to ECG Technique

- Einthoven's principle
- Standard leads and other leads in relation to ECG.
- Basic principles of cardiac Monitor.
- Structure and function of ECG machine.
- Maintenance of ECG machine.
- ECG of patient with pacemaker and role of magnet placement during ECG recording.
- Normal ECG pattern and steps of ECG recording.

13. Cardiology-Basics of diseases of Heart

- Rheumatic fever and heart disease
- Hypertension
- Atherosclerosis
- Risk factors of coronary Artery Disease
- Ischaemic Heart Disease and acute coronary syndrome.
- Cardio-myopathy and Endo-carditis.
- Conduction disturbances - Tachy - arrhythmias and Brady-arrhythmias
- First-hand management of cardiac emergencies.
- Cardio pacemakers (Temporary and permanent)
- ECG in Cath Lab.
- Cardio-pulmonary Resuscitation.
- Basic and Advanced life-care support.
- Cardiac Defibrillator, TMT and Holter.
- Patient-care in ICCU and role of ECG Technologist.

5. Care of patients. Reception, Elementary hygiene.
6. Nursing Care. Temperature, pulses and respiration. Application of sterile dressings.
7. Preparation of patients for General X-ray examination: Departmental instructions to out-patients or ward-staff. Instructions for various special investigations. Nursing care before and after special X-ray. Drug allergy
8. Principles of Asepsis. Methods of sterilization. Care and identification of instruments. Setting of trays and trolleys. Elementary operation theatre procedure.
9. Computed Tomography -More classes should be allotted for CT & MRI

History:

Basic principle and data acquisition / C.T. generations, Gantry and patient table - Travel Speed, Load capacity, X-ray tubes.

Rotating anode; cooling system; Collimator; Pencil beam; Fan beam Anode heat storage capacity;

Detector system: Type, number, Efficiency

Rectifier

Scan parameters; Scan time, Number of views per second, Reconstruction time, scan cycle time, Acquisition matrix, Display matrix, Slice thickness. Image reconstruction; Pixel & Voxel; C.T. Number

12. **The Radiographic image:** Radiographic factors affecting image contrast and sharpness, variation in exposure time in accordance with quality of radiation filters, distance, intensifying screens, grids, film speed developer and development.
13. **Presentation of Radiograph:** Identification of film, aspect for direct and stereo (univerapismatic) viewing, mounting, mounting dental films.
14. **Accessories:** Viewing boxes, spot-light, illuminators, projectors and viewing screens for miniature and cine-radiography, magnifiers, film identification, lead letters and numbers, actinic makers, embossing machine, film trimmers, corner-cutters, dental mounts and cutter, filling units.

D. RADIOGRAPHIC PHOTOGRAPHY AND DARK-ROOM TECHNIQUE

1. **X-Ray materials:** Types of emulsion characteristic and control, screen and non-screen films, dental films, X-ray paper under and over exposure, speed contrast.
2. **Intensifying screens:** Fluorescence, application of fluorescence in Radiography, type of intensifying screens, intensifying factors, cleaning and general care of screens - after glow.
3. **X-Ray cassettes:** Testing and proving good screen contract, general care.
4. **X-Ray developers:** Characteristics, Detail and contrast freedom from chemical fog and staining, function and constituent of developer, standardization by time and temperature, exhaustion of developer, Replenishers.
5. **X-Ray fixers and fixing:** Fixing agents, acid and preservative in fixer, inclusion of hardner, time of fixation, silver recovery.
6. **Rinsing, washing and drying:** Object, methods employed, method of drying films.

Stereoscopy.

5. Interaction of X-ray with matters, Energy absorption from X-rays. Measurement of X-rays. Rontgen and Rad, Simple principle of doseimeters, fluorescent effect, photographic effect.

6. Protection: Code of practice for the protection of persons against ionizing radiation, protective materials, Lead, lead equivalent. Building material, personnel monitoring, International recommendations against hazards of ionizing radiation.

C. RADIOGRAPHIC TECHNIQUE AND RADIOGRAPHIC ANATOMY

1. Contrast media: Barium preparation, Iodine preparation, Air-Oxygen.

2. Skeletal system: Upper limb, lower limb, shoulder, girdle and thorax, vertebral column, pelvic girdle and hip region. Teeth Jaw.

3. Accessory nasal sinuses: Lachrymal system.

4. Cardiovascular system: Upper respiratory passage, lungs, pleura, diaphragmatic excursion, Mediastinum, bronchography, artificial pneumothorax.

5. Alimentary system: Mouth, tongue, salivary glands, pharynx, tonsils, oesophagus stomach, small and large intestine, liver and biliary tract, spleen, pancreas, mesentery, omentum. Urinary tract: Kidney, ureters, bladder and urethra.
6. Reproductive system: Male genital tract, fallopian tubes, ovaries, uterus, mammary gland.
7. Nervous system: Bones of the skull - general features. Names and position of bones of vault and base (articulated only), Vertebral column - structure of a typical vertebra, Atlas Axis, Sacrum and coccyx. Brain-main sub-divisions and lobes ventricles, spinal cord. Surface anatomy in relation to Radiography. Ductless glands.
8. Physics: Basic ideas of measurement and units. Graphical representation of data. Elementary explanation of exponential law. Radiation spectrum. Photo-electric effect. Compton effect. Fluorescence, photo-rescence. Atomic structure. Solenoids. Electro-magnets. Electromagnetic induction - Generation and transmission of alternating current. RMS and peak values of current and voltage. Principles of construction of transformer - step up, step down,

Annexure "F"

Syllabus and Regulations

Diploma in General Nursing & Midwifery



Indian Nursing Council

Combined Council Building, Kotla Road,
Temple Lane, New Delhi-110002

Syllabus and Regulations Diploma in General Nursing & Midwifery

REVISED — 2015



Indian Nursing Council

Combined Council Building, Kotla Road, Temple Lane, New Delhi - 110002

Price: ₹ 150/-

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PREFACE

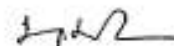
Indian Nursing Council (INC) is a National statutory body. INC's main function is to establish Uniform Standards of nursing education for nursing personnel and to prescribe the syllabus and regulation for various categories of nursing personnel.

Indian Nursing Council has revised the syllabus and regulations for the General Nursing and Midwifery training programme. The revision was undertaken by having series of consultations with the various stakeholders. One of the major change in the revised curriculum is duration of the programme. The duration of the programme has been reduced from 3 ½ years to 3 years, without compromising course content and objectives of the course, internship has been integrated within the 3 years course.

Another change in the revision of the curriculum is format of the syllabus. The format of the curriculum changed to include the course description, general objective, learning objectives, course content, number of hours for each unit, their teaching learning activities and assessment methods. For each subject which had practical requirements, a detailed description of the area with course description, general objectives, area of practice, time to be spent in each area with the objectives for each area, the skills to be acquired, the assignments and the assessment methods are clearly spell out. This will facilitate for the teachers for effectively covering the syllabus and also guide the nursing teachers to implement the curriculum in totality covering all aspect of the theory and practical component of the programme.

I am confident that this revised syllabus and regulations will be able to prepare Nurses to provide qualitative Nursing care in the hospital and also in the community.

I also take this opportunity to acknowledge the contribution Nursing Education Committee Members of INC, Nursing Experts, Vice-President, INC the then Secretary, INC and Joint Secretary of INC in preparation of the revised GNM syllabus.



(T. Dileep Kumar)

President

Indian Nursing Council

Ex- Nursing Adviser to Govt. of India

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INTRODUCTION & PHILOSOPHY

Nursing is a profession within the Health Care Sector focused on the care of individuals, families and communities so they may attain, maintain or recover optimal health and quality of life.

Nurses care for individuals of all ages and all cultural backgrounds who are healthy and ill in a holistic manner based on the individuals physical, emotional, psychological, intellectual, social and spiritual needs. The profession combines physical sciences, social science and technology in caring for those individuals.

Indian Nursing Council believes in concept of Health laid down by World Health Organisation (WHO) "Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity."

In order to provide qualitative Nursing Care there is a need to train nurses effectively to work as a team member of health care delivery system. It is therefore their training should involve positive attitudes, knowledge, skills, professional expertise, latest trends in health care and health care needs of the community and the country as a whole.

As per the definition of Virginia Avenel Henderson "The Unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health or its recovery (or to peaceful death) that he would perform unaided if he had the necessary strength, will or knowledge."

As per the International Council of Nurses "Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. Nursing includes the promotion of health, prevention of illness, and the care of ill, disabled and dying people. Advocacy, promotion of a safe environment, research, participation in shaping health policy and in patient and health systems management and education are also key nursing roles."

Indian Nursing Council recognized that basic nursing education is a formally recognized programme of students providing a broad and sound foundation in the behavioural, life and nursing sciences for the practice of nursing for a leadership role and for the post basic education in specialties for advanced nursing practice. The Council believes that this basic course in nursing should prepare nurses for occupying first level positions in nursing in all kinds of health care settings. The Council recognizes that nursing is a profession which is influenced by advances in science and technology. It believes that skills in all aspects of communication are also essential learning and for the practice of nursing.

The Council also recognizes that the nature of nursing is such that a substantial portion of learning of the study is acquired in clinical field(s) of practice. It further recognised the interdependence of nursing to allied professions and occupations in prevention of diseases, promotion, maintenance and restoration of health.

The Council believes that it has a responsibility in helping the students to develop pride in their profession besides keeping them abreast with current knowledge and professional trends for a successful career ahead.

AIMS

The basic Diploma course in General Nursing and Midwifery is geared to the health needs of the individuals, family, community and the country at large.

The aims of the Diploma in General Nursing and Midwifery programme are:

1. To prepare nurses with a sound educational programme in nursing to enable them to function as efficient members of the health team, beginning with the competencies for first level positions in all kinds of health care settings.
2. To help nurses develop an ability to co-operate and co-ordinate with members of the health team in the prevention of disease, promotion of health and rehabilitation of the sick.
3. To help nurses in their personal and professional development, so that they are able to make maximum contribution to the society as useful and productive individuals, citizens as well as efficient nurses.
4. To serve as a base for further professional education and specialization in nursing.
5. To prepare nurses to keep pace with latest professional and technological developments and use these for providing nursing care service.

OBJECTIVES

The nurse on completion of this course will be able to:

1. Demonstrate competency in providing health care to individual, sick or well, using nursing process.
 - Assess the nursing need of clients from birth of death.
 - Plan and carry out appropriate action to meet nursing needs.
 - Provide effective nursing care for maintain best possible level of health in all aspects.
 - Promote self care in people under their care.
 - Apply problem solving techniques in nursing practice.
 - Evaluate effectiveness of nursing care.
 - Apply problem solving techniques in nursing practice.
 - Evaluate effectiveness of nursing care.
2. Apply knowledge from the humanities, biological and behavioral sciences in functioning as a nurse.
3. Function effectively with members of the health team and community applying the knowledge of human relations and communication skills in her work.
4. Participate as member of the health team in delivery of curative preventive, promotive and rehabilitative health care service.
5. Mobilize community resources and their involvement in working with the communities.
6. Demonstrate use of ethical values in their personal and professional life.
7. Demonstrate interest in activities of professional organization.
8. Recognize the need for continuing education for professional development.
9. Demonstrate basic skills in teaching patients and giving nursing care to them.
10. Demonstrate basic skills in administration and leadership while working with other members of health team and community.
11. Assist in research activities.

REGULATIONS

GUIDELINES FOR ESTABLISHMENT OF NEW GENERAL NURSING AND MIDWIFERY SCHOOL OF NURSING

1. Any organization under: (i) Central Government/State Government/Local body (ii) Registered Private or Public Trust (iii) Missionary or any other organization registered under Society Registration Act (iv) Company incorporated under section 8 of Company's act are eligible to establish General Nursing and Midwifery School of Nursing.
2. Any organization having 100 bedded Parent (Own) hospital is eligible to establish General Nursing Course.
3. Above organization shall obtain the Essentiality Certificate/No Objection Certificate for the General Nursing and Midwifery programme from the respective State Government. The institution name along with Trust Deed/Society address shall be mentioned in No Objection Certificate/Essentiality Certificate.
4. An application form to establish Nursing programme is available on the website viz., www.indiannursingcouncil.org, which shall be downloaded. Duly filled in application form with the requisite documents mentioned in the form shall be submitted before the last date as per the calendar of events of that year.
5. The Indian Nursing Council on receipt of the proposal from the Institution to start nursing programme, will undertake the first inspection to assess suitability with regard to physical infrastructure, clinical facility and teaching faculty in order to give permission to start the programme.
6. After the receipt of the permission to start the nursing programme from Indian Nursing Council, the institution shall obtain the approval from the State Nursing Council and Examination Board.
 - Before the admission of the students next year institute will submit the renewal/validity form as per the calendar of events every year. However INC may conduct yearly inspection.
7. Institution will admit the students only after taking approval of State Nursing Council Examination Board.

Note:

- If, no admission are made for two consecutive academic years then it shall be considered as closed for the said programme.
- If the institution wants to restart the programme they have to submit the first inspection fees within 5 years + 6 months from the year they did not have admissions. Guidelines of the year wherein institute was first permitted will be applicable.

PHYSICAL FACILITIES

Teaching Block:

The School of Nursing should have a separate building/teaching block*. For a School with an annual admission capacity of 40-60 students, the constructed area of the School should be 20000 square feet.

The School of Nursing can be in a rented/leased building for first two years. After two years institute shall have own building in an institutional area. Otherwise Rs.50,000 penalty has to be paid for every year. During the penalty period institute shall be able to construct own building. If the institution is not able to have their own building, permission/availability will be withdrawn and however institution will be given chance to submit the proposal towards first inspection with the latest guidelines.

Adequate hotel/residential accommodation for students and staff should be available in addition to the above mentioned built up area of the Nursing School respectively. The details of the constructed area are given below for admission capacity of 40-60 students:

S. No.	Teaching Block	Area (Figures in Sq. feet)
1.	Lecture Hall	3 @ 900 = 2700
2.	(i) Nursing foundation lab	1500
	(ii) CHN & Nutrition Lab	900
	(iii) Advance Nursing Skill Lab	900
	(iv) OBG and Paediatrics Lab	900
	(v) Pre-clinical science lab	900
	(vi) Computer Lab	1500
3.	Multipurpose Hall	3000
4.	Census Room (Male & Female)	1000
5.	Staff Room	1000
6.	Principal Room	300
7.	Vice Principal Room	200
8.	Library	1800
9.	A. V. Aids Room	600
10.	Faculty Room	1800
11.	Provisions for Toilets	1000
Total		20000 Sq. Ft.

Note:

- *1. Nursing Educational institution should be in institutional area only and not in residential area.
- *2. If the institute has non-nursing programme in the same building, Nursing programme should have separate teaching block.
- *3. Shift-wise management with other educational institutions will not be accepted.
- *4. Separate teaching block shall be available if it is in hospital premises.
- *5. Proportionately the size of the built-up area will increase according to the number of students admitted.
- *6. School and College of nursing can share laboratories, if they are in same campus under same name and under same trust, that is the institution is one but offering different nursing programmes. However, they should have equipments and articles proportionate to the strength of admission. And the class rooms should be available as per the requirement stipulated by Indian Nursing Council of each programme.

Hostel Block:

Hostel Provision is Mandatory and shall also be owned by the institute within the period of two years

S. No.	Hostel Block	Area (Figures in Sq feet)
1.	Single Room	9000 (50 sq. ft. for each student)
	Double Room	
2.	Sanitary	One latrine & One Bath room (for 60 students) - 600 x 3 = 1800
3.	Visitor Room	300
4.	Reading Room	250
5.	Store	500
6.	Recreation Room	500
7.	Dining Hall	3000
8.	Kitchen & Store	1500
9.	Warden's room	450
Total		17500 Sq. Ft.

Grand Total (total requirement for the nursing programme): - 20000 (Teaching Block) + 17500 (Hostel Block) = 37500 Sq. Ft.

1. Class rooms

There should be at least three classrooms with the capacity of accommodating the number of students admitted in each class. The rooms should be well ventilated with proper lighting system. There should be built in White Boards. Also there should be a desk/ desks/a big table and a chair for the teacher and racks/cupboards for keeping teaching aids or any other equipment needed for the conduct of classes.

2. Laboratories

There should be at least six laboratories as listed below:-

1	Nursing Practice Laboratory
2	Community Health Nursing & Nutrition Laboratory
3	Advance Nursing Skill Laboratory
4	Computer Laboratory
5	OBG & Paediatric Laboratory
6	Pre Clinical Sciences Laboratory

- a) **Nursing Practice Laboratory:** There should be demonstration beds with dummies, mannequins in proportion to the number of students practicing a nursing procedure at a given point of time (the desired ratio being 1 bed: 6 practicing students).

It should be fully equipped with built-in-cupboards and racks, Wash-basins with running water supply, electric fitting, adequate furniture like table, chairs, stools, patient lockers footstaps etc. Sufficient Necessary inventory articles should be there i.e. at least 10-12 sets of all items needed for the practice of nursing procedure by the students.

- b) **Community Practice & Nutrition Laboratory:** It should have all required articles needed for practicing nursing procedures in a community set-up. The laboratory should give appearance of that of a rural setting, with community maps, records put up on display & cupboards.

It should also have facilities for imparting basic knowledge of various methods of cooking for the healthy as well as for the sick. The furnishing and equipment should include work-tables, cooking cutlery, trays, plates, dietetic scales, cooking utensils, microwave, racks/shelves, refrigerator, pressure cookers, mixer and cupboards for storage of food items. The food items shall be purchased for the conduct of practical classes as and when required. Sets of crockery and cutlery for preparation, napkins for serving and display of food also should be there.

- c) **Computer Laboratory:** It can be shared with other departments.
- d) **OBG & Paediatric Laboratory:** Laboratory should have equipment and articles as mentioned in laboratory equipments and articles.
- e) **Advance Nursing Skill Laboratory:** There should be simulators used teach, practice & learn advance skills e.g., administration of tube-feeding, tracheostomy, gastrostomy etc. IV injection, BLS, newborn resuscitation model, etc. The lab should have computers, internet connection, monitor used in Critical Care Units.
- f) **Pre-clinical Science lab:** It is the laboratory of Biochemistry, Anatomy, and Microbiology. The laboratory articles mentioned in the laboratory equipment & articles shall be available.

3. Multipurpose Hall

It can be utilized for hosting functions of the college, educational conferences/workshops, CNES examinations etc. It should have proper stage with green room facilities. It should be well-ventilated and have proper lighting system. There should be arrangements for the use of all kinds of basic and advanced audio-visual aids.

4. Library

There should be a separate library in the school. It should be easily accessible to the teaching faculty and the students, during school hours and extended hours also.

It should have comfortable seating arrangements for half of the total strength of the students and teachers in the school.

There should be separate budget for the library. The library committee should meet regularly for keeping the library updated with current books, journals and other literature. Internet facility should be provided in the library.

The library should have proper lighting facilities and it should be well-ventilated. It should have a cabin for librarian with intercom phone facility.

There should be sufficient number of cupboards, books shelves and racks with glass doors for proper and safe storage of books, magazines, journals, newspapers and other literature. There should be provision for catalogue-cabinets, racks for student bags etc., book display racks, bulletin boards and stationery items like index cards, borrowers cards, labels and registers. Current books, magazines, journals, newspaper and other literature should be available in the library.

A minimum of 500 of different subject titled nursing books (all new editions), in the multiple of editions, 3 kinds of nursing journals, 3 kinds of magazines, 2 kinds of newspapers and other kinds of current health related literature should be available in the library.

There should be a separate record room with steel racks, built-in shelves and racks, cupboards and filing cabinets for proper storage of records and other important papers/ documents belonging to the college.

5. Offices Requirements

a. Principal's Office

There should be a separate office for the Principal with attached toilet and provision for visitor's room. Independent telephone facility is a must for the Principal's office with intercom facility connected/linked to the hospital and hostel.

b. Office for Vice-Principal

There should be a separate office for the Vice-Principal with attached toilet and provision for visitor's room. Independent telephone facility is a must for Vice-principal's office with intercom facility connected/linked to the hospital and hostel.

c. Faculty Room

There should be adequate number of office rooms in proportion to the number of teaching faculty. One office room should accommodate 2 teachers only. Separate toilet facility should be provided for the teaching faculty with hand washing facility. There should be a separate toilet for male teachers.

d. Staff Room

One separate office room for the office staff should be provided with adequate toilet facility. This office should be spacious enough to accommodate the entire office staff with separate cabin for each official. Each office room should be adequately furnished with items like tables, chairs, cupboards, built-in racks and shelves, filing cabinets and book cases. Also there should be provision for equipments like photocopy, computers and telephone.

6. Common Rooms

Common rooms should be provided. One for the teaching faculty, one for the student and one for the office staff. Sufficient space with adequate seating arrangements, cupboards, lockers, cabinets, built-in-shelves and racks should be provided in all the common rooms. Toilet and hand washing facilities should be made available in each room.

7. Audio-Visual Aids Room & Store Room

This room should be provided for the proper and safe storage of all the Audio-Visual Aids. The School should possess all kind of basic as well as advanced training aids like chalk boards, overhead projectors, slide and film-strip projector, models specimen, charts and posters, T.V. & V.C.R., Photostat machine, tape recorder and computers, LCD, laptop.

It should be provided to accommodate the equipments and other inventory articles which are required in the laboratories of the college. This room should have the facilities for proper and safe storage of these articles and equipments like cupboards, built-in-shelves, racks, cabinets, furniture items like tables and chairs. This room should be properly lighted and well-ventilated.

8. Other Facilities

Safe drinking water and adequate sanitary/toilet facilities should be available for both men and women separately in the school. Toilet facility to the students should be there along with hand washing facility.

9. Garage

Garage should accommodate a 50 seater vehicle.

10. Fire Extinguisher

Adequate provision for extinguishing fire should be available as per the local bye-laws.

11. Playground

Playground should be spacious for outdoor sports like Volleyball, football, badminton and for Athletics.

Hostel Facilities:

There should be a separate hostel for the male and female students. It should have the following facilities:

1. Hostel Room

It should be ideal for 2 students. The furniture provided should include a cot, a table, a chair, a book rack, a cupboard or almirah for each student.

2. Toilet and Bathroom

Toilet and bathroom facilities should be provided on each floor of the students hostel. Ceyzers in bathroom and wash basins should also be provided.

3. Recreation

There should be facilities for indoor and outdoor games. There should be provision for T.V., radio and video cassette player.

4. Visitor's Room

There should be a visitor room in the hostel with comfortable seating, lighting and toilet facilities.

5. Kitchen & Dining Hall

There should be a hygienic kitchen and dining hall to seat at least 80% of the total students strength at one time with adequate tables, chairs, water coolers, refrigerators and heating facilities. Hand washing facilities must be provided.

6. Pantry

One pantry on each floor should be provided. It should have water cooler and heating arrangements.

7. Washing & Ironing Space

Facility for drying and ironing clothes should be provided in each floor.

8. Warden's Room

Warden should be provided with a separate office room besides her residential accommodation. Intercom facility with school & hospital shall be provided.

9. Telephone facility accessible to students in emergency situation shall be made available.

10. Canteen

There should be provision for a canteen for the students, their guests, and all other staff members.

11. Transport

School should have separate transport facility under the control of the Principal. 25 and 50 seats bus is preferable and number of transport shall be as per students strength.

Staff for the Hostel

1. Warden (Female)-3: Qualification- B.Sc. Home Science or Diploma in Housekeeping/Catering. Minimum three wardens must be there in every hostel for morning, evening and night shifts. If number of students are more than 150, one more warden/ Asst. Warden/ House keeper for every additional 50 students.
2. Cook-1: For every 20 students for each shift.
3. Kitchen & Dining Room helper- 1: For every 20 students for each shift.
4. Sweeper-1
5. Gardener-2
6. Security Guard/ Clerk-1

ANTI RAGGING

1. Notice/Circular for prohibition of Ragging shall be available on
 - Notice Boards
 - Admission Brochure/Prospectus
2. Display Posters/Charts on Prohibition of Ragging in common places.
3. Create:-
 - Anti-ragging committee } with name designation & Telephone no.
 - Anti-ragging squad }
4. Leaflet given to fresher's students to detail out the telephone no. mentioned to whom to approach in case of ragging including Anti ragging committee/squad addresses and telephone numbers.
5. Constituting a mentoring cell consisting of students volunteering to be mentors for fresher's (one mentor of six fresher's and one mentor of a higher level for six mentors of the lower level.)
6. Online Affidavit (1) by the student (2) by the parent shall be taken as per the UGC notification from time to time
7. Display at multiple places- notices, common rooms, canteens, classrooms, library, toilets, corridors etc. Anti-ragging help line for students.
8. Complaint box placed at places accessible to students.

BUDGET

In the overall budget of the institution, there should be provision for school budget under a separate head. Principal of the school of Nursing should be the drawing and disbursing officer.

NURSING TEACHING FACULTY

The Principal should be the administrative head of the school. He/She should hold qualification as laid down by INC. The Principal should be the controlling authority for the budget of the school and also be the drawing and disbursing officer. The Principal and Vice-Principal should be Gazetted officers in Government Schools and of equal status (though non-Gazetted) in non-government Schools.

Qualification of Teaching Staff for General Nursing and Midwifery programme with 40 students intake:

Ratio of Female and Male Nursing Teachers in School Programme

- For every 7 female nursing teacher there shall be 3 male nursing teacher i.e. 7:3 female to male nursing teacher ratio.

[i.e., maximum of 30% will be male] it does not direct that female teachers to be replaced by male.

The following is for 60 students intake:

S. No.	Teaching faculty	Qualification & Experience	No. Required
(i)	Principal	M.Sc. Nursing with 3 years of teaching experience or B.Sc. Nursing (Basic) / Post Basic with 5 years of teaching experience.	1
(ii)	Vice-Principal	M.Sc. Nursing or B.Sc. Nursing (Basic) / Post Basic with 3 years of teaching experience.	1
(iii)	Tutor	M.Sc. Nursing or B.Sc. Nursing (Basic/Post Basic) or Diploma in Nursing Education and Administration with 2 years of professional experience.	16
Total			18

Notes:

- Teacher student ratio should be 1:10 on sanctioned strength of students.
- One of the Tutors need to stay at the community health field by rotation.
- The salary structure of the teaching faculty in private Schools of Nursing should not be less than what is admissible in the schools of the nursing under State/Central Government.
- Nursing service personnel should actively participate in instruction, Supervision, guidance and evaluation of student in the clinical and field/ community practice areas. The teaching faculty of the School of nursing should work in close coordination with nursing service personnel.
- The teaching faculty of the school and the nursing service personnel should be deputed to attend short term educational courses/ workshops/ conferences etc. to update their knowledge.
- It is mandatory for school authorities to treat teaching faculty of the school of nursing on duty when nominated/ selected for the purpose of examination or inspection or inspection by the Council.
- All nursing faculty including Principal shall spend at least four hours each day in the clinical area for clinical teaching and / or supervision of care by the students.

- 50% of the non-nursing subjects should be taught by the nursing teachers. However, it will be supplemented by the external faculty who are doctors or candidates having PG Qualification in the requisite subject. Nursing teachers who are involved in non-nursing subjects shall be exempted from the programme.

EXTERNAL FACULTY

Besides the regular teaching faculty in the school of Nursing, there should be provision for external lectures for teaching the students. They should possess the desired qualification in the respective subjects which are to be taught. Remuneration of these external lecturers is to be paid as per the institute/ govt. policy. The external faculty may comprise Medical Faculty and Scientists, General Educationist including teaching experts in English, computer Education, Physical Education/ Yoga, Psychologists, Sociologists, Health Economists/ Statisticians, Nutritionist.

School Management Committee

Following members should constitute the Board of management of the school.

Principal	Chairperson
Vice-Principal	Member
Tutor	Member
Chief Nursing Officer/	Member
Nursing Superintendent	
Administrative staff for School of Nursing	Member

Additional Staff for School of Nursing

Stenographer/Personal Assistant	One	} Should have Knowledge of computer
Senior Clerk cum Cashier/ Accountant	One	
Junior Clerk cum Typist	One	
Librarian	One	
Laboratory Attendant	One	
Chavkidar/ Watchman	Two	
Driver	One for each Vehicle	
Cleaner	One for each Vehicle	
Peon	Three	
Sweeper/ Safai Karmachari	Two	
Machine (Duplicating/ Xerox) Operator	One	

NB: Provision should be made to have leave reserve staff in addition to the regular staff according to rules

CLINICAL FACILITIES

I. Own Hospital: School of nursing should have a 100 bedded Parent (Own Hospital).

II. Additional affiliation of hospital:

If all the required learning experience are not available in the parent hospital, the students should be sent to affiliated hospital/ agencies/ institutions where it is available.

i. Criteria for Affiliation

The types of experience for which a nursing school can affiliate are:

- Community Health Nursing
- Communicable diseases
- Mental Health (Psychiatric) Nursing
- Specialities like Cardiology, Neurology, Oncology Nephrology etc.

ii. The size of the Hospital/Nursing Home for affiliation:-

- Should not be less than 100 beds apart from having own hospital.
- Maximum 3 Hospital can be attached with 100 beds each.

The Physical facilities staffing and equipment of the affiliated hospitals should be of the same standard as required in the hospital.

The Nursing Staff of the affiliated hospital should be prepared to recognize the institutional student with student status as per their educational programme.

III. Distribution of beds in different areas

Medical	45
Surgical	45
Obst. & Gynaecology	45
Pediatrics	30
Ortho	15
Psychiatric	50

IV. Bed Occupancy of the Hospital should be minimum 75%.

V. Other Specialties/Facilities for clinical experience required are as follows:

- Major OT
- Minor OT
- Dental
- Eye/ENT
- Burns and Plastic
- Neonatology with Nursery

Communicable disease
Community Health Nursing
Cardiology
Oncology
Neurology/Neuro-surgery
Nephrology etc.
ICU/CCU

- VI. There should be a variety of patients of all age groups in all the clinical areas where the students are posted for obtaining the requisite learning experiences.
- VII. The Nursing Staffing norms in the affiliated Hospital should be as per the INC norms.
- VIII. The affiliated Hospital should give student status to the candidates of the nursing programme.
- IX. Maximum distance of the affiliated hospitals should be within 30 kms.
- X. 1:3 student patient ratio to be maintained.
- XI. For Tribal and hilly areas the maximum distance is 50 kms.

For institutions having both General Nursing and Midwifery and B.Sc. (N) programme, it would require a minimum 1:3 student patient ratio based on intake for each programme.

Distribution of Beds

At least one third of the total number of beds should be for medical patients and one third for surgical patients. The number of beds for male patients should not be less than 1/6th of the total number of beds i.e. at least 40 beds. There should be minimum of 100 deliveries per month. Provision should be made for clinics in health and family welfare and for preventive medicine.

Staffing

1. Chief Nursing Officer (C.N.O) - for 500 Beds and above. (Qualification as for Principal, SON).
2. Nursing Superintendent (N.S)-1 (Qualification as for Principal, SON).
3. Deputy Nursing Superintendent (D.N.S)-1 (qualification as for vice-principle, SON).
4. Assistant Nursing Superintendent (A.N.S)-2 and for every additional 50 beds one more (qualification as for vice-Principle, SON).

NORMS RECOMMENDED BY EXPERTS COMMITTEE ON HEALTH MANPOWER PRODUCTION AND MANAGEMENT (RESOLUTION OF FOURTH CONFERENCE OF CENTRAL COUNCIL OF HEALTH AND FAMILY WELFARE, ON NURSING, 1995).

Categories	Requirements
1. Nursing Superintendent	1:200 beds
2. Dy. Nursing Superintendent	1:300 beds
3. Departmental Nursing Supervisors/ Nursing Sisters	7:1000(Plus one additional 100 beds

4. Ward Nursing Supervisors/ Sisters	8:200+30% leave Reserve
5. Staff nurse for wards	1:3 (of 1:9 each Shift)+30% leave Reserve
6. For OPD, Blood Bank, X-ray Diabetic Clinic CSR etc.	1:100 OPD Patients (1 bed 5 OPD Patients)+30% leave Reserve
7. For Intensive Care Unit (8beds ICU for 200 beds)	1:1 (of 1:3) for each (shift +30% leave Reserve)
8. For specialized departments and clinic such as OT, Labour room.	8:200 + 30% leave Reserve

Justification

1. Needs may vary from one hospital to another, Depending on its size and service rendered, more staff than anticipated will be required.
2. Special attention is needed for supervision of patient care in the evening and night shifts.
3. 30% leave reserve posts are mandatory.

Other point to be considered

- a. The staff of the parent hospital should be strictly as per the criteria laid down by INC in terms of doctors, nurses and paramedical staff.
- b. Wards/Area/OPDs/OTs/Clinical departments etc. must have adequate coverage of the staff in all the shifts to ensure that students are only for attending clinical experience in these areas and not utilized for service purposes.
- c. Continuing/ in-service education programme must be attended by all staff nurses to keep themselves abreast with latest technologies and sophistication used in day to day patient care in these areas.

Community Health Nursing Field Practice Area

The students should be sent for community health nursing experience in urban as well as rural field area. Institute can be attached to primary health centre. A well-kept field teaching centre should be provided with facilities for accommodation of at least 10-15 students and one staff member at a time. Prasn, cook and chowkidar should be available at health centre. Each school of Nursing should have its own transport facilities and it must be under direct control Principal. The security of staff and students should be ensured.

ADMISSION TERMS AND CONDITIONS

1. Minimum education eligibility criteria for admission to GNM:

- 10+2 with English and must have obtained a minimum of 40% at the qualifying examination and English individually from any recognized board. Candidates are also eligible from State Open School recognized by State Government and National Institute of Open School (NIOS) recognized by Central Government. However Science is preferable.
- 10+2 with English having 40% of marks in vocational ANM course from the school recognized by Indian Nursing Council.
- 10+2 with English having 40% of marks in Vocational Stream-Health care Science from a recognized CBSE board/State/Centre.
- Registered ANM with pass mark.

For foreign nationals

- The entry qualification equivalency i.e., 12th standard will be obtained by Association of Indian Universities, New Delhi. Institution, State Nursing Council will be responsible to ensure that the qualification and eligibility will be equivalent to what has been proscribed as above.

2. Reservation

- For disabled candidates: 3% Disability reservation to be considered with a disability of locomotor to the tune of 40% to 50% of the lower extremity and other eligibility criteria with regard to age and qualification will be same as proscribed for each nursing programme.

Note: A committee to be formed consisting of medical officer authorized by medical board of state government and a nursing expert in the panel which may decide whether the candidates have the disability of locomotor of 40% to 50%.

- 5% of total marks is relaxed for SC/ST candidates.
- Any other reservation as per the State Govt.

Note: Reservation shall be applicable within the sanctioned number of the seats by INC and not above it.

3. Admission of students shall be once in a year.

4. Students shall be medically fit.

5. Minimum age for admission will be 17 years. (as on 31st December of that year) The upper age limit is 35 yrs. For ANM/for LHV, there is no age bar.

Admission / Selection Committee

This committee should comprise of:

- Principal
- Vice-Principal

Chairperson

- Senior Tutor
- Chief Nursing Officer or Nursing Superintendent

ADMISSION STRENGTH

Admission / Intake of candidates shall be as per sanctioned strength permitted by INC.

Health Services

There should be provisions for the following health services for the students.

- (a) An annual medical examination.
- (b) Vaccination against Tetanus, hepatitis B or any other communicable disease as considered necessary.
- (c) Free medical care during illness.
- (d) A complete health record should be kept in respect of each individual student. The question of continuing the training of a student, with long term chronic illness, will be decided by the individual school.

Records

Following are the minimum records which needs to be/should be maintained in the school

a) For Students

1. Admission record
2. Health record
3. Class attendance record
4. Clinical and Field Experience record
5. Internal assessment record for both theory and practical
6. Mark Lists (State Council/Board Results)
7. Record of extracurricular activities of student (both in the school as well as outside)
8. Leave record
9. Practical record books – Procedure book and Midwifery record book to be maintained as proscribed by INC

b) For each academic year, for each class/batch

1. Course contents record (for each subjects)
2. The record of the academic performance
3. Rotation plans for each academic year
4. Record of committee meetings
5. Record of the stock of the school
6. Affiliation record
7. Grant-in-aid record (if the school is receiving grant-in-aid from any source like state Govt. etc.)
8. Cumulative record.

Record of educational programmes organized for teaching faculty and student, both in the school as well as outside

Annual reports (Record) of the achievement of the school prepared annually.

School of nursing should possess detailed and up-to-date record of each activity carried out in the school.

Transcript

All institutions to issue the transcript upon completion of the course and to submit only one single copy of transcript per batch to respective State Nursing and Midwifery Registration Council.

CURRICULUM

Duration

Course duration	= 3 Years
Weeks Available	= 52 weeks
Vacation	= 4 weeks
Examination (including preparatory)	= 2 weeks
Available weeks	= 46 weeks
Hours per week	= 40 hours
Hours available per academic year (1st & 2nd Year)	= 1840 (46 wks × 40 hours) X 2 = 3680
Hours available for 3rd Year (Part I)	= 960 (24 wks × 40 hours)
Internship (Part II)	= 1248 (26 wks × 48 hours)
$\left\{ \begin{array}{l} 3^{rd} \text{ Year} \\ 2 \text{ weeks vacation} \\ 2 \text{ weeks Examination} \end{array} \right\}$	
Total	= 5888 hours

Course of Instruction

FIRST YEAR

Subjects	Theory (hours)	Practical (hours)	
Bio Sciences	120		
- Anatomy & Physiology	90		
- Microbiology	30		
Behavioral Sciences	60		
- Psychology	40		
- Sociology	20		
Nursing Foundations	210	200 (lab)	680 (clinic)
- Fundamentals of Nursing	190	(22 weeks)	
- First aid	20		
Community Health Nursing	180	} 320 8 weeks	
- CHN-I	80		
- Environmental Hygiene	30		
- Health Education & Communication Skills	40		
- Nutrition	30		

Subjects	Theory (hours)	Practical (hours)
English	30	-
Computer Education	15	15
Co-curricular activities	10	-
TOTAL	625 (16 wks)	1215 (30 wks)
	1840	

SECOND YEAR

Subjects	Theory (hours)	Practical (hours)
Medical Surgical Nursing-I	120	800 (20 wks)
Medical Surgical Nursing -II	120	
Mental Health Nursing	70	320 (8 wks)
Child Health Nursing	70	320 (8 wks)
Co-curricular activities	20	-
TOTAL	400 (10 weeks)	1440 (36 weeks)
	1840	

THIRD YEAR Part-I

Subjects	Theory (hours)	Practice (hours)
Midwifery & Gynecological Nursing	140	560 (14 wks)
Community Health Nursing-II	90	160 (4 wks)
Co-curricular	10	-
TOTAL	240 hours (6 weeks)	720 hours (18 weeks)
	960	

THIRD YEAR Part-II (Integrated supervised Internship)

Theory Subjects	Theory (hours)
Nursing Education	20
Introduction to Research and statistics	30
Professional Trends & Adjustments	30
Nursing Administration & Ward Management	40
TOTAL	120 (2 weeks)

Clinical Areas	Clinical Hours/ weeks *
Medical Surgical Nursing	288 (6 wks)
Community Health Nursing	288 (6 wks)
Child Health Nursing	96 (2 wks)
Midwifery and Gynecological Nursing	384 (8 wks)
Mental Health Nursing	96 (2 wks)
TOTAL	1152 (24 weeks)

Night duty should be given in clinical area(s) in rotation

*4½ hours per week for clinical and 5 hours per week for theory.

The students posted in the clinical areas should be accompanied by teaching faculty of the school.

The same practice must be followed when student are posted for requisite clinical experience to affiliated Hospital/Agency/Institution.

The Nursing teachers must actively participate in supervising, guiding and evaluating students in the hospital wards, health centers and in the community.

1:10 teacher student ratio to be maintained during the supervised clinical practice

SUMMARY OF TOTAL CLINICAL EXPERIENCE

Area	1st Year	2nd Year	3rd Year-I	3rd Year-II (Internship)
Nursing Foundation	880 (22)	-	-	-
Community Health Nursing	320 (8)	-	160 (4)	288 (6)
Medical Surgical Nursing	-	800 (20)	-	288 (6)
Mental Health Nursing	-	320 (8)	-	96 (2)
Child Health Nursing	-	320 (8)	-	96 (2)
Midwifery and Gynecological Nursing	-	-	560 (14)	384 (8)
Total	1200	1440	720	1152

SCHEME OF EXAMINATION:

FIRST YEAR

Paper	Subjects	Total Marks	Internal Assessment	Council/ Board examination	weightage	Duration of Examination (Hrs.)
I.	Bio Sciences - Anatomy & Physiology. - Microbiology	100	25	75	65% 35%	3

Paper	Subjects	Total Marks	Internal Assessment	Council/ Board examination	weightage	Duration of Examination (Hrs.)
II.	Behavioral Sciences - Psychology - Sociology	100	25	75	65% 35%	3
III.	Foundation of Nursing - Fundamental of Nursing - First aid	100	25	75		3
IV.	Community Health Nursing - CHN-I - Environmental Hygiene - Health education & Communication Skills - Nutrition	100	25	75	50% 10% 25% 15%	3
	Practical - I Fundamental of Nursing	100	50	50		-

SECOND YEAR

Paper	Subjects	Total Marks	Internal Assessment	Council/ Board examination	Duration of Examination (Hrs.)
I.	Medical Surgical Nursing-I	100	25	75	3
II.	Medical Surgical Nursing -II	100	25	75	3
III.	Mental Health Nursing	100	25	75	3
IV.	Child Health Nursing	100	25	75	3
	Practical - I Medical Surgical Nursing	100	50	50	-
	Practical-II Child Health Nursing	100	50	50	
	Practical-III* Mental Health Nursing	100	50	50*	

Note:

* (only school examination, no council/board exam)

*Practical examination for psychiatric nursing is to be conducted at the place of clinical experience at the end of clinical instruction by school, itself and marks shall be sent to the council/board.

THIRD YEAR Part-I*

Paper	Subjects	Total Marks	Internal Assessment	Council/ Board examination	Duration of Examination (Hrs.)
I	Midwifery & Gynecological Nursing	100	25	75	3
II	Community Health Nursing-II	100	25	75	3
	Practical I Midwifery	100	50	50	
	Practical - II Community Health Nursing	100	50	50	

*Examination for Part-I will be conducted at the end of Third Year

THIRD YEAR Part-II (School Examination)

Paper	Subjects	Total Marks	Term Assessment	School Exam	Duration of Examination (Hrs.)
I	Nursing Education and Introduction to Research and statistics	100	50	50	3
II	Professional Trends & Adjustment, Nursing administration and Ward Management	100	50	50	3

Examination guidelines

- Shall have one regular examination followed by supplementary examination in a year.
- If a candidate fail they can be permitted to next year
- A candidate can take any number of attempts with a condition that maximum period allowed is 5 years. However all previous papers need to be cleared before appearing in the final examination.
- No institution shall submit student average internal marks more than 75% i.e., if 40 students are admitted in a course than the average score of the 40 students shall not exceed 75%.
Example of 5 students: A=25, B=20, C=22, D=21, E=24
Average score=89.6%
This will not be accepted by the State Nursing Registration Council
- Minimum pass marks should be 50% in each of the Theory and practical paper separately.
- Minimum pass marks shall be 40% for English only.
- Theory and Practical exams for Introduction to Computer to be conducted as School exam and marks to be send to the SNRC/ Board for inclusion in the mark sheet.
- A candidate has to pass in theory and practical exam separately in each of the paper.
- If a candidate fails in either theory or practical paper he/she has to re-appear for both the papers (Theory and Practical)

- Maximum number of candidates for practical examination should not exceed 20 per days.
- All practical examination must be held in the respective clinical areas.
- One internal and one external examiners should jointly conduct practical examination for each students.

Eligibility for Admission to Examination

A candidate shall be eligible for the admission to the state Council / Board examination if the Principle of the school certificate that:

- She / he has completed not less than eleven months of the course
- A candidate must have minimum of 80% attendance (irrespective of the kind of absence) in theory and practical in each subject for appearing for examination.
The diploma shall not be awarded to the student till she / he has completed the clinical / field requirements.
- A Candidate must secure 50% marks in internal assessment separately in each theory and practical.
- The record of practical experience is complete.

(The Principal shall send to the Council / board the internal assessment for each subject, i.e. both theory and practical (S) before the start of the examination along with the examination form).

GRADING OF EXAMINATION

Examination shall be graded on aggregate marks of the entire three years of the training programme, as follows:

Distinction	-	80% and above
First Division	-	70% to 79%
Second Division	-	60% to 69%
Pass	-	50% to 59%

THEORY EXAMINATION

- Nursing teacher with minimum five years of teaching experience (recent) in a particular subject may be appointed as paper setters and examiners for that particular subject only.
- Question paper should have a combination of essay, short answer and objective type question as detailed in the content
- All units of a subject and sub-subject should be given due weightage in accordance with the instructional hours prescribed.

PRACTICAL EXAMINATION

- Practical examination is to be conducted in the respective clinical area.
- Nursing teacher with minimum of five years of teaching/clinical teaching experience in a particular subject/clinical area may be appointed as practical examiner.

MAINTENANCE OF PRACTICAL RECORD

The student shall be required to maintain the Practical record book and report of observation visits and diary for assessment must also be used. Marks shall be allotted for each of the following:

- Case study
- Case presentation
- Nursing care plan
- Maintenance of record books (Procedure Book and Midwifery Record book).
- Daily diary.
- Area wise clinical assessment is to be carried out. Minimum two assessments are required in each clinical area.

Regular record of theory and practical is to be maintained. Task oriented assessment is to be undertaken. Assessment shall be maintained by teacher for each student each month. This can be checked by the Council/Board. Principal to sign all the records of examination. It should be displayed on the notice board for the information of the students.

Each student is required to maintain the record of following assignment in clinical areas in each year:

First Year

- Nursing care plan - 4 in medical / surgical wards.
- Daily Diary - 1 each in urban and rural community field.
- Health - Talk - 1 each in Urban and rural community field.
Family Study including Health assessment of an individual in the family - 1 each in Urban and rural community field.
Community profile - 1 each in Urban and rural community field.

Second Year

- Medical ward
 - Nursing Care Plan - 2
 - Case Study - 1
 - Case Presentation - 1
 - Drug Study - 1
- Surgical ward
 - Nursing Care Plan - 2

- Case Study - 1
- Case Presentation - 1
- Drug Study - 1

(c) Psychiatry ward

- Nursing Care Plan - 1
- Case Study - 1
- Case Presentation - 1
- Drug Study - 1
- Process Recording - 2
- Mental Status examination - 4

(d) Pediatric ward

- Nursing Care Plan - 2
- Case Study - 1
- Case Presentation - 1
- Drug Study - 1
- Observation Report (New born) - 2

Third Year

(a) Midwifery and Gynaecological ward.

- Nursing Care Plan - 2+1
- Case Study - 1+1
- Case Presentation - 1+1
- Drug Study - 1+1

(b) Daily Diary Urban & Rural Community field

- Health Talk - 2 each
- Family Health Nursing care Plan - 2 each
- Group Project - 1 each

In addition to above, each student shall maintain a procedure book and midwifery case book signed by concerned / supervisor and Principle which is to be presented to examiner each year.

The above assignments are to be evaluated by concerned teachers for the purpose of internal assessment and shall be presented to the external examiner in a compiled form and it should be duly signed by her and should be stamped or cancelled after practical examination.

CURRICULUM

BIO-SCIENCE

Placement- FIRST YEAR

Time: Theory- 120 hours
Anatomy and Physiology-90 hours
Microbiology- 30 hours

ANATOMY AND PHYSIOLOGY

Course Description

This course is designed to help students gain knowledge of the structure and function of the human body and recognize any deviation from normal health in order to render effective nursing services.

General Objective

Upon completion of the course, the student shall be able to:

1. Describe in general the structure and functions of the human body.
2. Describe in detail the structure and functions of the different organs and systems in the human body.
3. Apply the anatomical and physiological principles in the practice of nursing.

Total Hours – 90

Unit No.	Learning Objectives	Content	Hr.	Teaching learning activities	Assessment methods
I	Define and spell various anatomical terms	Introduction to anatomical terms organization of the human body a) Anatomical terms b) Systems and cavities of the human body	4	Lecture cum Discussions Explain using charts Record book	Short answer questions Objective type
II	Describe different organs of the body, systems function and their inter-relationship	Introduction to the detailed structure of the body a) The cell: Structure, reproduction and function b) Tissues including membranes and glands: types, structure and functions c) Body cavities and their contents	6	Lecture cum Discussions Explain using microscopic slides, Skeleton and torso	Short answer questions Objective type
III	Describe the composition of blood and its functions.	Blood a) Composition and formation of blood b) Functions of blood c) Blood clotting, Blood grouping and cross matching d) Blood products and their use	6	Lecture cum Discussions Explain using microscopic slides	Short answer questions Objective type Essay type

Unit No.	Learning Objectives	Content	Hr.	Teaching learning activities	Assessment methods
				Demonstration of blood grouping and cross-matching, Hb estimation	
IV	Describe the structure and functions of heart and blood vessels	The Circulatory System a) Heart: Structure, functions including conduction system and cardiac cycle b) Blood vessels: Types, Structure and position c) Circulation of blood d) Blood pressure and pulse	6	Lecture cum discussions. Explain using charts, models and specimen	Short answer questions Objective type Essay type
V	Describe structure and functions of lymphatic system	The Lymphatic system - Structure and function of lymph vessels, Lymph nodes and lymph circulation, lymphatic tissue - spleen and thymus	6	Lecture cum discussions. Explain using charts and models	Short answer Objective type Essay type
VI	Describe the structure and functions of respiratory system	The Respiratory system a) The structure and functions of respiratory organs b) The physiology of respiration c) Characteristics of normal respiration and deviation.	6	Lecture cum discussions. Explain using charts and models, specimen Demonstration of spirometry	Short answer Objective type Essay type
VII	Describe the structure and function of digestive system	The Digestive system a) Structure and functions of the alimentary tract and its accessory organs. b) The process of digestion, absorption and metabolism of food constituents	6	Lecture cum discussions. Explain using charts, models and videos	Short answer Objective type Essay type
VIII	Describe the structure and functions of organs of Excretory system.	The Excretory system a) Structure and functions of the kidney, ureters, urinary bladder, and urethra b) Formation and composition of urine c) Fluid and electrolyte balance. d) Structure and functions of the skin e) Regulation of the body temperature	6	Lecture cum discussions. Explain using charts, slides models and videos	Short answer Objective type Essay type

Unit No.	Learning Objectives	Content	Hr.	Teaching learning activities	Assessment methods
IX	Describe the structure and functions of endocrine glands	The Endocrine system - The structure and functions of the pituitary, thyroid, parathyroid and adrenal glands, pancreas (islets of Langerhans), ovaries and testes	6	Lecture cum discussions Explain using charts and models	Short answer Objective type Essay type
X	Describe the structure and functions of male and female reproductive system and accessory organs	The Reproductive system a) Structure and functions of the female reproductive system b) Process of menstrual cycle, reproduction and menopause c) Structure and functions of breasts d) Structure and functions of the male reproductive system e) Reproductive health	8	Lecture cum discussions. Explain using charts, videos, models and specimens	Short answer Objective type Essay type
XI	Describe the structure and functions of Nervous system.	The Nervous system a) Types of nerves- structure and functions b) Brain and cranial nerves. c) Spinal cord and motor and sensory pathways of the spinal cord, autonomic nervous system.	10	Lecture cum discussions. Explain using charts and models	Short answer Objective type Essay type
XII	Describe the structure and function of sensory organs	The sense organs a) Skin, eye, ear, nose and tongue b) Physiology of vision, hearing, smell, touch, taste and equilibrium.	8	Lecture cum discussions. Explain using charts, videos and models	Short answer Objective type Essay type
XIII	Describe the structure and functions of skeletal system.	The Skeleton a) Formation and growth of bones b) Tendons, ligaments and cartilages c) Classification of bones, joints d) Joint movement e) Axial and appendicular skeleton	8	Lecture cum discussions Explain using charts, models and skeleton	Short answer Objective type Essay type
XIV	Describe structure and functions of Muscular system.	The Muscular System a) Type, structure and functions of muscle b) Origin, Insertion, and action of muscles	6	Lecture cum discussions Explain using charts, slides and models	Short answer Objective type Essay type

MICROBIOLOGY

Course Description

This course is designed to help students gain knowledge and understanding of the characteristics and activities of micro-organisms, how they react under different conditions and how they cause different disorders and diseases. Knowledge of these principles will enable student to understand and adopt practices associated with preventive and promotive health care.

General Objectives

Upon completion of the course, the students shall be able to:

1. Describe the classifications and characteristics of micro-organisms
2. List the common disease producing micro-organisms
3. Explain the activities of micro-organisms in relation to the environment and the human body.
4. Enumerate the basic principles of control and destruction of micro-organisms.
5. Apply the principles of microbiology in nursing practice.

Total Hours – 30

Unit No.	Learning Objectives	Content	Hrs.	Teaching learning activities	Assessment methods
I	Describe evolution of microbiology and its relevance in nursing.	Introduction a) History of bacteriology and microbiology b) Scope of microbiology in Nursing	3	Lecture cum discussions.	Objective type Short answers
II	Classify the different types of micro organisms. Describe the normal flora and the common diseases caused by pathogens. Explain the methods to study microbes.	Micro Organisms a) Classification, characteristics. (Structure, size, method and rate of reproduction) b) Normal flora of the body. c) Pathogenesis & common diseases. d) Methods for study of microbes, culture & isolation of microbes.	8	Lecture cum discussions. Explain using slides, films, videos, exhibits, models Staining and fixation of slides	Short answer Objective type Essay type
III	Describe the sources of infection and growth of microbes. Explain the transmission of infection and the principles in collecting specimens.	Infection and its transmission a) Sources and types of infection, nosocomial infection b) Factors affecting growth of microbes c) Cycle of transmission of infection portals of entry, exit, modes of transfer. d) Reaction of body to infection, mechanism of resistance e) Collection of specimens.	4	Lecture Demonstrations Specimens Explain using charts	Short answer Objective type Essay type

IV	Describe various types of immunity, hypersensitivity autoimmune and immunizing agents	Immunity a) Types of immunity – innate and acquired. b) Immunization schedule. Immunoprophylaxis (vaccines, sera etc.) c) Hypersensitivity and autoimmunity. d) Principles and uses of serological tests	5	Lecture cum discussions Demonstration Exhibits	Short answer Objective type Essay type
V	Describe the various methods of control and destruction of microbes	Control and destruction of Microbes a) Principles and methods of microbial control -Sterilization -Disinfection -Chemotherapy and antibiotics -Pasteurization b) Medical and surgical asepsis c) Bio-safety and waste management	5	Lecture, Demonstration Videos, Visit to the CSSD	Short answer Objective type Essay type
VI	Demonstrate skill in handling & care of microscopes. Identify common microbes under the microscope	Practical Microbiology a) Microscope – Parts, care, handling and use of microscope b) Observation of staining procedures, preparation and examination of slides and smears c) Identification of common microbes under the microscope for morphology of different microbes.	3	Lecture, Demonstrations Specimens Slides	

BEHAVIOURAL SCIENCES

Placement- FISRT YEAR

Time- 60 Hours
Psychology- 40 hours
Sociology- 20 hours

PSYCHOLOGY

Course Description

This course is designed to help students understand the dynamics of human behavior and concept of mental health. This shall enable them to develop positive attitude and good inter – personal relationships in the practice of nursing in all health care settings.

General Objectives

Upon completion of the course, the students shall be able to:

1. Describe the concept of mental health and psychology.
2. Explain the dynamics of human behavior, personality and learning.
3. Discuss the role of adjustment mechanisms and emotions in health and illness.
4. Demonstrate skills in the application of principle of psychology in nursing practice in all kind of health care settings.

Total Hours – 40

Unit No.	Learning Objectives	Content	Hr.	Teaching learning activities	Assessment methods
I	State the concept, scope and importance of psychology.	Introduction a) Definition, nature and scope of psychology b) Importance of psychology for Nurses	2	Lecture cum discussion	Short answer Objective type
II	Describe the structure of the mind.	Structure of the mind a) Conscious, pre-conscious b) Id, ego and super ego	2	Lecture cum discussions.	Short answer Objective type
III	Illustrate the dynamics of human behavior. Describe the concept of mental health	Psychology of Human Behavior a) Basic human needs, dynamics of behavior, motivation drives b) Body mind relationship, mental health, characteristics of mentally healthy person, emotional control, psychological problems of patients and relatives.	12	Lecture cum discussions Role play	Short answer Objective type Essay type

Unit No.	Learning Objectives	Content	Hr.	Teaching learning activities	Assessment methods
		c) Stress and conflicts, natural sources and types of stress and conflicts, dealing with stress and conflict, frustration – sources and overcoming frustration d) Mental mechanism their uses and importance e) Attitudes – meaning, development changes in attitude, effects of attitudes on behavior, importance of positive attitude for the nurse. f) Habits-meaning and formation. g) Breaking of bad habits, importance of good habit formation for the nurse			
IV	Describe and apply the process of learning, thinking, reasoning, observation and perception	Learning a) Nature, types and laws of learning. b) Factors affecting learning, memory and forgetting. Thinking and Reasoning - Nature and types of thinking, reasoning, problem solving, importance of creative thinking for nurse. Observation and Perception - Attention, perception, laws of perception, factors affecting attention and perception, and errors in perception	13	Lecture cum discussions Roleplay	Short answer Objective type Essay type
V	Discuss the concept and development of personality.	Personality a) Meaning, nature and development, types of personality b) Assessment of personality importance of knowledge of personality for the nurse. c) Characteristics of various age groups – child adolescent, adult and aged d) Will and character.	6	Lecture cum discussions. Role play Psychometric assessment	Short answer Objective type Essay type
VI	Discuss the nature and measurement of intelligence.	Intelligence a) Definition, Meaning, individual differences in intelligence b) Mental ability, nature of intelligence and development c) Assessment of intelligence	5	Lecture cum discussions. Demonstration Role play IQ testing	Short answer Objective type Essay type

SOCIOLOGY

Course Description

This course is designed to help student gain an understanding of sociology in the context of its relevance to nursing practice.

General Objectives

Upon completion of the course, the students shall be able to:

1. Describe the concept of the family as a social unit and the status of the individual in the family.
2. Explain the dynamics of society and identify common social problems.
3. Demonstrate ability to understand the socio-cultural and economic aspects of the community in the light of their effects on health and illness.
4. Utilize the knowledge and understanding of sociology in nursing practice.

Total Hours - 20

Unit No.	Learning Objectives	Content	Hr.	Teaching learning activities	Method of assessment
I	Describe the nature, scope & content of sociology and its importance in nursing.	Introduction a) Definition and scope of sociology b) Its relationship with other social sciences c) Uses of sociology for nurses	2	Lecture cum discussions	Short answer Objective type
II	Describe the influence of the environment on individual development and the rights and responsibilities of the individual in the society.	Individual a) Review of human growth and development b) The socialization process c) Effect of environment on human growth and development d) Rights and responsibilities of the individual in a democratic society.	2	Lecture cum discussions	Short answer Objective type Essay type
III	Describe the concept of family as a social unit.	The Family a) Definition, characteristics and types of family b) Family cycle and basic needs of family c) Importance of interdependence of family members d) Important functions of family and their problems e) Types of Marriage, medical and sociology aspects of marriage.	4	Lecture cum discussions	Short answer Objective type Essay type

Unit No.	Learning Objectives	Content	Hr.	Teaching learning activities	Method of assessment
IV	Describe about social groups, social change, control, stratification and social problems.	Society a) Definition and meaning b) Social groups - Types, Structure, intergroup relationship group cycle, group behavior and group morale c) Social change - Meaning, factors affecting and effect on society and institution leading to social problems d) Social control e) Social stratification f) Social problems - Prostitution, crime, divorce, dowry system, juvenile delinquency, drug addiction, alcoholism, handicapped, over population and slum g) Social agencies and remedial measures	8	Lecture cum discussions Visits to social institutions	Short answer Objective type Essay type
V	Describe the culture and characteristics of community.	The Community a) Community - Definition and types - Rural and urban b) Culture and characteristics	4	Lecture cum discussions	Short answer Objective type Essay type

NURSING FOUNDATIONS

Placement- FIRST YEAR

Time- 210 hours
Fundamentals of Nursing- 190 hours
First-Aid- 20 hours

FUNDAMENTALS OF NURSINGS

Course Description

This course is designed to help students develop an ability to meet the basic health need of the patients with regard to nursing care and develop skill in the competencies required for rendering effective patient care.

General Objectives

Upon completion of the course, the students shall be able to:

1. Describe the physical, mental and social adjustment required of a sick individual and his family.
2. Carry out basic nursing techniques and care with the application of sound scientific principle.
3. Explain the concept of comprehensive nursing care.
4. Develop skills in assessment, planning, implementation and evaluation of the nursing care rendered to the patients.
5. Communicate effectively and establish good interpersonal relationship with the patients, their relatives and other health team members.
6. Demonstrate skills in observation, recording and reporting.
7. Recognize and utilize opportunities for planning and implementing need based health teaching programme (s) for individuals, groups, families and communities.

Total Hours - 190

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
I	Define nursing and explain its nature, meaning, scope, ethics and principles in nursing. Identify the qualities of	Introduction to Nursing a) Nursing – concept, meaning, definitions, scope and functions. b) History of nursing in India c) Nursing as a profession d) Nursing professional – qualities and preparation	20	Lecture cum discussions	Short answer Objective type Essay type

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
	a professional nurse health care agencies and its functions. Describe the holistic approach to nursing and the determinants of health and the effects of illness.	a) Ethics in Nursing-roles and responsibilities of a nurse b) Health care agencies – hospital and community service – types and function of hospital health team c) Modern approaches to nursing care including holistic nursing care d) Health and Disease - Definition of health, determinants of health status. - Basic human needs - Illness and its effects on individual			
II	Describe nursing care of the patient/client in hospital using nursing process. Demonstrate skill in the admission and discharge process, maintenance of safe environment and records and reports	Nursing care of the patient a) Patient Environment in the hospital: Patient's unit b) Therapeutic environment - Physical factors – lighting, temperature, ventilation, humidity, noise, pestilence - Safety needs, prevention of environmental hazard - Psychosocial and aesthetic factors c) Patient's Adjustment to the Hospital. - Understanding the patient as a person, socio-economic, and cultural background, health status etc. - Effect of hospitalization on patient and family - Admissions, transfer, discharge procedures d) Basic Nursing Skills: - Communication - Nursing interview - Recording and reporting e) Nursing Process - Meaning and importance - Assessment, Nursing diagnosis Planning, Implementation and Evaluation - Nursing care plan	6	Lecture cum discussions Demonstration of maintaining the records and reports Role Play	Short answer Objective type Essay type Return demonstration

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
III	Describe basic needs of the patient Demonstrate skill in meeting basic care of the patient	Meeting the Basic Needs of a patient a) Physical needs- - Comfort, rest, sleep and exercise - Importance and its promotion - Body mechanics -moving, lifting, transferring - Position and posture maintenance - Comfort devices - Beds and bed making – Principles of bed making, types and care of bed linen - Safety devices, restraints and splints - Exercises – Active and Passive b) Hygienic needs - Personal and environmental hygiene personal - Nurses role in maintaining personal and environmental hygiene. - Care of eyes, nose, ears, hands and feet. - Care of mouth, skin, hair and genitalia - Care of pressure areas, bed sores. c) Elimination needs - Health and sickness - Problems – constipation and diarrhea, retention and incontinence of urine - Nurse's role in meeting elimination needs - Offering bed-pan and urinal, - Observing and recording abnormalities. - Preparation and giving of laxative, suppositories, enemas, bowel wash, flatus tube - Perineal care, care of patient with urinary catheter, diapers - Maintenance of intake and output records d) Nutritional needs - Diet in health and disease - Factors affecting nutrition in illness, - Nurse's role in meeting patients nutritional needs. - Modification of diet in illness. - Diet planning and serving - Feeding helpless patients including artificial methods of feeding e) Psychological and spiritual needs	65	Lecture cum discussion Demonstration	Short answer Objective type Essay type Return demonstration Assessment using checklist

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
		- Importance - Nurse's role -Diversional and Recreational therapy f) Care of terminally ill and dying patient - Dying patient's signs and symptoms - Needs of dying patient and family, - Nursing care of dying:- special considerations: advance directives, euthanasia, will, dying declaration, organ donation etc. - Medico legal issues - Care of the dead body - Care of unit - Autopsy - Embalming			
IV	Describe the principles of assessment demonstrate skills in assessing the patient	Assessment of patient/client a) Physical Assessment - Importance, principles, methods of assessment - Height, Weight, posture - Head to toe examination. b) Physiological Assessment - Vital signs, normal, abnormal - Characteristics, factors influencing the variations, - Observation and collection of specimens-urine, stool, vomitus and sputum c) Psychological Assessment - Mood, Intelligence, Emotions Normal and Abnormal behavior.	14	Lecture cum discussions Demonstration	Short answer Objective type Essay type Return demonstration Assessment using checklist
V	Describe the infection control, methods in the clinical setting. Demonstrate infection control practices	Infection control a) Infection control : - Nature of infection - Chain of infection transmission - Defence against infection: natural and acquired - Hospital acquired infection (nosocomial infection) b) Concept of asepsis: - Medical and surgical asepsis - Isolation precautions , barrier nursing - Hand washing : simple, hand asepsis, surgical asepsis (scrub) - Isolation – source and protection - Personal protective equipments types, uses and techniques of wearing and removing		Lecture cum discussion Demonstration Explain using manual of biomedical waste management of Government of India Demonstration Videos Simulation exercises	Short answers Essay type Objective type

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
		- Decontamination of unit and equipment - Transportation of infected patient - Standard safety precautions - Transmission based precautions a) Bio-medical waste management: - Importance - Types of hospital wastes - Hazards associated with hospital waste - Decontamination of hospital waste - Segregation and transportation - Disposal	20		
VI	Describe therapeutic nursing care	Therapeutic Nursing Care a) Care of patients with respiratory problems/dyspnea - Deep breathing and coughing exercises - O2 inhalation - Dry and moist inhalation - Oral nasal suctioning b) Care of patient with altered body temperature-Hot and cold Applications c) Care of patients with Fluid and Electrolyte imbalance d) Care of unconscious patient e) Care of the bed-ridden patient (turning, fractures etc.) f) Care of patient with pain g) Care of patients with body elimination deviation	30	Lecture and discussions Demonstration	Short answer Objective type Essay type Role play demonstration Assessment using checklist
VIII	Explain the principles, routes, effects of administration of medications	Introduction to clinical Pharmacology Administration of medication: a) General Principles/Considerations - Purposes of medication - Principles: Rights, special considerations, prescriptions, safety in administering medications and medication errors - Drugs forms - Routes of administration - Storage and maintenance of drugs and nurses responsibility - Broad classification of drugs - Therapeutic effect, side effect, toxic effect, allergic reaction, drug tolerance, drug interactions - Factors influencing drug actions - Systems of drug measurement: metric system, household measurements	30	Lecture and discussions Demonstration	Short answer Objective type Essay type Role play demonstration Assessment using checklist

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
		- Converting measurements units: conversion within one system, between systems, dosage calculations - Terminologies and abbreviations used in prescription of medications b) Oral drug administration: oral, sublingual, buccal: equipment and procedure c) Parenteral: - General principles - Types of parenteral therapies - Types of syringes, needles, canulas and infusion sets - Prevention from needle stick injuries, giving medications with a safety syringe - Routes of parenteral therapies: - Purposes, site equipment, procedure and special considerations in giving intradermal, subcutaneous, intramuscular and intravenous medications - Advanced techniques: epidural, intrathecal, intravenous, intraperitoneal, intragastral, intra-arterial - Role of nurse d) Topical administration: purposes, site, equipment, procedure, special considerations for applications to skin and mucous membranes e) Direct application: - Gargle, throat swab - Insertion of drug into body cavities: nasal packs, suppositories / medicated packing into rectum / vagina - Instillations: ear, eye, nasal, bladder and rectal - Irrigations: eye, ear, bladder, vaginal and rectal - Spray: nose and throat f) Inhalation: nasal, oral, endotracheal, tracheal (steam, oxygen and medications) – purposes, types, equipment, procedure and special considerations g) Recording and reporting of medications administered			

FIRST AID

Course Description

This course is designed to help students develop and understanding of community emergencies and be able to render first aid services as and when need arises.

General Objectives

Upon completion of this course, the students shall be able to:

1. Describe the rules of first aid.
2. Demonstrate skills in rendering first aid in case of emergencies.

Total Hours - 20

Unit	Learning Objectives	Content	Hr.	Teaching learning activities	Assessment methods
I	Describe the importance and principle of first aid	Introduction a) Definition, Aims and Importance of first aid b) Rules/ General principles of First Aid c) Concept of emergency	2	Lecture cum discussions	Short answer Objective type
II	Demonstrate skill in first aid techniques	Procedures and Techniques in First Aid a) Preparation of First Aid kit. b) Dressing, bandaging and splinting/spiral, reverse spiral, figure of 8, spica, shoulder, hip, ankle, thumb, finger, stump, single and double eye, single and double ear, breast, jaw, capelin, triangle bandage uses, abdominal binder and bandage, breast binder, T and many tail bandage, knee reef, glove. c) Transportation of the injured d) CPR : Mouth to mouth, Sylvester, Schafer, External cardiac massage	8	Lecture cum discussions Demonstration Videos Simulation exercises	Short answer Objective type Essay type
III	Describe first aid in common emergencies	First Aid in emergencies a) Asphyxia, drowning, shock b) Wounds and Bleeding c) Injuries to the Bones, Joints and Muscle - fractures, sprains, strains, hanging, falls	6	Lecture cum discussions Videos Demonstration	Short answer Objective type Essay type

Unit	Learning Objectives	Content	Hr.	Teaching learning activities	Assessment methods
		d) Burns and scalds e) Poisoning - ingestion, inhalation, bites and stings f) Foreign body in eye, ear, nose and throat			
IV	List various community emergencies and community resources.	Community Emergencies & Community Resources a) Fire, explosion, floods, earth-quakes, famines etc. b) Role of nurses in disaster management c) Rehabilitation d) Community Resources - Police, Ambulance services - Voluntary agencies-local, state national and international	4	Lecture cum discussions Videos Mock drill Simulation exercise Videos Field visit to voluntary agencies.	Short answer Objective type Essay type

NURSING FOUNDATIONS- PRACTICAL

Placement: FIRST YEAR

Time: Practical – 880 hours

Lab – 200 hours

Clinical – 680 hours

Course Description: This course is designed to help the students to acquire knowledge, attitude and skills in techniques of nursing and practice them in clinical settings

The nurse on completion of this course will be able to:

- ❑ Demonstrate appropriate attitudes and skills in providing comprehensive nursing care to patients based on nursing process.
 - Assess the nursing needs of the clients by collecting complete data, making relevant observation and analyze the data collected.
 - Plan for appropriate nursing care by prioritizing the needs and executing competent nursing actions.
 - Implement effective nursing care by integrating scientific principles for maintaining health optimum
 - Promote the health of the individual and the community by giving appropriate health teaching.
 - Evaluate the patients response to nursing care provided.
- Apply the theoretical knowledge to the appropriate clinical nursing practice.
- Demonstrate skill in the use of problem solving methods in nursing practice.
- Contribute for promotion of health prevention of illness & restoration of health of people by working with other health team members.
- Gain knowledge of health resources in the community and the country.
- Demonstrate leadership skills in working with health team, community and others in the provision of health care.
- Recognize the need for continuing education for professional development.
- Demonstrate use of ethical values in their personal and professional life.
- Assist in research activities.

Area	Time (Hours)	Objective(s)	Skills	Assignments	Assessment methods
Supervised practice in Lab General Medical and surgery wards	100 680 (Minimum practice time in clinical area)	• Performs admission and discharge procedure • Prepares nursing care plan as per the nursing process format • Communicates effectively with patient, families and team members and • Maintains effective human relations	Hospital admission and discharge a) Admission: • Prepare Unit for new patient • Prepare admission bed • Perform admission procedure • New patient • Transfer in • Prepare patient records b) Discharge/Transfer out: • Gives discharge counseling • Perform discharge procedure (Planned discharge, LAMA and abscond, Referrals and transfers) • Prepare records of discharge/transfer • Demarcate, and disinfect unit and equipment after discharge/transfer Perform assessment: • History taking, Nursing diagnosis, problem list, Prioritization, Goals & Expected Outcomes, selection of interventions • Write Nursing Care Plan • Gives care as per the plan Communication • Use verbal and non verbal communication techniques Prepare a plan for patient teaching session	• Practice in Unit/ hospital • Write nursing process records of patient • Simulated - I • Actual - I • Role-plays in simulated situations on communication techniques-I • Health talk-I	• Evaluate with checklist • Assessment of clinical performance with rating scale • Completion of Practical record • Assessment of nursing process records with checklist • Assessment of actual care given with rating scale • Assess role plays with the checklist on communication techniques • Assess health talk with the checklist • Assessment of communication techniques by rating scale

Areas	Time (Hours)	Objectives	Skills	Assignments	Assessment methods
		- Develops plan for patient teaching - Prepares patient reports - Presents reports - Monitors vital signs - Performs health assessment of each body system - Provides basic nursing care to patients	write patient report - Change-of shift reports, - Transfer reports, Incident reports etc - Present patient report Vital signs - Measure, records and interpret alterations in body temperature, pulse, respiration and blood pressure Health assessment - Health history taking, - Perform assessment: General - Body systems - Use various methods of physical examination - Inspection, Palpation, Percussion, Auscultation, Olfaction Identification of system - wise deviations Prepare Patient's unit: - Prepare beds - Open, closed, occupied, operation, amputation, - Cardiac, fracture, burn, Divided, & Fowler's bed - Pain assessment and provision for comfort Use comfort devices Hygienic care: - Oral hygiene - Baths and care of pressure points - Hair wash, Pediculosis treatment	- Write nurses notes and present the patient report of 2-3 assigned patients - Lab practice - Measure Vital signs of assigned patient - Practice in lab & hospital	- Assessment of performance with rating scale - Assessment of each skill with checklist - Completion of activity record

Areas	Time (Hours)	Objectives	Skills	Assignments	Assessment methods
			Feeding: - Oral/ Enteral, Naso-Orogastric, gastrostomy and Parenteral feeding - Naso-gastric tube insertion, suction, and irrigation Assisting patient in urinary elimination - Provide urinal/bed pan - Condom drainage - Perineal care - Catheterization - Care of urinary drainage Bladder irrigation Assisting bowel Elimination: - Insertion of Flatus tube - Enemas - Insertion of Suppository Bowel wash Body Alignment and Mobility: - Range of motion exercises - Positioning: Recumbent, Lateral, Fowlers, Sims, Lithotomy, Prone, Trendelenburg position- - Assist patient in Moving, lifting, transferring, walking - Restraints Oxygen administration - Mask - Prongs - Tent - Catheters Suctioning: oropharyngeal, nasopharyngeal Chest physiotherapy and postural drainage Care of Chest drainage CPR- Basic life support Observation of Intravenous therapy	Simulated exercise on CPR manikin	

Area	Time (Hours)	Objectives	Skills	Assignments	Assessment methods
			Blood and blood component therapy Collect/assist for collection of specimens for investigations Urine, sputum, faeces, vomitus, blood and other body fluids Perform lab tests: • Urine: sugar, albumin, acetone • Blood: sugar (with strip/gluco-meter) Application of hot and cold therapies: • Local and general • Dry and moist Communicating and assisting with self-care of visually & hearing impaired patients Communicating and assisting with self-care of mentally challenged/disturbed patients Recreational and diversional therapies Caring of patient with alteration in sensorium Infection control • Perform following procedures: • Hand washing techniques • Simple, hand antisepsis and surgical antisepsis (scrub) • Prepare isolation unit in lab/ward	• Observation study -2 • Department of infection control & CSSD • Visits CSSD write observation report 1	• Assist observation study with checklist • Evaluate all procedures with checklist

Area	Time (Hours)	Objectives	Skills	Assignments	Assessment methods
			• Practice technique of wearing and removing Personal protective equipment (PPE) • Practice Standard safety precautions (Universal precautions) Decontamination of equipment and unit: • Surgical asepsis • Sterilization • Handling sterilized equipment • Calculate strengths of solutions, • Prepare solutions • Care of articles Pre and post-operative care: • Skin preparations for surgery: Local • Preparation of Post-operative unit • Pre & post-operative teaching and counselling • Pre and post-operative monitoring • Care of the wound • Dressings of minor wounds, care of Drainage / Application of Binders, Splints & Slings • Bandaging of various body parts Administration of medications • Administer Medications in different forms and routes • Oral, Sublingual and Buccal • Parenteral : Intradermal, subcutaneous, Intramuscular etc. • Assist with Intravenous medications	• Collection of samples for culture • Do clinical posting in infection control department and write report • Practice in lab/ward	

		• Drug measurements and dose calculations • Preparation of lotions and solutions • Administer topical applications • Insertion of drug into body cavity: Suppository & medicated packing etc. • Instillation of medicines into Ear, Eye, Nose and throat • Irrigations: Eye, Ear, bladder, Vagina and Rectum • Inhalations: dry and moist • Medicated/Nebulization • Identification of spurious drugs. • Record date, time, medication, dose, route And sign immediately after administration		
	• Provide care to dying and dead • Counsel and support relatives	Care of dying patient • Provide care for the terminally ill • Caring and packing of dead Body • Counseling and supporting grieving relatives • Handing over the body & valuables • Transferring to mortuary with proper identification • Terminal care of the unit		

COMMUNITY HEALTH NURSING

Placement- FIRST YEAR

Time- 180 hours

CHN-I – 80 hours

Environmental Hygiene- 30 hours

Health Education & Communication skills- 40 hours

Nutrition- 30hours

COMMUNITY HEALTH NURSING – I

Course Description

This course is designed to help students gain an understanding of the concept of community health in order to introduce them to the wider horizons of rendering nursing services in a community set – up, both in urban and rural areas.

General Objectives

Upon completion of this course, the students shall be able to:

- 1 Describe the concept of health, community health and community health nursing.
- 2 State the principles of epidemiology and epidemiological methods in community health nursing practice.
- 3 Explain the various services provided to the community and role of the nurse.
- 4 Demonstrate skills to practice effective nursing care of the individuals and families in the clinics as well as in their homes, using scientific principles.

Total Hours – 80

Unit No.	Learning Objectives	Content	Hr	Teaching Learning activities	Method of Assessment
1	Describe the concept of health and disease and community health	Introduction to Community Health a) Definitions: Community, Community health, community health nursing b) Concept of Health and disease, dimensions and indicators of health, Health determinants c) History & development of Community Health in India& its present concept d) Primary health care, Millennium Development Goals e) Promotion and maintenance of Health	10	Lecture cum discussions	Short Answers

Unit No.	Learning Objective	Content	Hr	Teaching Learning activities	Method of Assessment
II	Explain various aspects of Community Health Nursing. Demonstrate skills in applying nursing process in Community Health Nursing settings	Community Health Nursing a) Philosophy, goals, objectives & principles, concept and importance of Community Health Nursing. b) Qualities and functions of Community Health Nurse c) Steps of nursing process, community identification, population composition, health and allied resources, community assessment, planning & conducting community nursing care services	14	Lecture cum discussions	Short answers Essay type
III	Demonstrate skill in assessing the health status and identify deviations from normal parameters in different age groups	Health Assessment a) Characteristics of a healthy individual b) Health assessment of infant, preschool, school going, adolescent, adult, antenatal woman, postnatal woman, and elderly	10	Lecture cum discussions Demonstration Role Play Videos	Short answers Objective type Essay type Retain demonstration
IV	Describe the principles of epidemiology and epidemiological methods in community health nursing practice	Principles of Epidemiology and Epidemiological methods a) Definition and aims of epidemiology, communicable and non-communicable diseases. b) Basic tools of measurement in epidemiology c) Uses of epidemiology d) Disease cycle e) Spectrum of disease f) Levels of prevention of disease g) Disease transmission – direct and indirect h) Intervening agents, immunization and national immunization schedule i) Control of infectious diseases j) Disinfection	10	Lecture cum discussions Non-communicable disease module of government of India. Field visit	Short answers Objective type Essay type
V	Demonstrate skill in providing comprehensive nursing care to the family	Family Health Nursing Care a) Family as a unit of health b) Concept, goals, objectives c) Family health care services d) Family health care plan and nursing process	12	Lecture cum discussions Role play Family visit	Short answers Essay type

Unit No.	Learning Objective	Content	Hr	Teaching Learning activities	Method of Assessment
		e) Family health services – Maternal, child care and family welfare services. f) Roles and function of a community health nurse in family health service. g) Family health records			
VI	Describe the principles and techniques of family health care services at home and in clinics	Family Health Care Settings Home Visit: a) Purposes, Principles b) Planning and evaluation c) Bag technique d) Clinic: Purposes, type of clinics and their functions e) Function of Health personnel in clinics	10	Lecture cum discussions Demonstration Visits – Home, health center	Short answer Retain demonstration
VII	Describe the referral system and community resources for referral	Referral System a) Levels of health care and health care settings b) Referral services available c) Steps in referral d) Role of a nurse in referral	6	Lecture cum discussions Mock drill	Short answer Objective type
VIII	List the records and reports used in community health nursing practice	Records and reports a) Types and uses b) Essential requirements of records and reports c) Preparation & Maintenance	3	Lecture cum discussions Exhibit the records	Short answer Objective type
IX	Explain the management of minor ailments	Minor Ailments a) Principles of management b) Management as per standing instructions/orders	5	Lecture cum discussions	Short answer Objective type

COMMUNITY HEALTH NURSING I- PRACTICAL

Placement: FIRST YEAR

Time: Practical – 320 hours (8 weeks)

Areas	Duration	Objectives	Skills	Assignments	Assessment methods
Community health Nursing - urban / rural	8 weeks	a) Organize home visit b) Prepare bag and demonstrate bag technique c) Build up and maintain rapport with family d) Identify needs of community e) Practice procedure f) Make referrals g) Plan and conduct health education on identified health needs h) Set up clinics with help of staff i) Maintain records and reports j) Collect and record vital health statistics k) Learn about various organizations of community health importance l) Health Assessment family m) Identify the health needs of various age groups n) Assess the environment o) Maintain family folders p) Assessment nutritional needs q) Demonstrate different method of preparing food according to the nutritional need of family	• Conducting Home visits • Nutritional assessment of individuals • Provide care at home as per Standing Orders / protocol • Conduct health Education • Set up of different Clinics • Maintain Records & Reports • Practice family health nursing • Demonstrate different methods of preparation of Meals.	• Daily Diary • Health talk -2 • Family care plan based on family study -2 • Health assessment of an individual -2 • Community Profile - 2 • Report of visit to water purification plant, sewage plant, milk dairy, panchayat.	• Assess clinical performance with rating scale • Evaluation of daily diary, health talk, family care plan, health assessment, community profile, observation report.

ENVIRONMENTAL HYGIENE

Course Description

This course is designed to help students acquire the concept of health, understanding of the principles of environmental health and its relation to nursing in health and disease.

General Objectives

Upon completion of this course, the students shall be able to:

1. Describe the concept and principles of environmental health.
2. Demonstrate skills to apply the principles of environmental hygiene in caring for self and others.
3. Describe the environmental health hazards, related health problems and the services available to meet them.

Total Hours – 30

Unit.	Learning Objectives	Content Unit wise	Hr	Teaching learning activities	Method of assessment
I	Explain the importance of healthy environment and its relation to health and disease.	Introduction a) Components of environment b) Importance of healthy environment	2	Lecture cum discussions	Short answer
II	Describe the environmental factors contributing to health and illness.	Environmental Factors Contributing to Health a) Water : - Sources and characteristics of safe and wholesome water - Uses of water. - Rain water harvesting - Water pollution – natural and acquired impurities - Water borne diseases - Water purification-small and large scale b) Air : - Composition of air - Airborne diseases - Air pollution and its effect on health - Control of air pollution and use of safety measures	22	Lecture cum discussions Demonstration Exhibits Visit to water Purification plant, sewage treatment plant	Short answers Objective type Essay type

Unit.	Learning Objectives	Content Unit wise	Hr	Teaching learning activities	Method of assessment
		c) Waste: - Refuse – garbage, excreta and sewage - Health hazards - Waste management: collection, transportation and disposal. d) Housing: - Location - Type - Characteristics of good housing - Basic amenities - Town planning e) Ventilation - Types and standards of ventilation f) Lighting - Requirements of good lighting - Natural and artificial lighting - Use of solar energy g) Noise - Sources of noise - Community noise levels - Effects of noise pollution - Noise Control measures. h) Arthropods - Mosquitoes, housefly, sand fly, human louse, rat fleas, rodents, ticks etc. - Control measures			
III	Describe the community organization to promote environmental health.	Community organizations to promote environmental health - Levels and types of agencies: - National, state, local - Government, voluntary and social agencies - Legislations and acts regulating the environmental hygiene	6	Lecture cum discussions.	Short answer Objective type

HEALTH EDUCATION AND COMMUNICATION SKILLS

Course Description

This course is designed to help students to

1. Acquire the concept of health education and develop an ability to select and/or prepare appropriate audio-visual aids and use them effectively to communicate with the individuals and community
2. Understand the principles of communication and counseling, and its application in nursing practice

General Objectives

Upon completion of this course, the students shall be able to:

1. Describe the concept of health education, communication skills including soft skills, audio – visual aids and health education agencies.
2. Identify and utilize opportunities for health education.
3. Describe the application of information technology in preparation and use of various health teaching aids.
4. Develop effective communication and counseling skills.

Total Hours – 40

Unit.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
I	Describe the concept and different aspects of communication	Communication Skills - Definition, process, purposes, principles, types and importance of communication - Barriers in communication - Establishment of successful communication. - Observing and listening skills.	8	Lecture cum discussions Demonstration Role play	Short answers Objective type Return demonstration
II	Describe the aims and objectives, scope, levels, approaches and principles of health education	Health Education - Concept, definition, aims and objectives of health education - Principles of health education - Process of change/modification of health behavior - Levels and approaches of health education - Methods of health education - Scope and opportunities for health education in hospital and community - Nurse's role in health education.	6	Lecture cum discussions.	Short answers Objective type

Unit.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
III	Demonstrate the skills of counseling	Counseling a) Definition, purpose, principles, scope and types b) Counseling process: steps and techniques c) Qualities of a good counselor d) Difference between health education and counseling e) Role of nurse in counseling	8	Lecture cum discussion Role play	Short answer Essay type.
IV	Describe the types of AV aids Demonstrate skill in preparing and using different kinds of audio-visual aids	Methods and Media of Health Education a) Definition, purpose and types of audio-visual aids and media b) Selection, preparation and use of audio-visual aids: graphic aids, printed aids, three dimensional aids and projected aids c) Advantages and limitations of different media d) Preparation of health education plan	18	Lecture cum discussions Exhibits Demonstration	Evaluation of prepared audio visual aids. Written test

NUTRITION

Course Description

This course is designed to help students understand that nutrition is an integral component of health as nutrients play a vital role in the growth, development and maintenance of the body.

General Objectives

Upon completion of this course, the students shall be able to:

1. Describe the principles of nutrition and dietetics and its relationship to the human body in health and disease.
2. Describe the balanced diet in promotion of health
3. Apply this knowledge in providing therapeutic diet in care of the sick.
4. Demonstrate skills in selection, preparation and preservation of food.

Total Hours – 30

Unit.	Learning Objectives	Content	Hr.	Teaching learning activities	Methods of assessment
I	Describe the relationship between nutrition and health	Introduction a) Meaning of food, nutrition, nutrients etc. b) Food Habits and customs c) Factors affecting nutrition d) Changing concepts in food and nutrition. e) Relation of Nutrition to Health	2	Lecture cum discussions. Explain using charts	Short answer types Objective type
II	Describe the classification of food.	Classification of food a) Classification by origin: - Food of animal origin - Food of plant origin b) Classification by chemical composition and sources - Carbohydrates - Proteins - Fats - Minerals - Vitamins - Water c) Classification by predominant functions - Body building food - Energy giving food - Protective food	2	Lecture cum discussions. Real food items Exhibits charts	Short answers Objective type Essay type

Unit.	Learning Objectives	Content	Hr.	Teaching learning activities	Methods of assessment
		d) Classification by nutritive value - Cereals and millets - Pulses and legumes - Vegetables - Nuts and oil seeds - Fruits - Animal food - Fats and oils - Sugar and jiggery - Condiments and spices - Miscellaneous food.			
III	Explain normal dietary requirements Demonstrate skill in calculating normal food requirements.	Normal Dietary Requirements a) Energy: Calorie, Measurement, Body Mass Index, Basal Metabolic Rate – determination and factors affecting b) Balanced Diet – nutritive value of foods, calculation for different categories of people, normal food requirement calculation. Menu plan. Combination of food affecting and enhancing the nutritive value of the diet. c) Budgeting for food, low cost meals, food substitutes. d) Diseases and disorders caused by the imbalance of nutrients. e) Food allergy – causes, types, diet modifications in gluten, lactose and protein intolerance etc. f) Food intolerance – inborn errors of metabolism	4	Lecture cum discussions. Charts exhibits Real food Practical exercise	Short answer Objective type Essay type
IV	Describe the principles and various methods of preparation, preservation and storage of food.	Food Preparation, Preservation & Storage a) Principles of cooking, methods of cooking and the effect of cooking on food and various nutrients. Safe food handling, health of food handlers.	2	Lecture cum discussions. Field visit to food processing unit.	Short answer type Objective type

Unit.	Learning Objectives	Content	Hr.	Teaching learning activities	Methods of assessment
		b) Methods of food preservation – household and commercial, precautions. c) Food storage – cooked and raw, household and commercial, ill effects of poorly stored food. d) Food adulteration and acts related to it.		Demonstration exhibits	Evaluation of exhibit preparation.
V	Describe short therapeutic diet	Therapeutic Diet a) Diet modification in relation to medical and surgical condition of the individual such as Protein Energy Malnutrition (PEM), Diabetes, Cardio Vascular disease, Hepatitis, Renal, Gout, Irritable Bowel Syndrome (IBS), Obesity, cholecystectomy, partial gastrectomy, gastrectomy, bariatric surgery and colostomy etc. b) Special diet – low sodium diet, fat free diet, diabetic diet, bland diet, high protein diet, low protein diet, low calorie diet, geriatric diet, iron rich diet, liquid diet, semi-solid diet, soft diet and high fiber diet etc. c) Factors affecting diet acceptance, feeding the helpless patient. d) Health education on nutrition needs and methods in diet modification.	8	Lecture cum discussions. Practical of planning Therapeutic diet. Demonstration Charts Exhibits	Short answers Objective type Essay type
VI	Describe the concept of community nutrition	Community Nutrition a) Nutritional problems and programs in India b) Community food supply, food hygiene and commercially prepared and grown food available locally. c) National and international food agencies – Central food training research institute (CFTRI), Food and agriculture organization	4	Lecture cum discussions. Videos Government of India nutrition manuals.	Short answer Objective type

Unit	Learning Objectives	Content	Hr.	Teaching learning activities	Methods of assessment
		(FAD), National Institute of Nutrition (NIN), Food Safety and Standards Authority of India (FSSAI), CARE (Cooperative for Assistance and Relief Everywhere), National Institute of Public Cooperation and Child Development (NIPCCD) etc.		Visit to the local food preparation / processing agency.	
VII	Demonstrate skill in preparation of common food items.	Preparation of diet / practical a) Beverages: hot and cold, juice, shakes, soups, lassi, barley water b) Egg preparation: egg flip, scramble, omelet, poached egg c) Light diet: pomidges, grael, khichari, dahlia, kanji, boiled vegetables, salads, custards d) Low cost high nutrition diets - chikki, multigrain roti	8	Lecture cum discussions Cookery practical	Practical evaluation

ENGLISH

Placement- FIRST YEAR

Time- 30 hours

Course Description

This course is designed to help students develop an ability to comprehend spoken and written English, so as to communicate effectively.

General Objectives

Upon completion of this course, the students shall be able to:

1. Read and write correct English.
2. Communicate effectively in English.

Total Hours-30

Unit	Learning Objective	Content	Hr.	Method of Teaching	Assessment Method
I	Speak and write correct grammatical English	Grammar a) Review of basic grammar b) Building Vocabulary	6	Discussion, written and oral exercises.	Objective type Paraphrasing
II	Develop ability to read, understand and write in English	Composition a) Sentence construction and usage. b) Reading comprehension. c) Written composition - paragraphs & essays, precise writing, story writing & comprehension, letter writing, nurses notes and reports, anecdotal records, diary writing	14	Discussion Written and oral exercises.	Dictation Exercise Objective type Translation Report evaluation Essay type
III	Demonstrate conversation skills.	Spoken English a) Conversation - face to face and telephonic b) Oral report c) Discussion, debate d) Public speaking skills.	10	Discussion, written and oral exercises.	Extempore Debates Discussion

COMPUTER EDUCATION

Placement- FIRST YEAR

Time- 15 hours

Course Description:-

This course is designed to help students gain a basic understanding of uses of computers and its application in nursing.

General Objective:-

Upon completion of this course, the students shall able to:

1. Describe the basic disk operating system.
2. Use computer for data processing
3. Use Micro-soft office programs.
4. Use computer in patient Management System.
5. Use E-mail and internet

Total Hours = 15

Unit	Learning Objectives	Content	Hr.	Teaching Learning activities	Assessment methods
I	Describe the structure and purpose of computers and disk operating system.	Introduction to computers and Disk operating system a) Definition b) Classification c) Structure and parts of computer d) Disk operating system – DOS and WINDOWS all versions e) Purposes / uses of computer in health care delivery system	5	Lecture cum discussion Practical	Short answer Essay type Practical
II	Demonstrate skill in the use of MS office	MS Office a) MS word b) MS excel with pictorial presentation c) MS Power point d) MS access e) MS publisher document	15	Lecture cum discussion Demonstration Practice session	Short answer Objective type Practical exam
III	Demonstrate skill in using multimedia	Multimedia a) Types and uses b) Data base creation, retrieval and report generation c) Computer aided teaching and testing	5	Lecture cum discussion Demonstration	Short answer Objective type Practical exam
IV	Demonstrate the use of internet and e-mail	Use of internet and e-mail a) Accessing the website b) Searching the internet for content c) Accessing the email and communicating with the help of it d) Use of internet communication programs – skype	10	Lecture cum discussion Demonstration	Short answer Objective type Practical exam

MEDICAL SURGICAL NURSING- I

Placement- SECOND YEAR

Time- 120 hours

Course Description:-

This course shall help students understand the concept of disease and disease process. Students shall be able to gain knowledge and develop understanding of various medical, surgical disorders and disease. They shall be able to give comprehensive nursing care to patient with these diseases.

General Objective:-

Upon completion of this course, the students shall able to:

1. Describe the cause, symptoms, treatment and prevention of Medical Surgical Diseases.
2. Demonstrate skill in carrying out nursing technique and procedures with the application of scientific principles.
3. Discuss nursing process and provide nursing care to patients with medical surgical/ diseases.

Total Hours = 120

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment Methods
I	Explain the history of modern Medicine and Surgery	Introduction a) Brief history of evolution of modern medicine and surgery b) Theories of illness and its causation – illness as human experience c) Review of Nursing process and Nursing care plan	2	Lecture cum discussion	Short answer Objective type
II	Demonstrate skill in conducting health assessment and physical examination	Nursing assessment a) Health Assessment - Health history - Physical examination - Nutritional assessment - General clinical investigations	4	Lecture cum discussion Demonstration Simulation	Short answer Objective type Return demonstration
III	Describe the pathophysiological mechanism of disease	Pathophysiological mechanism of disease a) Stress adaptation stressors, management, Nursing interventions b) Inflammation c) Defense against injury d) Nutritional considerations	2	Lecture cum discussion Topic presentation	Short answer Essay type
IV	Demonstrate skill in providing nursing care to patients with altered immune response	Altered immune response a) Overview of normal immune system b) Altered immune response, by general category and allergy c) Assessment of immune system d) Diagnostic evaluation e) Allergy disorders: - Anaphylaxis - Allergic rhinitis - Contact dermatitis - Atopic dermatitis	6	Lecture cum discussion Clinical case presentation	Short answer Objective type Essay type

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment Methods
		- Drug reactions - Food allergy - Serum sickness - Latex allergy f) Approach to rheumatologic diseases g) Nursing management client with altered immune response h) Auto immune disease - Rheumatoid arthritis - SLE - Anti loopy syndrome - Craft versus horn disease			
V	Demonstrate skill in management of client with fluid and electrolyte imbalance	Fluid and electrolyte balance and imbalance a) Water content of body, osmotic and Acid - Base balance b) Homeostasis c) Review mechanism of regulating fluid and electrolyte movement d) Fluid and electrolyte Acid-Base imbalance and its management	4	Lecture cum discussion Demonstration	Short answer Objective type Essay type Return demonstration
VI	Describe physical set up of OT and its equipments. Demonstrate skill in theatre techniques	Operation theatre techniques a) Physical Environment - Operation theatre room - cleaning of tables, trolleys, light and other equipments - Pre-operative holding area b) Theatre Technique - Scrubbing - Hand washing - Gowning - Gloving - Positioning of patient for various surgical procedures - Draping of patient c) Preparation of theatre, equipment and supplies - Cleaning - Needles, sutures - types and their uses - Carbolisation, ETO sterilisation, fumigation, OT wash, Bacitracin sterilisation - Packing and sterilisation of dressings, linen, rubber ware, waste material, instruments, needles/syringes materials	8	Lecture cum discussion Explain shows the instrument Demonstration of OT techniques - scrubbing, gowning, gloving, positioning and draping Visit to CSSD	Short answer Objective type Essay type Return demonstration
VII	Demonstrate skill in preparing the client for surgery. Recognize and perform the role of nurse during surgery.	Management of patient undergoing surgery a) Pre operative preparation and care - Physical - Psychological - Pre-medication - Legal and ethical b) Intra operative management - Surgical Team - Nursing activities and responsibilities - Anesthetic agents - Role of nurse in anaesthesia	6	Lecture cum discussion Demonstration Values	Short answer Objective type Essay type Return demonstration

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment Methods
	Demonstrate skill in giving care to client after surgery (post-operative care)	c) Post operative Management - Immediate care - Transferring patient from operating theatre - Patient in recovery room - Recovery from Anaesthesia - Post operative observation and nursing management - Carry out the post operative orders - Postoperative complication observation, prevention & management			
VIII	Demonstrate skill in the nursing management of client with impaired respiratory function and gaseous exchange	Nursing management of patient with impaired respiratory function and gaseous exchange a) Assessment of respiratory function - History - Physical examination - Diagnostic evaluation b) Care of patient in respiratory intensive care and ventilator care and respiratory function c) Management of patient with disorders of upper respiratory tract - Obstruction of upper airway - Epi-glottitis - Stenosis - Pharyngitis - Tonsillitis - Laryngitis - Deviated nasal septum d) Management of patient with disorders of the chest and lower respiratory tract e) Management of patient with impaired Lung volumes - Emphysema - Chronic obstructive pulmonary disease (COPD) - Pneumothorax - Pneumonia - Bronchitis - Bronchiectasis - Trauma - Pulmonary Tuberculosis/DOIS - Pulmonary embolism - Pulmonary edema - Lung cancer - Disorders of pleura and pleural space - Lung surgery - Respiratory failure - Acute respiratory distress syndrome - SARS f) Alternative therapies g) Drugs used in treatment of disorder of respiratory system	15	Lecture cum discussion Demonstration of various artificial respiratory devices Simulation Case discussion Values and Film	Short answer Objective type Essay type Return demonstration

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment Methods
IX	Describe the various gastro intestinal disorders. Demonstrate skill in providing care for client with gastro intestinal disorders.	Nursing management of patient with gastro intestinal disorders a) Assessment of gastro intestinal function - History - Physical examination - Diagnostic evaluation b) Management of Upper gastrointestinal disorders - Vomitus - Nausea - Glossitis - Gingivitis - Pyrocytes - Dental caries - Halitosis - Dysphagia - Achalasia - Gastro Esophageal Reflux Disease (GERD) - Cancer of esophagus - Hiatal hernia - Gastritis - Gastric and duodenal ulcers - Gastric cancer - Gastroenteritis - Esophageal Stricture - Peritonitis c) Care of patient with gastro intestinal infections and special nutritional management. d) Management of patient with lower gastro intestinal disorders - Helminthiasis - Constipation - Diarrhea - Fecal incontinence - Irritable Bowel Syndrome (IBS) - Appendicitis - Diverticular disease - Crohn's disease - Ulcerative colitis - Intestinal obstruction - Celiac - TB abdomen - Colorectal cancer - Polyps of colon and rectum - Anal rectal abscess - Anal fistula and fissure - Hemorrhoids e) Alternative therapies f) Drugs used in treatment of GI disorders	18	Lecture cum discussion Visit to endoscopy room, radiology department Demonstration Films and Videos	Short answer Objective type Essay type Rating demonstration

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment Methods
X	Describe the management of patients with metabolic and endocrine disorders. Demonstrate skill in caring for the clients with metabolic and endocrine disorders.	Nursing management of patients with metabolic and endocrine disorders a) Assessment of Hepatic and biliary functions - History - Physical examination - Diagnostic measures b) Management of patients with hepatic disorders - Jaundice - Hepatic cirrhosis - Portal hypertension - Ascites - Hepatic Encephalopathy and coma - Viral hepatitis - Tumors and cyst of the liver - Liver abscess c) Management of patients with biliary disorders - Cholecystitis - Cholelithiasis - Cholangiocarcinoma - Acute and chronic pancreatitis - Cancer of pancreas d) Assessment of Endocrine function - History - Physical examination - Diagnostic evaluation e) Management of endocrine disorders - Pituitary disorders - Thyroid disorders - Hyperthyroidism - Hypothyroidism - Thyroid tumors - Cretinism - Pseudothyroid disorders - Pancreatic disorder - Diabetes mellitus - Adrenal disorders - Pheochromocytoma - Addison's disease - Cushing's syndrome - Tumors of the endocrine glands f) Alternative therapies g) Drugs used in treatment of metabolic and Endocrine disorder	15	Lecture cum discussion Charts Simulation Clinical teaching Exposure to diagnostic procedures Videos and Films	Short answer Objective type Essay type
XI	Describe the management of clients with renal and renal disorders. Demonstrate skill in giving care of client with urinary and renal disorders.	Nursing management of renal and urinary disorders a) Assessment of renal and urinary functions - History - Physical examination - Diagnostic evaluation b) Management of patients with renal and urinary disorders - Urinary retention and incontinence - Urinary tract infection	14	Lecture cum discussion Clinical teaching Visit to Dialysis unit Videos and Films	Short answer Objective type Essay type

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment Methods
		- Acute and chronic glomerulonephritis - Pyelonephritis - Urolithiasis - Renal colic - Trauma of kidney, Madderwarler, ureters - Ureteric stricture - TB of urinary tract - Neurogenic bladder dysfunction - Renal cyst and renal abscess - Nephrotic syndrome - Acute and chronic renal failure - Chronic - Acute and chronic hepatitis - Tumour – benign and malignant - Case of patient on haemodialysis and peritoneal dialysis - Case of patient with renal transplant e) Assessment of male Genitourinary function - History - Physical examination - Diagnostic evaluation d) Disorders of male genital urinary tract and its management - Hydrocele - Phimosis - Benign and malignant prostatic hypertrophy - Orchitis - Epididymo-orchitis - Cancer penis e) Alternate therapies f) Drugs used in treatment of renal and Urinary disorders			
XII	Describe the nursing management of clients with Neurological disorders	Nursing management of patients with neurological disorders) a) Assessment Neurological functions - History - Physical examination - Diagnostic evaluation b) Management of patients with neurologic dysfunction - Altered level of consciousness - Increased intracranial pressure - Intracranial surgery c) Management of patients with neurological disorders - Headache - Migraine - Seizures - Epilepsy - Status epilepticus - Cerebrovascular disorder – CVA - Neurological trauma – Head, brain, spinal cord, subdural and extradural haematomas - Neurologic infection - Meningitis	2)	Lecture cum discussion Clinical teaching Demonstration of reflexes and use of Glasgow coma scale Simulation Video and Film Charts	Short answer Objective type Essay type Reason demonstration

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment Methods
	Demonstrate skill in giving nursing care to clients with Neurological disorders	- Brain abscess - Encephalitis - Degenerative disorders - Multiparalysis - Myasthenia gravis - Coullie + Base syndrome - Parkinsonism - Alzheimer disease - Neuritis - Ball's Palsy - Peripheral neuropathies - Brain and spinal cord tumors - Huntington's disease - Muscular Dystrophy - Hemiparesis of the lower extremity - Alternate therapies - Drugs used in treatment of neurological disorders			
XIII	Describe the management of clients with connective tissue and collagen disorders Demonstrate skill in providing nursing care to clients with connective tissue and collagen disorders	Nursing Management of Patients with Connective Tissue and Collagen Disorders a) Assessment - History - Physical examination - Diagnostic measures b) Management of patients with disorders of connective tissue and collagen disorders - Rheumatoid arthritis - Systemic lupus Erythematosus (SLE) - Scleroderma - Polymyositis - Osteoarthritis - Ankylosing Spondylitis - Gout - Fibrositis c) Alternate therapies d) Drugs used in treatment of connective tissue and collagen disorders	4	Lecture cum discussion Clinical teaching	Short answer Objective type Essay type
XIV	Describe the nurse's role in promoting wellness for elderly Demonstrate skill in providing nursing care for elderly clients.	Nursing management of the elderly a) Assessment of the elderly - Ageing process - Helping and care of elderly in promoting wellness and self care b) Conditions associated with ageing - Dementia - Osteoporosis - Incontinence - urinary - Sensory deprivation c) Home and Institutional care	5	Lecture cum discussion Visit to old age home Videos	Short answer Objective type

MEDICAL SURGICAL NURSING- II

Placement- SECOND YEAR

Time- 120 hours

Course Description:-

This course shall help students understand the concept of disease and disease process. Students shall be able to gain knowledge and develop understanding of various medical surgical specialty disorders and disease. They shall be able to give comprehensive nursing care to patient with these diseases.

General Objective:-

Upon completion of this course, the students shall able to:

1. Describe the cause, symptoms, signs, treatment and prevention of diseases classified under medical Surgical Specialties.
2. Demonstrate skill in carrying out nursing technique and procedures with the applicant of scientific principles.
3. Prepare nursing care plan using nursing process and apply it in provide care to patient with these diseases.

Total Hours - 120

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
I	Describe the management of patients with oncology	Oncology Nursing: a) Nursing management of patients with oncological conditions - Structure & characteristics of normal & cancer cells - Nursing Assessment-History and Physical assessment - Prevention, Screening, Early detection, Warning signs of cancer - Epidemiology, Etiology, Classification, Pathophysiology, staging, clinical manifestations, diagnosis, treatment modalities and medical & surgical nursing management of oncological conditions - Common malignancies of various body systems: Oral, larynx, lung, stomach and Colon, Liver, Leukemia and lymphomas, Breast, Cervix, Ovary, uterus, Sarcoma, Brain, Renal, Bladder, Prostate etc b) Oncological emergencies c) Modalities of treatment - Immunotherapy	15	Lecture cum discussion Explain using charts, graphs models, films, and slides Case discussion Seminar	Short answers Objective type Essay type

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
		- Radiotherapy - Surgical Interventions - Stem cell and Bone marrow transplants - Gene therapy - Other forms of treatment d) Psychosocial aspects of cancer e) Rehabilitation f) Palliative care: symptom and pain management, Nutritional support g) Home care h) Hospice care i) Stomal Therapy j) Special therapies k) Psycho social aspects l) Nursing procedures m) Alternate therapies n) Drugs used in treatment of oncological disorders		Drug book Lecture cum discussion Topic presentation Posting to cancer Hospital/ unit Structured discussion Seminar	Assessment of skills with check list
II	Describe the disorders of breast and breast cancer. Demonstrate skill in giving nursing care to patients with breast disorders	Nursing Management of patients with disorders of Breast a) Assessment of breast - History - Physical examination - Diagnostic tests - Breast self examination b) Disorders of breast - Mastitis - Breast abscess - Gynaecomastia - Tumors and Malignancy of breast c) Nursing management of a patient after mastectomy	5	Lecture cum discussion Models and exhibits	Short answer Objective type Essay
III	Describe the various diseases and disorders of integumentary system and their management. Demonstrate skill in providing care to the clients with disorders of integumentary system	Nursing Management of patient with diseases and disorders of integumentary system a) Nursing Assessment - History - Physical assessment b) Etiology c) Pathophysiology d) Clinical manifestations e) Nursing management of disorders of skin and its appendages - Lesions and abrasions - Infection and infestations Dermatitis - Dermatoses, infectious and Non infectious - Inflammatory dermatoses - Acne Vulgaris	5	Lecture cum discussion Explain using Charts, graphs models, films, slides	Essay type Short answers Object type Assessment of skills with check list

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
		- Allergies and Eczema - Psoriasis - Malignant Melanoma - Alopecia - Infestations - Bacterial infections - Pyoderma - Impetigo - Folliculitis - Furuncles - Carbuncles - Viral infections - Herpes zoster - Herpes simplex - Fungal infection - Athlete's foot (Tinea Pedis) - Parasitic infestation - Pediculosis - Scabies - Pemphigus - Stevens - Johnson syndrome - Skin cancer - Special dermatological therapies f) Burns and its management - Burns Plastic Surgery - Incidence, causes of burns - Types & classification of burns - Pathophysiology - Calculation of the percentage - Local & systemic effects of burns - Immediate care - First aid care - Medical Management, burn nursing care of the burns - Complications, Health education g) Plastic Surgery - Defect plastic & reconstructive surgery - Types - Defect skin grafts/flaps - Possible complication - Preparation of patient for reconstructive surgery - Post operative care - Health Education h) Alternative therapies i) Drugs used in treatment of integumentary disorders			

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
IV	Describe the disorder and diseases of eye	Ophthalmology And Ophthalmic Nursing a) Review of anatomy and physiology of eye b) Assessment of function of eye - History - Physical exam - Diagnostic tests-history, Snellen's chart c) Infection and inflammation conditions - Blepharitis - Seps - Chalazion - Trachoma - Entropion - Dacryocystitis - Conjunctivitis - Trachoma - Pterygium - Keratitis - Corneal ulcer d) Degenerative Conditions - Cataract - Retinopathy - Retinal detachment e) Miscellaneous - Strabismus - Refractive errors - Tumors - Color blindness - Night Blindness - Total blindness f) Preventive and Rehabilitative aspects g) National programs on Blindness and trachoma h) Current trends in Management of Ophthalmic conditions - Hospital consult retrieval - Grief counseling - Eye Collection - Counseling - Obtaining consent for eye donation i) Eye banking in India j) Ocular Emergencies - Glaucoma - Foreign body - Acid / Alkali burns - Trauma to the eye k) Eye Irrigation l) Instillation of eye drops and ointment m) Cold and hot compress n) Eye drawing and bandage o) Assisting for aseptic syringing p) Assisting for removal of foreign body q) Alternative therapies r) Drugs used in treatment of eye disorders	10	Lecture cum discussion Visit school for the blind Visit to eye bank Visit National Association for the blind Eye bank Demonstration	Short answer Objective type Essay Forum demonstration

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
V	Describe disorders and diseases of ear, nose and throat Demonstrate skills in Providing nursing care for patients with various ENT problems	Nursing Management of Patient with Disorders and Diseases of Ear, Nose and Throat Ear a) Review of Anatomy and physiology of Ear b) Assessment of function of ear - History - Ear examination - Diagnostic tests c) Diseases and disorders of the ear <i>External ear</i> - Otitis - Foreign body - Impacted cerumen - Furunculosis <i>Middle ear</i> - Otitis media - Mastoiditis - Perforation of ear drum <i>Internal ear</i> - Presbycusis - Labyrinthitis - Meniere's disease - Otosclerosis <i>Deafness</i> - Conductive deafness - Neural deafness <i>Tumors of the ear and auditory nerve</i> <i>Insufflations of Eustachian tube</i> Nose a) Review of Anatomy and physiology of nose b) Assessment of functions of nose - History - Examination of nose - Diagnostic tests c) Diseases and disorders of nose <i>Infections</i> - Rhinitis - Sinusitis - Obstruction - Polyps <i>Foreign body</i> <i>Deviated nasal septum</i> <i>Trauma – fracture of nasal bone and epistaxis</i> Throat a) Review of Anatomy and physiology of Throat	15	Lecture cum discussion Clinical teaching Demonstration Videos, charts	Short answer Objective type Essay Return demonstration

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
		b) Assessment of the function of throat - History - Examination of throat - Diagnostic tests c) Diseases and disorders of throat infections and inflammation - Tonsillitis - Pharyngitis - Adenoiditis - Laryngitis - Tumors - Injury and foreign body - Alternate therapies - Drugs used in treatment of ENT disorders			
VI	Describe cardiovascular, circulatory and Hematological disorders and diseases. Demonstrates skill in carrying nursing interventions for clients with circulatory and hematological disorders and diseases.	Nursing Management of Patient with cardiovascular, circulatory and Hematological disorders Cardio Vascular a) Review of anatomy and physiology of heart and circulatory system b) Assessment of functions of heart and vascular system - History - Physical exam - Diagnostic tests c) Diseases and disorders of cardiovascular system - Coronary Artery disease - Arrhythmia - Coronary Artery disease - Angina pectoris - Coronary atherosclerosis - Myocardial infarction - Valvular heart disease - Mitral stenosis - Aortic stenosis - Incompetence, regurgitation - Tricuspid stenosis - Pulmonary stenosis - Inflammation and infections - Pericarditis, Myocarditis, Endocarditis - Rheumatic fever - Heart block - Complication of heart disease - Acute Heart failure (Pulmonary Edema) - Chronic (Congestive Cardiac failure) - Cardiogenic shock			

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
		• Pericardial effusion, cardiac tamponade • Cardiac emergencies • Cardiac arrest • Shock • Vascular disorders • Arterial disorders • Berger's disease (TAO) • Arterial ulcers • Atherosclerosis • Aneurysm • Thrombosis and emboli • Raynaud's disease • Hypertension • Venous disorder • Deep Vein Thrombosis (DVT) • Venous insufficiency • Venous ulcer • Varicose vein • Cellulitis • Lymphatic disorders • Lymphangitis & Lymphadenitis • Lymphedema & elephantiasis Hematological Disorders a) Review of function and structure of blood components - Assessment - History - Physical examination - Diagnostic tests b) Diseases and disorders of blood and its components - Anemia - Thalassemia - Polycythemia - Leukopenia and neutropenia - Leukocytosis & leukemias - Lymphomas Hodgkin & NonHodgkin - Diseases, Multiple myeloma - Bleeding disorders - Thrombocytopenia - Purpura, hemophilia - Acquired coagulation - Disorders - Liver disease, Vitamin K deficiency, DIC c) Alternate therapies d) Drugs used in treatment of cardiovascular, circulatory and hematology disorders	28	Lecture cum discussion Demonstration Clinical teaching Videos Simulation	Short answer Objective type Essay type Return demonstration

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
VII	Describe the waiting management of patients with communicable diseases Demonstrate skill in providing interventions for patients with communicable diseases the nurse's role in various national control/eradication programs of communicable diseases	Nursing Management of Patients with communicable diseases a) Assessment - History - Physical examination - Diagnostic tests b) Review of infection, mode of transmission, its prevention and control c) Preparation, care and administration of anti sera and vaccination/immunization d) Management of various infection diseases caused by Virus: - Measles - Chicken pox - Swine flu - Ebola - Dengue - Chicken pox - Influenza - Mumps - Encephalitis - Infective hepatitis - Poliomyelitis - Rabies - AIDS Caused by bacteria: - Diphtheria - Whooping cough - Tetanus - Typhoid - Dysentery - Gastroenteritis - Cholera - Meningococcal Meningitis - Tuberculosis - Plague - Leptospirosis Vector borne diseases: - Malaria - Filariasis - Yellow fever - Dengue - Any other prevailing diseases e) Alternate therapies f) Drugs used in treatment of communicable diseases	10	Lecture cum discussion Role play Participate in immunization campaign	Short answer Objective type Essay type Assessment with clinical checklist

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
VIII	Describe various sexually transmitted diseases Demonstrate skills in syndromic management of sexually transmitted diseases	Nursing Management of Patients with Sexually Transmitted diseases a) Assessment - History - Physical examination - Diagnostic tests b) Sex health and hygiene c) Syndromic Management of sexually transmitted disease - Gonorrhea - Syphilis - Granuloma Venereum - Chancroid granuloma - AIDS - Genital herpes	05	Lecture cum discussion Video	Short answer Objective type Essay type
IX	Describe various musculo skeletal disorders and diseases Demonstrate skills in management of musculo skeletal diseases	Nursing Management of Patients with musculo skeletal disorders and diseases a) Review of Anatomy and Physiology of musculo skeletal system b) Assessment - History - Physical examination - Diagnostic tests c) Infections and inflammations - Septic arthritis - Gonococcal arthritis - Osteomyelitis - Tuberculosis of the spine and bones - Spondylitis - Dislocations - Fracture of spine and extremities d) Degenerative conditions of joints, spine e) Tumors, Amputation and prosthetics f) Deformities - Congenital and acquired g) Range of motion exercises h) Care of patient - Skin and skeletal traction - Orthopedic splints i) POP application and removal j) Neurogenic bladder k) Preparation for bone surgery l) Use of orthopedic assist devices - Crutches - Canes - Walker m) Alternate therapies n) Drugs used in treatment of musculo-skeletal disorders	10	Lecture cum discussion Clinical teaching Demonstration	Short answer Objective type Essay type

Unit No.	Learning Objectives	Content	Hr.	Method of Teaching	Assessment methods
X	Describe the role of nurse in medical surgical emergencies Demonstrate skill in meeting medical surgical emergencies	Emergency Management a) Scope and practice of emergency nursing - Principles of emergency care - Triage b) Medical Surgical Emergencies c) Airways obstruction - Hemorrhage - Shock, Anaphylactic reaction, Allergies - Trauma - intra abdominal, crush injuries, multiple injuries fractures - Poisoning - Ingested poisoning - Inhaled poisoning - Food poisoning - Injected poison - Stinging insects - Snake bites Chemical burns - Environmental emergencies - Heat stroke - Frost bite - Near drowning - Hanging - Injured persons - Stinging insects - Snake bites Chemical burns - Environmental emergencies - Heat stroke - Frost bite - Near drowning - Hanging	10	Lecture cum discussion Demonstration Preparing emergency trolley Demonstration of CPR Defibrillation Videos & Films Simulation Roleplay	Short answer Objective type Essay type Return demonstration
XI	Identify the role of nurses in emergency and disasters Demonstrate beginning skill in managing the Emergencies and disasters	Emergency and Disaster Nursing a) Natural calamities - Flood - Earthquake - Volcanic eruptions b) Man-made disaster - Explosion - War - Fire - Accidents c) Emergency preparedness d) Community resources available to meet calamities e) Nurses role in disaster management	05	Lecture cum discussion Role play Mock drill BNC: Disaster management module Reaching out nursing care	Short answer Objective type Essay type

MEDICAL SURGICAL NURSING- PRACTICAL

Placement- SECOND YEAR

Time: 800 hours (20 weeks)

General objectives:

Students are able to apply nursing process and provide comprehensive nursing care to the clients with various medical and surgical conditions

Specific objectives; students are able to:

1. Comprehend the causes, signs and symptoms, treatment and prevention of various medical, surgical conditions.
2. Apply the theoretical knowledge to appropriate clinical nursing practice.
3. Identify the problems and needs, prioritize them and provide comprehensive nursing care by applying nursing process
4. Demonstrate skills in carrying out nursing techniques, procedures in keeping with scientific principles.
5. Demonstrate skills in respective clinical specialty.
6. Interpret and carry out the pharmacological intervention.
7. Identify the deviation from normal in the diagnostic value.
8. Plan and participate in rehabilitation of patient and family.

Area	Duration	Objectives	Skills	Assignment	Assessment methods
General medical wards (resp., GI, Endo., hemato, neuro, renal)	3 wks	• Provide nursing care to adult patients with medical disorders	- Assessment of patient • Take history • Perform general & specific physical examination • Identify alterations and deviations - Practice medical-surgical asepsis-standard safety measures. - Administer medications • Oral • Sub-lingual • Intra-dental • Subcutaneous • Intramuscular • Intravenous - Intravenous therapy • IV cannulation • Maintenance & monitoring - Oxygen therapy-mask, prongs & tent	- Plan & implement care for assigned patients • Nursing care plan I • Nursing case study-I or presentation-I	• Assess performance with rating scale • Assess each skill with check list

Area	Duration	Objectives	Skills	Assignment	Assessment methods
		• Counsel and educate patients and family	• Nebulization • Chest physiotherapy • Naso-gastric feeding • Assist in common diagnostic procedures • Perform/assist in therapeutic procedures • Transfusion of Blood & its components • Throat suctioning • ET suctioning • Collect specimens for common investigations • Maintain elimination • Catheterization • Educate & counsel patient & family regarding specific disease conditions.	• Drug study presentation-I • Maintain drug book • Maintain practical record book	• Evaluation of case study presentation • Completion of practical record
General surgical wards (GI and Urinary)	3 weeks	• Provide pre & post-operative nursing care to adult patients with surgical disorders • Educate & counsel patients and families	- Practice medical-surgical asepsis-standard safety. - Pre-operative preparation of patient - Post-operative care • Receiving • Assessment • Monitoring - Care of wounds and drainage - Suture removal - Ambulation & exercises - Naso-gastric aspiration - Care of chest drainage - Ostomy care • Gastrostomy • Enterostomy • Colostomy - Transfusion of Blood & its components - practice universal precautions	- Plan & implement care for assigned patients • Nursing care plan I • Nursing case study-I or presentation-I • Drug study presentation-I • Maintain drug book • Maintain practical record book.	• Assess performance with rating scale • Assess each skill with check list • Evaluation of case study presentation • Completion of practical record
Operation theater	3 weeks	• Identify instruments used in different operations	- Perform scrubbing, gowning, gloving - Identify instruments, suturing materials for common operations. - Disinfection, carbolic sterilization & fumigation	- Assist as a scrub nurse for 5 major and 5 minor cases.	Assess skill with check list

Area	Duration	Objectives	Skills	Assignment	Assessment methods
		- Set-up the table/ trolleys for common operative procedures - Assist in the operative procedures - Provide peri-operative nursing care	- Prepare the OT table depending upon the operation - Positioning and monitoring of patient - Assisting with minor & major operations - Handling specimens - Segregation and disposal of biomedical waste as per guidelines.		
ICU	1 week	- Gain proficiency in ICU nursing - Identify potential problem and provide care accordingly - Record findings and medications accurately - Develop good IPR with patient & family.	- Connect and monitor ECG & pulse oxymetry - Assist in endo-tracheal intubation - Suctioning - provide care for a patient on ventilator - Handling emergency drug trolley / crash cart - Assisting in insertion of central line and monitoring Central venous pressure.	- ET suctioning - O2 administration	Assess skill with check list
Geriatric nursing - medical / surgical / special ward	1 week	- Identify specific problems related to the elderly - Assist in the activities of daily living - Provide comprehensive nursing care	- Assessment of the geriatric - Identify the health problems among the elderly (psychological, social and spiritual needs of the elderly) and provide specific care - Health promotion of the elderly	Health teaching + 1	Assess skill with check list
Oncology Unit	1 week	Provide care for patients with cancer.	- Screen for common cancers -Tumor Node Metastasis (TNM) classification. - Assist with diagnostic procedures. - Biopsies. - Pap smear	Provide care to assigned patients.	- Assess each skill with checklist. - Assess performance with rating scale.

Area	Duration	Objectives	Skills	Assignment	Assessment methods
		Counsel and educate patient and families.	- Bone-marrow aspiration - Assist with therapeutic procedures - Observe various modalities of treatment. - Chemotherapy - Radiotherapy - Pain management - Stoma care - Hormonal therapy - Immunotherapy - Gene therapy - Alternative therapy - Participate in palliative care. - Counsel and teach patients families.	Observation report of cancer unit	- Evaluation of care plan and observation report. - Completion of activity record
Dermatology and burns	1 week	- Provide care to patients with dermatology disorder and Burn. - Counsel and educate patient and families.	- Assessment of the burn patient. - Percentage of burns. - Degree of burns. - Dressing - Fluid & electrolyte replacement therapy - Assess - Calculate - Replace - Record - Intake/output - Assessment and care of patients with dermatological disorders. - Administer topical medications - Give medicated Baths - Perform active & passive exercises. - Practice medical & surgical asepsis. - Counsel & Teach patients and families	- Provide care to assigned patients. - Health talk - 1	- Assess each skill with checklist. - Assess performance with rating scale.
Ophthalmology	1 week	- Provide care to patients with Eye disorders - Counsel and educate patient and families	- Perform examination of eye. - Assist with diagnostic procedures - Assist with therapeutic procedures. - Perform/assist with irrigations. - Apply eye bandage	Provide care to 2-3 assigned patients assessment using snellen's chart	- Assess each skill with checklist - Assess performance with rating scale.

Area	Duration	Objectives	Skills	Assignment	Assessment methods
			- Apply eye drops/ointments. - Teach patients and families.	• Observation reports of OPD & Eye bank. • Assist in organizing eye camp	• Evaluation of observation report of OPD/Eye bank.
ENT	1 week	• Provide care to patients with ENT disorders • Counsel and educate patient and families	- Perform examination of ear, nose and throat. - Assist with therapeutic procedures. - Instillation of drops. - Perform/assist with irrigations. - Apply ear bandage. - Perform tracheostomy care. - Health education to patients and families.	• Provide care to assigned patients.	• Assess each Skill with checklist.
Cardiology ward / ICU / cardiothoracic and vascular unit	2 weeks	• Provide care of patients with cardiac and vascular disorders • Counsel and educate patients and families	- Perform cardio vascular assessment - Recording ECG and identify basic changes in ECG - Monitoring of patients in on cardiac monitor - Preparing and assisting of frequently performed diagnostic and therapeutic, non-invasive and invasive procedures - Administer cardiac drugs - Advanced / Basic Cardiac Life Support (ACLS/BLS) - Monitoring and caring for patients with chest drainage - Assist in defibrillation - Monitoring of patients in ICU. - Maintain flow sheet. - Performs Endotracheal suction. - Demonstrates use of ventilators, cardiac monitors etc. - Physical examination - Collect specimens and interprets ABG analysis	• Plan and give care to patients • Health talk - 1 • Case presentation - 1	Assessment of performance with rating scale

Area	Duration	Objectives	Skills	Assignment	Assessment methods
			- Assist with arterial puncture. - Maintain CVP line. - Pulse oximetry. - CPR - ALS - Defibrillators. - Bag- mask ventilation. - Emergency trolley - Crash Cart. - Administration of drugs • Infusion pump. • Epidural. • Intra thecal • Intracardiac - Total parenteral therapy - Chest physiotherapy. - Perform active & passive exercises	• Drug presentation - 1	• Evaluation of health talk, case presentation and drug presentation.
Orthopedic ward	1 week	• Provide nursing care to patients with musculo skeletal disorders • Counsel and educate patient and families	- Assessment of orthopedic patients - Assist in the application of plaster cast and removal of cast - Assist in applying skin traction, bucks extension traction - Assist in application and removal of prosthesis - Physiotherapy - Crutch maneuvering technique - Ambulation	• Plan and give care to assigned patients • Nursing care plan - 1 • Health talk - 1	• Assessment of performance with rating scale • Evaluation of health talk, case presentation and drug presentation
Communicable diseases ward / isolation ward	1 week	• Provide nursing care for patients with communicable diseases	- Assessment of patients with communicable diseases - Use of personal protective equipment (PPE) and barrier nursing - Health teaching for prevention of infectious diseases - Counseling of HIV/AIDS patients - Counseling of family members	• Give care for assigned patients • Health talk - 1 • Care plan - 1	• Assessment of performance with rating scale • Evaluation of health talk, case presentation and drug presentation

Area	Duration	Objectives	Skills	Assignment	Assessment methods
Emergency ward / casualty	1 week	- Provide care to patients in emergency and disaster situation. - Counsel patient and relatives for grief and bereavement.	- Practice "triage". - Assist with assessment, examination, investigation & their interpretation, in emergency and disaster situations. - Provide first aid - ACLS / BLS - Assist in legal documentations and procedures in emergency unit. - Counsel patient and families grief and bereavement.	Practice "triage".	Assess Performance with rating scale.

MENTAL HEALTH NURSING

Placement- SECOND YEAR

Time- 70 hours

Course Description:-

This course is designed to help students develop the concept of mental health and mental illness, its causes, symptoms, prevention, treatment modalities and nursing management of mentally ill for individual, family and community.

General Objective:-

Upon completion of this course, the students shall able to:

1. Describe the concept of mental health and mental illness and the emerging trends in psychiatric nursing.
2. Explain the causes and factors of mental illness, its prevention and control.
3. Identify the symptoms and dynamic of abnormal human behavior in comparison with normal human behavior.
4. Demonstration a desirable attitude and skills in rendering comprehensive nursing care to the mentally ill.

Total Hours - 70

Unit.	Learning Objectives	Content	Hr.	Teaching Learning Activities	Methods of Assessment
I	Describe the concept of mental health and mental illness in relation to providing comprehensive care to the patients	Introduction a) Concept of mental health and mental illness b) Misconceptions related to mental illness c) Principles of Mental Health nursing d) Definition of terms used in psychiatry e) Review of defense mechanisms f) Mental Health Team	5	Lecture cum discussion Structured discussion Group interaction	Short answers Objective type
II	Narrate the historical development of Psychiatry and psychiatric nursing	History of Psychiatry a) History of Psychiatric Nursing - India and at international level b) Trends in Psychiatric Nursing c) National mental health programme	4	Lecture cum discussion	Short answer Objective type
III	Describe mental health assessment	Mental Health Assessment a) Psychiatry history taking b) Mental status examination c) Interview technique	4	Lecture cum discussion Demonstration	Short answer Objective type Return Demonstration

Unit	Learning Objectives	Content	Hr.	Teaching Learning Activities	Methods of Assessment
IV	Describe therapeutic relationship Demonstrate skills in process recording	Therapeutic nurse-patient relationship: a) Therapeutic nurse-patient relationship: Definition, components and phases, Importance b) Communication skills Definition elements, types, factors influencing communication, barriers (therapeutic impasse)	5	Lecture cum discussions Role play Videos Demonstration of process recording	Short answers Return demonstration
V	List various mental disorders and describe their mental and psychiatric and nursing management	Mental Disorders and Nursing Interventions a) Psycho-Pathophysiology of human behavior b) Etiological theories (genetics, biochemical, psychological etc) c) Classification of mental disorders d) Disorders of thought, motor activity, perception, mood, speech, memory, concentration, judgment e) Prevalence, etiology, signs and symptoms, prognosis, medical and Nursing management f) Personality & types of personality related to psychiatric disorder g) Organic mental disorders: Delirium, Dementia h) Psychotic disorders - Schizophrenic disorders - Mood (affective) disorders: Mania depression, Bipolar affective disorders (BPAD) i) Neurotic disorders: Phobia, anxiety disorders, obsessive compulsive disorders, depressive neuroses, conversion disorders, dissociative reaction, psychosomatic disorders, post traumatic stress disorder j) Substance use and de-addiction: alcohol, tobacco and other psychoactive substance k) Child and adolescent psychiatric disorder. - Sleep disorder - Eating disorders - Sexual disorders l) Nursing Management, Nursing process and process recording in caring for patients with various psychiatric disorders	25	Lecture cum discussions Case study Case Presentation Process recording Videos Role plays Field visits- De-addiction centers, Alcohol Anonymous group, Adolescent clinics, Child guidance centers etc	Short answers Essay types Case Study Case Presentation

Unit	Learning Objectives	Content	Hr.	Teaching Learning Activities	Methods of Assessment
VI	Describe the Bio – psychosocial therapies and explain the role of the nurse	Bio – Psycho & Social Therapies a) Psychopharmacology – Definition, classification of drugs antipsychotic, Antidepressant, anxiolytic, anti anxiety agents, anti parkinsons b) Psychosocial therapies – individual therapies, group therapy, behavior therapy, occupational therapy, family therapy, milieu therapy c) Role of nurse in these therapies. d) Somatic therapy – Electro Convulsive Therapy, insulin therapy. e) Role of nurse in these therapies	12	Lecture cum discussions Seminar Videos Demonstration Field visits- Rehabilitation centre, Day care centres Role plays	Short Answers Essay types Return demonstration Quiz Drug study
VII	Describe the concept of preventive community mental health services. Enumerate the nurse's role in National mental health programme	Community Mental Health a) Concept, importance, scope b) Attitudes, Stigma and discrimination related to the mentally ill c) Prevention of mental illness (Preventive Psychiatry) during childhood, adolescent, adult hood and old age d) Community Mental Health Services e) Role of Nurse in national mental health programme and Psychiatric care in Community	5	Lecture cum discussion Role play Videos	Short answers Essay type Assignment
VIII	Explain different psychiatric emergencies and their management. Demonstrate skills in crisis intervention	Psychiatric Emergencies and Crisis Intervention a) Types of Psychiatric emergencies: Over Active, under active patient, Violent behaviour, b) Suicide, adverse drug reactions, withdrawal symptoms, Acute psychosis etc c) Crisis and its intervention: AIDS, Adolescent Crisis	5	Lecture cum discussion Videos Role plays Demonstration	Short answers Objective Type Essay type
IX	Describe the legal aspects to be kept in mind in the care of mentally ill patients	Forensic Psychiatry / Legal Aspects a) India Lunatic Act 1912 b) Narcotic Drugs and psychotropic Act 1965, 1985 c) Mental Health Act 1987, 2014 d) Admission and discharge procedures e) Standards of psychiatric nursing practice f) Rights of Mentally ill patients g) Legal responsibilities in the care of mentally ill patients	5	Lecture cum discussions Demonstration	Short answers Essay type Objective Quiz

MENTAL HEALTH NURSING- PRACTICAL

Placement- SECOND YEAR

Time – 320 hrs (8 weeks)
Internship 96 hrs (2 weeks)

Area	Duration	Objectives	Skill	Assignments	Assessment methods
Psychiatric OPD	3 weeks	- Assess patients with mental health problems - Observe and assist in therapies - Counsel and educate patients, and families	- History taking - Perform mental status examination - Assist in psychometric assessment - Observe and assist in therapies - Teach patients and family members	- History taking-1 - Mental status examination-2 - Observation report of OPD-1	- Assess performance with rating scale - Assess each skill with checklist - Assessment of observation report - Completion of activity record
Child guidance clinic	1 week	- Assessment of children with various mental health problem's - Counsel and provide health education for children, families and significant others	- History taking - Perform mental status examination - Observe and assist in therapies - Health education of family members and significant others - Counsel family members and significant others	Observation report of child guidance clinic	- Assess performance with rating scale - Assess each skill with checklist - Assessment of observation report
Inpatient ward	6 weeks	- Assess patients with mental health problems - Provide nursing care for patients with various mental health problems	- History taking - Perform mental status examination - Observe and assist in therapies - Provide nursing care to the mentally ill patient - Health educate family members and significant others	- Assess & give nursing care to 2-3 patients with various mental disorders - History taking-1 - Mental status examination-2 - Case study-1 - Case presentation-1 - Process recording-2 - Maintain drug book	- Assess performance with rating scale - Assess each skill with checklist - Assessment of the case study, case presentation, process recording and care plan

CHILD HEALTH NURSING

Placement- SECOND YEAR

Time – 70 hour

Course Description:-

This course is designed to help students develop and understanding of the concept of child health, the trends in child care and the health problems of children. This shall enable the students to meet the needs of the children, in health and sickness.

General Objective:-

Upon completion of this course, the students shall able to:

1. Explain the concept of child health, the principles underlying child care trends in pediatric nursing.
2. Describe normal growth and development of children, so as to recognize deviations for normal health and care of healthy children
3. Demonstration skill in meeting the needs of the sick infants and children based on the IMNCI guidelines of GoI

Total Hours: 70

Unit No.	Learning objective	Content	Hours	Teaching learning activities	Assessment methods
I	Understand the concept of the child health care, trends & emerging challenges for pediatric nurses Describe the role of pediatric nurses in clinics, hospitals and community	Introduction a) Modern concept in child health care b) Trends in pediatric nursing c) Role of pediatric nurses in child care d) Emerging challenges, nursing process related to pediatric nursing e) Concept of preventive pediatric f) Vital statistics related to pediatrics as per the NRHS and GoI	5	Lecture cum discussions Project on collection of vital statistics related to child health	Short answers Objective type Essay type
II	Describe the normal growth & development of children	Growth & Development a) Definition, principles, factors affecting growth & development, techniques of assessment, plotting of growth chart	15	Lecture cum discussions Role play Videos Plotting of growth chart	Short answers Objective type Essay type

Unit No.	Learning objective	Content	Hours	Teaching learning activities	Assessment methods
		b) Infant: Growth & Development, health promotion, breast feeding & weaning, immunization, infant and young child feeding c) Toddler: Growth & Development, nutrition counselling, toilet training, safety, prevention of accidents, play d) Preschoolers Growth & development Daycare centers Role of Parents in sex education e) School age Growth & development, rest, sleep, physical exercises & activity, dental health, sex education f) Adolescent - Growth & development, adaptation to puberty, menstrual hygiene, nutritional guidance, sex education, - Role of Parents in health promotion of adolescents - Control of iron deficiency anemia (WIFS guidelines)			
III	Describe the role of nurse in caring for a sick child Develop skill in carrying out nursing intervention while caring for pediatric age group	The sick child a) Child's reaction to hospital b) Effect of hospitalization on the family of the child c) Role of nurse in helping child & family in coping, with stress of hospitalization & illness Pediatric procedures: a) Preparation of child for diagnostic tests, collection of specimens b) Calculation & Administration of oral & parenteral medication c) Procedures related to feeding - Katorik Spoon - Ryle's tube & gastrostomy	8	Lecture cum discussions Demonstration Simulation Role play	Short answers Objective type Essay type Return demonstration

Unit No.	Learning objective	Content	Hours	Teaching learning activities	Assessment methods
		d) Procedures relating to elimination - Enema - Colostomy irrigation e) Administration & analysis of oxygen concentration, steam inhalation, nebulization, f) Other procedures: - Pediatric Resuscitation - Surgical dressing			
IV	Describe the management of behavioral disorders and common health problems of children Demonstrate skills in the prevention & implementation of medical & nursing management of behavioral disorders & common health problems.	Disorders and health problems of a child a) Infancy: - Failure to thrive - Diarrhea & Vomiting b) Childhood - Communicable diseases - Tonsillitis - Otitis media - Child abuse - Breath holding spasms - Enuresis, nail biting, thumb sucking, somnambulism - Protein Energy Malnutrition - Helminthic infections - Bites and stings - Pica - Tics c) Adolescent - Precocious puberty - Gynecomastia - Accident, sport injuries - Obesity & anorexia nervosa - Juvenile delinquency	6	Lecture cum discussions Seminars	Short answers Objective type Essay type
V	Demonstrate skills in providing comprehensive nursing care to the children having congenital defects / malformation	Child with congenital disorders: Etiology, signs and symptoms, diagnosis, complications and medical, surgical & nursing management of children with: - Malformations of CNS, cranial deformities, spina bifida, hydrocephalus, cerebral palsy, meningocoele - Skeletal defects, cleft lip & cleft palate	15	Lecture cum discussions Presentation of picture of congenital anomalies Supervised clinical practices	Short answers Objective type Essay type

Unit No.	Learning objective	Content	Hours	Teaching learning activities	Assessment methods
		- Gastro intestinal tract defects, fistula, anorectal malformations, hernia - Congenital hypertrophied pyloric stenosis - Defects of Genito-urinary Tract - hypospadias & epispadias, ectrophy of bladder, phimosis & paraphimosis, cryptorchidism, polycystic kidney - Sexual abnormalities, ambiguous genitalia - Defects of cardio vascular system, cyanotic and acyanotic- TOF (Tetralogy of Fallouts), TGV (Transposition of Great Vessels), TAPVC, ASD, VSD, Coarctation of aorta, PDA - Orthopedic abnormalities - congenital talipesquinovarus, congenital dislocation of hips - Chromosomal abnormalities - Down's syndrome, Turner's syndrome.			
VI	Demonstrate skills in providing comprehensive nursing care to children with various disorders & diseases	Children with various disorders and diseases Etiology, signs and symptoms, complications, prevention, medical, surgical & nursing management of a) Renal System - Nephrotic Syndrome - Acute Glomerulonephritis - ARF & CRF b) Resp. System - URI and LRI - Asthma, Pneumonia c) GI System - Intestinal obstruction (Mechanical) - Hirschsprung's disease - Malabsorption Syndrome - Inflammatory conditions - appendicitis, Meckel's diverticulum, ulcerative colitis - Worm infestation	15	Lecture cum discussions Presentation Clinical teaching, Simulation, Videos, Visit to Blind, Deaf & dumb school & rehabilitation centre	Short answers Objective type Essay type

Unit No.	Learning objective	Content	Hours	Teaching learning activities	Assessment methods
		d) CVS System - Rheumatic fever - CCF - Infective endocarditis e) Hematological System - Anemia - Leukemia, - Thalassemia - Hemophilia - Sickle cell anemia - Thrombocytopenic purpura f) Neurological System - Meningitis - Encephalitis - Convulsive disorders - Cranio-cerebral trauma g) Endocrine - Pituitary disorders - Hypo & Hyperthyroidism - Juvenile Diabetes - Adrenal disorders h) Developmental problem - Handicapped children - Mental Retardation - Dyslexia - Hearing & Vision impairment i) Others - Fluid and electrolyte imbalance - Burns j) Problems with locomotion: - Poliomyelitis - Osteomyelitis - Kyphosis, lordosis, scoliosis - Fractures k) Pre and post operative care of children undergoing surgery.			

Unit No.	Learning objective	Content	Hours	Teaching learning activities	Assessment methods
VII	Describe the various child welfare services provided by Governmental & non Governmental agencies Explain the ethical & legal implication in pediatric nursing	Child welfare services a) Child welfare services and agencies - ICDS - Mid-day meal program - Balwadi, anganwadi - Day care centers - NPSB b) Law pertaining to Pediatrics - National child labour policy - Child act - Juvenile justice act - Internationally accepted rights of the child - Rehabilitation of delinquent & destitute children - Adoption laws and services - Adolescent health programs – menstrual hygiene, WIFS program, adolescent safety program	6	Lecture cum discussions Visit to anganwadi schools, remand homes & adoption centers	Short answers Objective type Essay type

CHILD HEALTH NURSING- PRACTICAL

Placement-THIRD YEAR

Time – 320 hrs (8 weeks)

Internship 96 hrs (2 weeks)

Area	Duration	Objectives	Skill	*Assignments	Assessment methods
Paediatric medicine ward	3 weeks	• Perform physical assessment • Assist in diagnostic procedure and provide pre and post care related to diagnostic procedure • Administer the drugs • Provide health education • Perform basic resuscitation	- Taking pediatric History - Perform physical examination and assessment of children - Administration of oral, I/M, & I/V, medicine/ fluid - Calculation of fluid requirements - Prepare different strengths of I.V. fluids - Apply restraints - Administer O2 inhalation by different methods - Feed children by katori (bowl) and spoon, pallada etc. - Collect specimens for common investigations - Assist with common diagnostic procedure - Teach mothers/ parents on balance diet for child of different age group - Oral rehydration therapy - Feeding & weaning - Play therapy - Check vital signs - Give enema - Insert suppositories	Give care to assigned paediatric patients Nursing care plan-I Case study or Presentation-I Health talk-I	• Assess performance with rating scale • Assess each skill with checklist • Evaluation of Nursing care plan, Case study, Health talk, Case presentation • Completion of activity record

Unit No.	Learning objectives	Contents	Hr	Teching learning Activities	Assessment methods
III	Describe the stages of Embryological and fetal development	Embryology and foetal development a) Oogenesis, spermatogenesis, fertilization and implantation. b) Embryology and Fetal development c) Placenta and membranes: - Structure - Functions - Abnormalities - Liquor amni - Umbilical cord d) Fetal skull: - Structure - Diameters - Fontanels and sutures e) Fetal circulation	8	Lecture cum discussions Charts Models & Objects Specimens	Short answers Objective type Essay type Oral presentation
IV	Describe the physiological changes in pregnancy and the management of normal pregnancy Demonstrate skill in caring for pregnant women	Normal pregnancy and its management a) Pre-conception care b) Genetic counseling c) Physiological changes in pregnancy d) Diagnosis of pregnancy - History - Signs & symptoms e) Antenatal care: - History taking - Calculation of expected date of delivery, - Examination and investigations - Health Education and counselling - Drugs and immunizations f) Minor disorders and their management	12	Lecture cum discussions Demonstration Clinical teaching Simulation Charts & Videos SBA module of government of India, handbook for staff nurses (Government of India)	Short answers Objective type Essay type Assessment of skill using checklist
V	Describe the various stages of labour and the role of the midwife in caring for a woman in labour Demonstrate skill in conducting the normal delivery	Normal labour and its management a) Definition and stages b) Causes and signs of onset of labour c) True and false labour d) First stage of labour: - Physiology - Monitoring using partograph and its interpretation - Care of mother: physical and psychological - Pain management - Setting up of the labour room including newborn corner	18	Lecture cum discussions Demonstrations Case studies Simulation Videos Exercises SBA module of government of India, handbook for staff nurses (Government of India)	Short answers Objective type Essay type Assessment of skill using checklist

Unit No.	Learning objectives	Contents	Hr	Teching learning Activities	Assessment methods
		e) Second stage: - Physiology and mechanism - Monitoring - Conduction of normal delivery - Episiotomy - Essential newborn care f) Third stage: - Physiology and signs - Active management of third stage - Examination of the placenta - Episiotomy suturing g) Fourth stage: - Physiology - Care of the mother and baby - Postpartum family planning			
VI	Describe the management of normal newborn Development of skill in caring for the normal newborn	Management of newborn a) Assessment b) Physiological adaptation c) Apgar scoring d) Examination for defects e) Breast feeding- BFHI f) Care of newborn -Skin, eyes, buttocks etc g) Bonding and rooming in h) Minor disorders of newborn: - Birth marks, rashes, skin - Infections, sore buttocks, - Infection of eyes.	14	Lecture cum discussion Demonstrations, Clinical teaching Chart Videos SBA module, ENBC, NSSK, PPIUCD module, handbook for staff nurses of government of India	Short answers Objective type Essay type Assessment of skill using checklist
VII	Describe normal puerperium and the role of midwife in the caring for woman in puerperium	Management of normal puerperium a) Definition and objectives of care b) Physiological changes c) Postnatal counselling d) Lactation and feeding e) Care during puerperium – breast and perineal care, postnatal exercise, postnatal examination, follow up, family welfare f) Minor ailments and management. g) Family planning	10	Lecture cum discussion Demonstration Simulation Role play SBA module, PPIUCD module, handbook for staff nurses of government of India	Short answers Objective type Essay type Assessment of skill using checklist

Unit No.	Learning objectives	Contents	Hr	Teaching learning Activities	Assessment methods
VIII	Describe the complications of pregnancy Demonstrate skills in providing care for women with complicated pregnancy	Management of complications during pregnancy a) Bleeding in pregnancy - Early and late - Ectopic pregnancy - Abortion - Antepartum hemorrhage - Vesicular mole b) Hyperemesis gravidarum c) Gestational diabetes mellitus d) Pregnancy induced hypertension - Pre eclampsia - Eclampsia e) Hydramnios – poly and oligo f) Pelvic inflammatory diseases g) Intra uterine growth retardation h) Post maturity i) Intra uterine death High risk pregnancy: - Monitoring- NST, USG - Anaemia - Jaundice - Viral - Urinary tract infections - Heart diseases - Diabetes - AIDS and STD's - Osteomalacia - Teenage pregnancy - Elderly Primigravida - Multipara - Multiple pregnancy	12	Lecture cum discussions Case presentation Clinical teaching Videos Simulation Case studies and exercises SBA module	Short answers Essay type Objective type Assessment of skill using checklist
IX	Describe the management high risk labour Demonstrate skills in early detection and prompt management of high risk labour	Management of high risk labour a) Malposition, malpresentations b) Contracted pelvis c) Abnormal uterine actions d) Cervical Dystocia e) Premature rupture of membranes, precipitate and prolonged labour, induction of labour obstructed labour, cord presentation, amniotic fluid embolism, obstetric shock, rupture of uterus, shoulder dystocia, vasa previa.	10	Lecture cum discussion Demonstration Bed-side clinic Videos & Charts Clinical teaching IMPAC module of WHO MCPC module of Government of India	Short answers Objective type Essay type Assessment of skill using checklist

Unit No.	Learning objectives	Contents	Hr	Teaching learning Activities	Assessment methods
		g) Complications of third stage - Postpartum Hemorrhage - Atonic uterus - Injuries to the birth canal - Retained placenta and membranes - Inversion of uterus			
X	Describe the puerperal complications Demonstrate skill in the management of complications of puerperium	Management of complications of puerperium - Puerperal pyrexia - Puerperal Sepsis - Thrombophlebitis and Embolism - Breast engorgement, Mastitis, Breast abscess - Puerperal psychosis	4	Lecturer cum discussion Demonstration Clinical teaching MCPC module of Government of India	Short answers Objective type Essay type
XI	Describe the management of high risk and sick newborn Demonstrate skills in caring for high risk and sick newborns	High risk and sick newborn a) Assessment b) Nursing care c) Management of newborn with: - Hyperbilirubinaemia - Neonatal hypoglycemia - Hypothermia - Neonatal Convulsions - Rh incompatibility - Small for dates - Low birth weight - Preterm - Asphyxia, RDS - Sepsis - Birth injuries Cephal hematoma Caput succedaneum Facial & Erb's palsy Torticollis Hemorrhage - Congenital anomalies d) Newborn of HIV positive mother, diabetic mother e) Levels of care in NICU	10	Lecturer cum discussion Demonstration Clinical teaching IMNCI module SBA module NSSK module	Short answers Objective type Essay type Assessment of skill using checklist

Unit No.	Learning objectives	Contents	Hr	Teaching learning Activities	Assessment methods
XII	Describe the obstetric operations and midwife role in assisting with each one	Obstetric operations a) Definition, indication and care of women undergoing - Induction of labour - Manual removal of placenta - Version - Forceps delivery - Vacuum extraction - Caesarean Section - Sterilization - Destructive surgeries - Amnio infusion - Manual Vacuum Aspiration, Dilatation and Evacuation, Dilatation and Curettage b) Post abortion care	10	Lecture cum discussion Clinical teaching Videos Post abortion care module of Qol	Short answers Objective type Essay type Assessment of skill using checklist
XIII	Describe the midwife's role in the administration of drugs for women during pregnancy, labour and post partum period	Drugs used in obstetrics a) Indication, dose, action, contraindication, side effects and responsibilities in the administration of: - Oxytocin - Uterotonics - Tocolytics - Antihypertensives - Anticonvulsants - Anaesthesia and analgesia b) Drugs used for newborn c) Teratogens – effects of drugs on mother and baby	4	Lecture cum discussion Drug presentation	Short answers Objective type Essay type
XIV	Describe the ethical & legal issues related to midwifery	Ethical and legal aspects related to midwifery a) Maternal and newborn death review b) Mother and child tracking system	2	Lecture cum discussion Presentation	Short answers Objective type

GYNECOLOGICAL NURSING

Course objective

The students shall be able to identify different gynecological disorders and diseases and gain skills in providing nursing care to women suffering from them.

General Objective:-

Upon completion of this course, the students shall able to:

1. List different gynecological problems and demonstrate skills in providing nursing care to women suffering from these disorders and diseases.

Total Hours:20

Unit No	Learning objectives	Content	Hours	Teaching learning activities	Method of assessment
I	Define the terms used in gynecology Demonstrate the skills of gynecology history taking, conducting examination & investigation	Introduction a) Definition of terms b) History c) Examination d) Investigation	2	Lecture cum discussion Demonstration Videos	Short answers Objective type Essay type Return demonstration
II	Describe the physiology, psychology and pathology of puberty	Puberty a) Definition b) Development of sex organs in females and sexuality c) Review of menstrual cycle d) Premenstrual syndrome e) Disorders of menstruation, dysmenorrhoea, cryptomenorrhoea, dysfunctional uterine bleeding	3	Lecture cum discussion Clinical teaching Videos Charts	Short answers Objective type Essay type
III	Describe the management of couples with fertility related problems	Fertility and infertility a) Definition b) Causes-both in male and female c) Investigation d) Management e) Artificial reproductive techniques	2	Lecture cum discussion Clinical teaching Videos Role play	Short answers Objective type Essay type

Unit No	Learning objectives	Content	Hours	Teaching learning activities	Method of assessment
IV	Demonstrate skills in the management of clients with various pelvic infections	Pelvic infections a) Vulva - vulvitis, Bartholin's b) Vagina - Vaginitis, Trichomonas vaginitis, Moniliasis c) Menstrual, Salpingitis, Oophoritis d) Cervical erosions e) Pelvic Abscess f) Chronic infection g) Pelvic inflammatory disease h) Pelvic tuberculosis i) Sexually Transmitted Diseases - Syphilis - Gonorrhea - Warts - HIV j) Syndromic case management	4	Lecture cum discussion Clinical teaching Videos Prevention of STI module of NACO	Short answers Objective type Essay type
V	Describe the care of women with gynaecological disorders	Gynaecological disorders a) Retroversion, retro flexion b) Fistulas c) Uterine displacement & prolapse (Procidentia) d) Uterine malformations e) Cysts and fibroids f) Uterine polyps g) Tumors of the reproductive tract - benign and malignant h) Palliative care and rehabilitation	5	Lecture cum discussion Case Presentation Demonstration	Short answers Objective type Essay type
VI	Describe the care of the woman with breast disorders	Breast disorders a) Review mastitis, breast engorgement, breast abscess b) Tumors of the breast benign and malignant	2	Lecture cum discussion Clinical teaching Videos Role play	Short answers Objective type Essay type
VII	Describe the care of women with menopause	Menopause a) Definition and physiological changes b) Signs and symptoms c) Health education and counselling d) Hormone replacement therapy e) Surgical menopause	2	Lecture cum discussion Case histories	Short answers Objective type Essay type

MIDWIFERY & GYNAECOLOGICAL NURSING- PRACTICAL

Placement: THIRD YEAR (PART - I)

Time: 560 hours
Internship: 384 hours

Area	Duration	Objectives	Skills	Assignment	Assessment methods
Antenatal clinic / ward	3 weeks	- Assessment of pregnant women - Counselling of Antenatal mothers	- Diagnose pregnancy using pregnancy detection kit (preg-card) - Antenatal history taking - Physical examination - Antenatal examination - abdomen and breast - Recording weight and BP - Hemoglobin estimation - Urine testing for sugar and albumin - Immunization - Assessment of risk status - Antenatal counselling - Maintenance of antenatal records - SBA module	- Conduct antenatal examinations - 20 - Health talk - 1 - Case study - 1	Verification of the findings of antenatal examinations Assessment of skills using checklist
Labour room	6 weeks	- Assess the woman in labour - Carry out pervaginal (PV) examinations - Monitor women in labour - Conduct normal deliveries - Perform episiotomy and suture it - Resuscitate newborns	- Assessment of woman in labour - Vaginal examinations (PV) and their interpretation - Monitoring women in labour using the partograph - Caring for women in labour - Setting up of the labour unit including the newborn corner - Conduct normal delivery including active management of third stage of labour (AMTSL) - Provide essential newborn care - Immediate newborn assessment - Resuscitation of the newborn - Assessment of the risk status of the newborn - Episiotomy and suturing	- Perform pervaginal examinations - 5 - Conduct normal deliveries - 20 - Perform and suture episiotomies - 5 - Resuscitate newborns - 5 - Witnessing abnormal deliveries - 5 - Case book recording	Assessment of clinical performance with rating scale Assessment of each skill with checklist Practical examination

Area	Duration	Objectives	Skills	Assignment	Assessment methods
			- Administration of uterotonic drugs – oxytocin, misoprostol - Administration of magnesium sulphate - Maintenance of labour and birth records - SBA module		
Operation theatre	2 week	Prepare and assist with caesarean section, MTP, tubectomy and other surgical procedures	- Preparation for caesarean section and other surgical procedures - Assist in caesarean section - Prepare and assist in MTP procedures - Prepare and assist for tubectomy	- Assist with caesarean section – 2 - Case book recording	Assessment of skill with checklist
Postnatal ward	5 weeks	- Provide nursing care to postnatal mother and the baby - Counsel and teach mother and family for parenthood	- Examination and assessment of mother and the baby - Identification of deviations - Care of postnatal mothers and baby - Perineal care - Breast care - Lactation management - Breast feeding - Kangaroo mother care (KMC) - Immunization - Teaching postnatal mother on mother craft, post natal care, exercise, immunization	- Provide postnatal care to mothers and babies – 20 - Health talks – 1 - Case study – 1 - Case presentation – 1	- Assessment of clinical performance with rating scale - Assessment of each skill with checklist - Practical examination
NICU	4 weeks	Provide nursing care to newborns at risk	- Newborn assessment - Admission of neonates - Feeding of high-risk newborn – katon spoon, paladan, tube feeding, total parental nutrition - Thermal management of newborns – kangaroo mother care, care of baby in radiant warmer and incubator - Monitoring and care of neonates	- Case study – 1 - NSSK Module	- Assessment of clinical performance with rating scale - Assessment of each skill with checklist - Practical examination

Area	Duration	Objectives	Skills	Assignment	Assessment methods
			- Administration of medications - Intravenous therapy - Assisting in diagnostic procedures - Assist in exchange transfusion - Care of baby in ventilator, phototherapy, - Practice infection control protocols - Health education and counselling of parents - Maintenance of records and reports		
Family welfare clinic	2 week	Counsel for and provide family welfare services	- Family planning counselling techniques - Insertion of IUCD - Teaching by demonstration on the use of different family planning methods - Arrange for and assist with family planning operations - Maintenance of records and reports	- IUCD insertion – 5 - Family planning counselling – 2	- Assessment of clinical performance with rating scale - Assessment of each skill with checklist - Practical examination
Gynaecology ward	2 weeks	- Provide care for patients with gynecological disorders - Counsel and educate patient and families	- Assist with gynecological examination - Assist and perform diagnostic and therapeutic procedures - Teach women on breast self examination (BSE) - Health education on perineal hygiene and prevention of sexually transmitted infections - Pre and post operative care of women undergoing gynecological surgeries - Menopause counseling	- Provide care to assigned patients - Nursing care plan – 1 - Menopause counseling – 1	- Assess each skill with checklist - Assess performance with rating scale - Evaluation of care plan

COMMUNITY HEALTH NURSING-II

Placement: THIRD YEAR (PART - I)

Total Hours: 90

Course Description:-

This course is designed to help students to practice community health nursing for the individual, family and groups at both the urban and rural settings by using concepts and principles of health and community health nursing.

General Objective:-

Upon completion of this course, the students shall be able to:

1. Describe the health system and health care services in India.
2. Identify major health problems, national health programs and specialized community health services.
3. Explain the concept of health team and describe the nurses' role at various levels of health care setting.
4. Demonstrate skills in rendering effective nursing care to the individual, family and groups in all community health settings.

Total Hours: 90

Unit	Learning objective	Contents	Hr	Teaching learning Activities	Assessment methods
I	Explain the health system in India	Health system in India Organization and administration of health system in India at a) Central level - Union Ministry - Directorate General of Health Services - Central Council of Health b) State level - State Health Administration - State Ministry of Health - State Health Directorate c) District level - Sub Divisions - Tehsils/ Talukas - Villages - Municipalities & Corporation - Panchayats	10	Lecture cum discussion Organizational chart of various levels Visit to Municipality Office, Panchayat office, Health block office, CHC	Short answer Objective type Essay type

Unit	Learning objective	Contents	Hr	Teaching learning Activities	Assessment methods
II	Describe the health care services in India and discuss the role of the nurse in these services	Health care delivery system a) Health care concept and trends b) Health care services - Public sector, Rural, Urban c) Private sector d) Public Private Partnership (PPP) e) Other agencies f) Indigenous systems of medicine Ayurvedha, yoga, unani, siddha and homeopathy (AYUSH) g) Voluntary health services h) National Health Programmes i) Nurse role in health care services	8	Lecture cum discussion Visit to different health care agencies	Short answer Objective type Essay type
III	Describe health planning in India	Health planning in India a) National health planning b) Five year plans c) Health Committees and reports d) National health policy	10	Lecture cum discussion and reports	Short answer Essay type
IV	Describe the different specialized community health services and the nurse's role in these services	Specialized community health services and nurse's role a) RCH (reproductive health and child care) b) National Health Mission (rural/urban) c) Janani Shishu Suraksha Karyakaram (JSSK) d) Emergency ambulance services e) Government health insurance schemes f) School health Services g) Occupational health nursing (including health care providers) h) Geriatric nursing i) Care of differently abled- Physical and mental j) Rehabilitation nursing	18	Lecture cum discussion Visit to different agencies of specialized services, factory, Old age home, Homes for the differently abled	Short answer Objective type Essay type
V	Describe the major health problems in India	National health problems Health Problems in India a) Communicable diseases b) Non communicable diseases c) Nutritional problems d) Environmental sanitation e) Population	5	Lecture cum discussion Quiz	Short answer Objective type
VI	Describe the national health and family welfare programs in India and the role of the nurse	National Health programmes: - National ARI program - Revised national tuberculosis control program (RNTCP) - National anti-malaria program - National filarial control program	15	Lecture cum discussion Government of India program flyers.	Short answer Objective type

Unit	Learning objective	Contents	Hr	Teaching learning Activities	Assessment methods
		- National guinea worm eradication program - National leprosy eradication program - National AIDS control program - STD control program - National program for control of blindness - Iodine deficiency control program - Expanded program of immunization - National family welfare program - National water supply and sanitation program - Minimum needs program - National diabetes control program - Polio eradication : pulse program program, NPSP - National cancer control program - Yaws eradication program - National nutritional anemia prophylaxis program - 20 point program - ICDS program - Mid-day meal program - National mental health program - Adolescent health program - Role of nurse in the national health programme			
VII	Explain the meaning of demography and describe the national family welfare programmes	Demography and family welfare a) Demography - Concept - Trends in the world and in India - Concept of fertility and infertility - Small family norm b) Family Welfare - Concept, importance, aims & objectives - Family planning methods - Family planning counseling - National family Welfare Policy - National family Welfare Programme - Role of a nurse in the family planning programme	18	Lecture cum discussion Show and explain family planning devices Role play Demonstration	Short answer Objective type Essay type

Unit	Learning objective	Contents	Hr	Teaching learning Activities	Assessment methods
VIII	Describe the concept and functions of health team and the role of nursing personnel at various levels	Health Team: a) Concept - Composition - Functions b) Role of Nursing personnel at various levels - District Public Health Nursing Officer - Block health Nurse - Public Health Nurse - Lady Health Visitor/ health supervisor - Health worker female/ ANM	7	Lecture cum discussion Interaction with health team members. Job description as per the Indian Public Health Standards (IPHS)	Short answer Objective type Essay type
IX	Explain the concept and uses of health information system	Health Information System a) Concepts, components, uses, sources b) Vital Statistics - Important rates and indicators c) Vital health records and their uses d) Basic statistical methods e) Descriptive statistics	6	Lecture cum discussion Exercises	Short answer Objective type Exercises
X	Describe the national and international health agencies	Health Agencies a) International - WHO - UNFPA - UNDP - World bank - FAO - UNICEF - DANIDA - European commission (EU) - Red cross - USAID - UNESCO - ILO - CARE b) National - Indian Red Cross - Indian Council for child welfare - Family Planning association of India - Other NGOs	3	Lecture cum discussion Seminar	Short answer Objective type

COMMUNITY HEALTH NURSING II- PRACTICAL

Placement: THIRD YEAR- PART I

Time: Practical - 160 hours

Area	Duration	Objectives	Skills	Assignments	Assessment Methods
Community Health Nursing II-	4 wks urban / rural	- Organize and conduct clinics - Antenatal - Postnatal - Family welfare - Under five - Diagnose health needs and provide domiciliary care for antenatal and postnatal mothers - Assess health needs of family, plan and carry out treatment for minor ailments, identify need for referral and refer - Plan, conduct and follow up health education - Assist in conducting camps and participate - Maintain records and reports in PHC - Assist in family welfare services and conduct need based health education - Participate in school health programme - Counsel and educate eligible couple, family and community	- Assisting in set-up and conduct of the clinics - Providing domiciliary care to the antenatal and postnatal cases using bag and / or Domiciliary Obstetric Kit - Performing nursing care at home - Preparing and conducting Health Teachings on Reproductive and Child Health (RCH) Care Issues - Assisting in organizing Camps - Maintaining records and reports at Primary Health Centre - Assisting in activities of Family Welfare - Participating in School Health Services	- Health talk- 2 - Family Health Nursing care plan-2 - Group project-1 - Daily Dairy-1 - Report on school health program	- Internal examination (1st& 2nd term) - Pre Council examination - Assessment of performance with rating scale - Evaluation of Assignments - Field visit reports - Daily diary

Placement- INTERSHIP (THIRD YEAR PART-II)

Time- 288 Hours

Area	Duration	Objectives	Skills	Assignments	Assessment Methods
Urban / rural	6 weeks	Provide comprehensive care to individual family and community	Comprehensive nursing care to the individual, family and community	Integrated practice and group project Health talk - 2 Nursing care plan - 2	Assessment of clinical performance with rating scale Evaluation of group project

NURSING EDUCATION, INTRODUCTION TO RESEARCH, PROFESSIONAL TRENDS & ADJUSTMENT & NURSING ADMINISTRATION & WARD MANAGEMENT

Placement: Internship (3rd years Part II)

Time: 120 Hours

Nursing Education- 20 hours

Introduction to Research- 30 hours

Professional Trends and Adjustment- 30 hours

Nursing Administration and Ward Management- 40 hours

NURSING EDUCATION

Course Description:-

This course is designed to introduce the students to the concept of teaching as an integral part of nursing practice.

General Objective:-

Upon completion of this course, the students shall able to:

1. Explain the concept of teaching
2. Describe techniques used for teaching.

Total Hours: 20

Unit	Learning objectives	Contents	Hr	Teaching learning activities	Method of Assessment
I	Describe the concept of education	Introduction a) Education - Meaning, aims, scope and purposes.	2	Lecture cum discussion	Short answers Objective type
II	Explain the process of teaching and learning	Teaching learning process a) Basic principles b) Characteristics of teaching and learning c) Teaching responsibility of a nurse d) Preparation of teaching plan	4	Lecture cum discussion	Short answers Objective type Evaluation of teaching plan
III	Narrate the methods of teaching Describe the clinical teaching methods	Methods of teaching a) Methods of teaching: b) Clinical teaching methods - Case method - Bed side clinic - Nursing rounds - Nursing conference (individual and group) - Process recording.	14	Lecture cum discussion	Short answer Objective type Evaluation of planned as well as incidental health teaching

INTRODUCTION TO RESEARCH

Course Description:-

This course is designed to develop fundamental abilities and attitude in the students towards scientific methods of investigation and utilization of research finding so as to improve practice of nursing.

General Objective:-

Upon completion of this course, the students shall able to:

1. Describe the use of research in the practice of nursing
2. Describe the scientific methods of investigation used in nursing.
3. Participate in research activities in the health care settings.

Total Hours: 30

Unit	Learning Objectives	Contents	Hr.	Teaching learning activities	Assessment Method
I	Discuss the importance of research in Nursing	Introduction a) Definition b) Terminology related to research c) Need and importance of nursing research d) Characteristics of good research	3	Lecture cum discussion	Short answers Objective type
II	Describe the research process	Research process a) Purposes and objectives b) Steps in research process	3	Lecture cum discussion	Short answer Essay type
III	Describe the various research approaches	Research approaches and designs a) Types b) Methods c) Advantages and disadvantages	5	Lecture cum discussion	Short answer Essay type
IV	Describe the various data collection methods	Data collection process a) Meaning b) Methods and instruments of data collection	5	Lecture cum discussion	Short answer Essay type
V	List the steps involved in data analysis	Analysis of data a) Compilation b) Tabulation c) Classification d) Summarization e) Presentation and interpretation of data using descriptive statistics	6	Lecture cum discussion Reading the research articles	Short answer Essay type
VI	Describe the importance of statistics in research	Introduction to statistics a) Definition b) Use of statistics c) Scales of measurement d) Frequency distribution e) Mean, median, mode and standard deviation	6	Lecture cum discussion	Short answer Essay type
VII	Describe the utilization of research in nursing practice	Utilization of research in nursing practice - Evidence based practice	2	Lecture cum discussion	Short answer Essay type

PROFESSIONAL TRENDS AND ADJUSTMENT

Course Description:-

This course is designed to help students develop an understanding of the career opportunities available for professional development.

General Objective:-

Upon completion of this course, the students shall able to:

1. Describe nursing as a profession.
2. Identify various professional responsibilities of a nurse.
3. Describe various professional organizations related to nursing.
4. Identify the need for in-service and continuing education in nursing
5. Demonstration skills in application of knowledge of professional etiquettes in the practice of nursing in any health care setting.

Total Hours: 30 hours

S. No	Learning objectives	Contents	Hr.	Teaching learning activities	Assessment methods
I	Describe nursing as a profession	Nursing as a profession a) Definition of profession b) Criteria of a profession and nursing profession c) Evolution of Nursing Profession in India d) Educational preparation of a professional nurse e) Qualities/ Characteristics and role of a professional nurse	4	Lecture cum discussion	Short answer Objective type Essay type
II	Explain various aspects of Professional ethics	Professional ethics a) Meaning and relationship of professional ethics and etiquettes b) Code of ethics for nurse by ICN c) Standards for nursing practice (INC) d) Etiquettes for employment: locating posting, applying and accepting a position, resignation from a position.	6	Lecture cum discussion Assignment: Application for job acceptance & job resignation	Short answer Essay type
III	Discuss the importance of continuing education in personal and professional development	Personal and professional development a) Continuing education - Meaning and importance - Scope - Identifying opportunities	10	Lecture cum discussion	Short answer Essay type

S. No	Learning objectives	Contents	Pr.	Teaching learning activities	Assessment methods
		b) Career in Nursing - Opportunities available in Nursing in Hospital, Community teaching and other related special organization c) In-service education - Definition - Value - Need participation in committee procedures - Nursing in the future		Draw a career ladder in nursing in reference to international influence and financial aid.	
IV	Discuss the significance of legislation in Nursing.	Legislation in nursing a) Purpose and importance of laws in Nursing b) Legal Terms c) Common legal hazards in Nursing d) Laws and regulations related to health care providers in India at different levels e) Service and institutional rules f) Regulation of nursing education g) Registration and reciprocity	5	Lecture cum discussion	Assignment
V	List the various organizations related to health and nursing profession and briefly describe their function.	Profession and related organizations a) Regulatory bodies: Indian Nursing Council, State Nursing Council b) Professional organizations: - Trained Nurses Association of India, - Students Nurses Association, - Nurses League of the Christian Medical Association of India, - International Council of Nurses (ICN), - International Confederation of Midwives etc. c) Related organizations and their contribution to nursing: World Health Organization, Red cross and St. John's Ambulance, Colombo plan, UNICEF, World Bank etc.	5	Lecture cum discussion Observational visits to State Nursing Council and Local TNAL office	Report of visit to the council Short answers Essay type

NURSING ADMINISTRATION AND WARD MANAGEMENT

Course Description:-

This course is designed to help the student to understand the basic principles of administration and its application to the management of ward and health care unit.

General Objective:-

Upon completion of this course, the students shall able to:

1. Describe the meaning and principles of administration.
2. Apply the principles of administration in practice of nursing
3. Plan the nursing service in the ward and community health settings.
4. Describe the importance of good administration in the day to day nursing service in varied health care setting.

Total Hours: 40

Unit	Learning Objectives	Contents	Pr	Teaching learning activities	Assessment methods
I	Describe the meaning, philosophy and principles of administration	Introduction a) Administration and management - Meaning - Philosophy - Elements and principles - Significance	4	Lecture cum discussion	Short answers Objective type Essay type
II	Describe the management process	Management process a) Planning - Importance - Purpose - Types of planning b) Organization - Principles of organization - Organization chart of hospital/ward/ PHC/ Sub center c) Staffing - Scheduling - Recruitment, selection, deployment, retaining, promotion, superannuation - Personnel management - Job description - Job specification - Staff development and staff welfare d) Directing e) Co-ordination and control - Quality management f) Budgeting g) Policies of hospital and various department of the hospital	15	Lecture cum discussion Companion of organization charts	Short answers Essay type Objective type Written test Evaluation of the organization chart prepared by students.

Unit	Learning Objectives	Contents	Hr	Teaching learning activities	Assessment methods
IV	Explain the administration of different health care units	Administration of hospital/department/ unit/ ward a) Health centre/ unit physical layout b) Safety measures for prevention of accidents and infections c) Legal responsibilities of a nurse d) Leadership styles e) Problem solving : process and approach, steps and methods of dealing with complaints of patients and other health team members f) Records and reports: meaning, types, importance	9	Lecture cum discussion Role play Group work on physical layout Reading notes	Short answers Objective type Essay type
V	Discuss the importance of maintaining supplies and equipment for effective administration	Management of equipment supplies. a) Maintenance of supplies & equipment (preventive maintenance) b) Handing over and taking over of inventory c) Indent and ordering of supplies and equipment d) Problem solving : process and approach, steps and methods of dealing with supplies and equipment.	7	Lecture cum discussion Role play Group project on problem solving	Short answers Objective type Essay type Evaluation of the report on Group project.
VI	Discuss the cost and financing of health services in India	Cost and financing of health care a) Cost of health care b) Health financing c) National health plans (annual and five year plans) and outlays, role of state and central government in allocation of funds d) Health insurance- types, issues etc.	5	Lecture cum discussion	Short answer Test