ADULT HEALTH NURSING - I WITH INTEGRATED PATHOPHYSIOLOGY (including BCLS module)PLACEMENT: III SEMESTER

THEORY: 7 Credits (140 hours)

PRACTICUM: Lab/Skill Lab (SL) – 1 Credit (40 hours) Clinical – 6 Credits (480 hours)

DESCRIPTION: This course is designed to equip the students to review and apply their knowledge of Anatomy, Physiology, Biochemistry and Behavioral sciences in caring for adult patients with Medical/Surgical disorders using nursingprocess approach and critical thinking. It also intends to develop competencies required for assessment, diagnosis, treatment, nursing management, and supportive/palliative care to patients with various Medical Surgical disorders.

COMPETENCIES: On completion of Medical Surgical Nursing I course, students will be able to

1. Explain the etiology, pathophysiology, manifestations, diagnostic studies, treatments and complications ofcommon medical and surgical disorders.
2. Perform complete health assessment to establish a data base for providing quality patient care and integrate theknowledge of anatomy, physiology and diagnostic tests in the process of data collection.
3. Identify nursing diagnoses, list them according to priority and formulate nursing care plan.
4. Perform nursing procedures skillfully and apply scientific principles while giving comprehensive nursing care topatients.
5. Integrate knowledge of pathology, nutrition and pharmacology in caring for patients experiencing various medicaland surgical disorders.
6. Identify common diagnostic measures related to the health problems with emphasis on nursing assessment andresponsibilities.
7. Demonstrate skill in assisting/performing diagnostic and therapeutic procedures.
8. Demonstrate competencies/skills to patients undergoing treatment for medical surgical disorders.
9. Identify the drugs used in treating patients with medical surgical conditions.
10. Plan and give relevant individual and group education on significant medical surgical topics.
11. Maintain safe environment for patients and the health care personnel in the hospital.
12. Integrate evidence-based information while giving nursing care to patients.

COURSE CONTENT

T – Theory, L/SL – Lab/Skill Lab

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
I	6 (T) 4 (L/SL)	Narrate the evolution of medical surgical nursing Apply nursing process in caring for patients with medical surgical problems Execute the role of a nurse in various medical surgical setting Develop skills in assessment and care of wound	**Introduction** • Evolution and trends of medical and surgical nursing • International classification of diseases • Roles and responsibility of a nurse in medical and surgical settings ○ Outpatient department ○ In-patient unit ○ Intensive care unit • Introduction to medical and surgical asepsis ○ Inflammation, infection ○ Wound healing – stages, influencing factors	• Lecture cum discussion • Demonstration & Practice session • Role play • Visit to outpatient department, in patient and intensive care unit	• Short Answer • OSCE

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
		Develop competency in providing pre and postoperative care	○ Wound care and dressing technique • Care of surgical patient ○ pre-operative ○ post-operative • Alternative therapies used in caring for patients with Medical Surgical Disorders		

II	15 (T) 4 (L/SL)	Explain organizational set up of the operating theatre Differentiate the role of scrub nurse and circulating nurse Describe the different positioning for various surgeries Apply principles of asepsis in handling the sterile equipment Demonstrate skill in scrubbing procedures Demonstrate skill in assessing the patient and document accurately the surgical safety checklist Develop skill in assisting with selected surgeries Explain the types, functions, and nursing considerations for different types of anaesthesia	**Intraoperative Care** • Organization and physical set up of the operation theatre ○ Classification ○ O.T Design ○ Staffing ○ Members of the OT team ○ Duties and responsibilities of the nurse in OT • Position and draping for common surgical procedures • Instruments, sutures and suture materials, equipment for common surgical procedures • Disinfection and sterilization of equipment • Preparation of sets for common surgical procedures • Scrubbing procedures – Gowning, masking and gloving • Monitoring the patient during the procedures • Maintenance of the therapeutic environment in OT • Assisting in major and minor operation, handling specimen • Prevention of accidents and hazards in OT • Anaesthesia – types, methods of administration, effects and stages, equipment & drugs • Legal aspects	• Lecture cum Discussion • Demonstration, Practice session, and Case Discussion • Visit to receiving bay	• Caring for patient intra operatively • Submit a list of disinfectants used for instruments with the action and precaution
III	6 (T) 4 (L/SL)	Identify the signs and symptoms of shock and electrolyte imbalances Develop skills in managing fluid and electrolyte imbalances	**Nursing care of patients with common signs and symptoms and management** • Fluid and electrolyte imbalance • Shock • Pain	• Lecture, discussion, demonstration • Case discussion	• Short answer • MCQ • Case report

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
		Perform pain assessment and plans for the nursing management			
IV	18 (T) 4 (L)	Demonstrate skill in respiratory assessment Differentiates different breath sounds and lists the indications Explain the etiology, pathophysiology, clinical manifestations, diagnostic tests, and medical, surgical, nutritional, and nursing management of common respiratory problems Describe the health behaviour to be adopted in preventing respiratory illnesses	**Nursing Management of patients with respiratory problems** • Review of anatomy and physiology of respiratory system • Nursing Assessment – history taking, physical assessment and diagnostic tests • Common respiratory problems: ○ Upper respiratory tract infections ○ Chronic obstructive pulmonary diseases ○ Pleural effusion, Empyema ○ Bronchiectasis ○ Pneumonia ○ Lung abscess ○ Cyst and tumors ○ Chest Injuries ○ Acute respiratory distress syndrome ○ Pulmonary embolism • Health behaviours to prevent respiratory illness	• Lecture, discussion, • Demonstration • Practice session • Case presentation • Visit to PFT Lab	• Essay • Short answer • OSCE
V	16 (T) 5 (L)	Explain the etiology, pathophysiology, clinical manifestations, diagnostic tests, and medical, surgical, nutritional, and nursing management of gastrointestinal disorders Demonstrate skill in gastrointestinal assessment Prepare patient for upper and lower gastrointestinal investigations Demonstrate skill in gastric decompression, gavage, and stoma care	**Nursing Management of patients with disorders of digestive system** • Review of anatomy and physiology of GI system • Nursing assessment –History and physical assessment • GI investigations • Common GI disorders: ○ Oral cavity: lips, gums and teeth ○ GI: Bleeding, Infections, Inflammation, tumors, Obstruction, Perforation & Peritonitis ○ Peptic & duodenal ulcer, ○ Mal-absorption, Appendicitis, Hernias ○ Hemorrhoids, fissures, Fistulas ○ Pancreas: inflammation, cysts, and tumors	• Lecture, Discussion • Demonstration, • Role play • Problem Based Learning • Visit to stoma clinic	• Short answer • Quiz • OSCE

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
		Demonstrate skill in different feeding techniques	○ Liver: inflammation, cysts, abscess, cirrhosis, portal hypertension, hepatic failure, tumors ○ Gall bladder: inflammation, Cholelithiasis, tumors • Gastric decompression, gavage and stoma care, different feeding techniques • Alternative therapies, drugs used in treatment of disorders of digestive system		
VI	20 (T) 5 (L)	Explain the etiology, pathophysiology, clinical manifestations, diagnostic tests, and medical, surgical, nutritional, and nursing management of cardiovascular disorders Demonstrate skill in cardiovascular assessment Prepare patient for invasive and non-invasive cardiac procedures Demonstrate skill in monitoring and interpreting clinical signs related to cardiac disorders Complete BLS/BCLS module	**Nursing Management of patients with cardiovascular problems** • Review of anatomy and physiology of cardio-vascular system • Nursing Assessment: History and Physical assessment • Invasive & non-invasive cardiac procedures • Disorders of vascular system- Hypertension, arteriosclerosis, Raynaud's disease, aneurysm and peripheral vascular disorders • Coronary artery diseases: coronary atherosclerosis, Angina pectoris, myocardial infarction • Valvular disorders: congenital and acquired • Rheumatic heart disease: pericarditis, myocarditis, endocarditis, cardiomyopathies • Cardiac dysrhythmias, heart block • Congestive heart failure, corpulmonale, pulmonary edema, cardiogenic shock, cardiac tamponade • Cardiopulmonary arrest	• Lecture, discussion • Demonstration • Practice session • Case Discussion • Health education • Drug Book/ presentation • **Completion of BCLS Module**	• Care plan • Drug record • BLS/ BCLS evaluation
VII	7 (T) 3 (L)	Explain the etiology, pathophysiology, clinical manifestations, diagnostic tests, and medical, surgical, nutritional, and nursing management of hematological disorders Interpret blood reports	**Nursing Management of patients with disorders of blood** • Review of Anatomy and Physiology of blood • Nursing assessment: history, physical assessment & Diagnostic tests • Anemia, Polycythemia • Bleeding Disorders: clotting factor defects and platelets defects, thalassemia, leukemia, leukopenia,	• Field visit to blood bank • Counseling	• Interpretation of blood reports • Visit report

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
		Prepare and provides health education on blood donation	agranulocytosis • Lymphomas, myelomas		
VIII	8 (T) 2 (L)	Explain the etiology, pathophysiology, clinical manifestations, diagnostic tests, and medical, surgical, nutritional, and nursing management of endocrine disorders Demonstrate skill in assessment of endocrine organ dysfunction Prepare and provides health education on diabetic diet Demonstrate skill in insulin administration	**Nursing management of patients with disorders of endocrine system** • Review of anatomy and physiology of endocrine system • Nursing Assessment –History and Physical assessment • Disorders of thyroid and Parathyroid, Adrenal and Pituitary (Hyper, Hypo, tumors) • Diabetes mellitus	• Lecture, discussion, demonstration • Practice session • Case Discussion • Health education	• Prepare health education on self-administration of insulin • Submits a diabetic diet plan
IX	8 (T) 2 (L)	Explain the etiology, pathophysiology, clinical manifestations, diagnostic tests, and medical, surgical, nutritional, and nursing management of disorders of integumentary system Demonstrate skill in integumentary assessment Demonstrate skill in medicated bath Prepare and provide health education on skin care	**Nursing management of patients with disorders of Integumentary system** • Review of anatomy and physiology of skin • Nursing Assessment: History and Physical assessment • Infection and infestations; Dermatitis • Dermatoses; infectious and Non infectious • Acne, Allergies, Eczema & Pemphigus • Psoriasis, Malignant melanoma, Alopecia • Special therapies, alternative therapies • Drugs used in treatment of disorders of integumentary system	• Lecture, discussion • Demonstration • Practice session • Case Discussion	• Drug report • Preparation of Home care plan
X	16 (T) 4 (L)	Explain the etiology, pathophysiology, clinical manifestations, diagnostic tests, and medical, surgical, nutritional, and nursing management of musculoskeletal disorders	**Nursing management of patients with musculoskeletal problems** • Review of Anatomy and physiology of the musculoskeletal system • Nursing Assessment: History and physical assessment, diagnostic tests • Musculoskeletal trauma: Dislocation, fracture, sprain, strain,	• Lecture/ • Discussion • Demonstration • Case Discussion • Health education	• Nursing care plan • Prepare health teaching on care of patient with cast

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
		Demonstrate skill in musculoskeletal assessment Prepare patient for radiological and non-radiological investigations of musculoskeletal system Demonstrate skill in crutch walking and splinting Demonstrate skill in care of patient with replacement surgeries Prepare and provide health education on bone healing	contusion, amputation • Musculoskeletal infections and tumors: Osteomyelitis, benign and malignant tumour • Orthopedic modalities: Cast, splint, traction, crutch walking • Musculoskeletal inflammation: Bursitis, synovitis, arthritis • Special therapies, alternative therapies • Metabolic bone disorder: Osteoporosis, osteomalacia and Paget's disease • Spinal column defects and deformities – tumor, prolapsed intervertebral disc, Pott's spine • Rehabilitation, prosthesis • Replacement surgeries		
XI	20 (T) 3 (L)	Explain the etiology, pathophysiology, clinical manifestations, diagnostic tests, and medical, surgical, nutritional, and nursing management of patients with communicable diseases Demonstrate skill in barrier and reverse barrier techniques Demonstrate skill in execution of different isolation protocols	**Nursing management of patients with Communicable diseases** • Overview of infectious diseases, the infectious process • Nursing Assessment: History and Physical assessment, Diagnostic tests • Tuberculosis • Diarrhoeal diseases, hepatitis A-E, Typhoid • Herpes, chickenpox, Smallpox, Measles, Mumps, Influenza • Meningitis • Gas gangrene • Leprosy • Dengue, Plague, Malaria, Chikungunya, swine flu, Filariasis • Diphtheria, Pertussis, Tetanus, Poliomyelitis • COVID-19 • Special infection control measures: Notification, Isolation, Quarantine, Immunization	• Lecture, discussion, demonstration • Practice session • Case Discussion/ seminar • Health education • Drug Book/ presentation • **Refer TB Control & Management module**	• Prepares and submits protocol on various isolation techniques

BIBLIOGRAPHY:

1. Black J.M. Hawk, J.H. (2005) Medical Surgical Nursing Clinical Management for Positive Outcomes. (7th ed) Elsevier.

2. Brunner S. B., Suddarth D.S. The Lippincott Manual of Nursing practice J.B.Lippincott. Philadelphia.

3. Medical Surgical Nursing: an integrated approach 2nd ed , White, L, Delmar Thomson learning (2002) United States

4. Lewis, Heitkemper&Dirksen (2000) Medical Surgical Nursing Assessment and Management of Clinical Problem (6 thed) Mosby.

5. Colmer R.M. (1995) Moroney's Surgery for Nurses (16 thed) ELBS.

6. Shah N.S. (2003) A P I textbook of Medicine, The Association of Physicians of India Mumbai.

7. Satoskar R.S., Bhandarkar S.D. & Rege N.N. (2003) Pharmacology and Pharmacotherapeutics

(19 thed) Popular Prakashan, Mumbai.

8. Phipps W.J., Long C.B. & Wood N.F. (2001) Shaffer's Medical Surgical Nursing B.T.Publication

Pvt. Ltd. New Delhi.

9 Datta T.K. (2003) Fundamentals of Operation Theatre Services, Jaypee, New Delhi.

10. Maheswari J Essentials of Orthopedics (3rd ed) Mehta Publication, NewDelhi.

11 Pasricha J.S., Gupta R. (2001) Illustrated Text book of Dermatology (2nded) Jaypee brothers New Delhi.

12 Haslett C., Chilvers E.R., Hunder J.A.A. &Boon, N.A. (1999) Davidson's Principles and Practice of Medicine (18 thed) Churchill living stone. Edinburgh.

13 Walsh M. (2002) Watson's Clinical Nursing and Related Sciences (6thed) Bailliere Tindall Edinburgh.

14. Medical Surgical Nursing: an integrated approach 2nd ed , White, L, Delmar Thomson learning (2002) United States

15. Medical Surgical Nursing: A Nursing process approach Vol. I & II, , Ignatacicius, Donna & Workman, Linda, W. B. Saunders Company, Philadelphia (1995)

16. The Lippincott Manual of Nursing practice, 7th ed, Nettina, Sandra, Lippincott Williams & Wilkins, Philadelphia (2001)

CLINICAL PRACTICUM

CLINICAL PRACTICUM: 6 Credits (480 hours) - 18 weeks × 27 hours

PRACTICE COMPETENCIES: On completion of the clinical practicum, the students will be able to apply nursing process and critical thinking in delivering holistic nursing care including rehabilitation to the adult patients undergoing surgery, with shock and fluid and electrolyte imbalance and with selected medical & surgical conditions i.e., Gastrointestinal, Respiratory, Endocrine, Orthopedic, Dermatology and Cardiovascular disorders.

The students will be competent to:

1. Utilize the nursing process in providing care to the sick adults in the hospital:
    a. Perform complete health assessment to establish a data base for providing quality patient care.
    b. Integrate the knowledge of diagnostic tests in the process of data collection.
    c. Identify nursing diagnoses and list them according to priority.
    d. Formulate nursing care plan, using problem solving approach.
    e. Apply scientific principles while giving nursing care to patients.
    f. Perform nursing procedures skillfully on patients.
    g. Establish/develop interpersonal relationship with patients and family members.
    h. Evaluate the expected outcomes and modify the plan according to the patient needs.
2. Provide comfort and safety to adult patients in the hospital.
3. Maintain safe environment for patients during hospitalization.
4. Explain nursing actions appropriately to the patients and family members.
5. Ensure patient safety while providing nursing procedures.
6. Assess the educational needs of the patient and their family related to medical and surgical disorders and provideappropriate health education to patients.
7. Provide pre, intra and post-operative care to patients undergoing surgery.
8. Integrate knowledge of pathology, nutrition and pharmacology for patients experiencing various medical and surgicaldisorders.
9. Integrate evidence-based information while giving nursing care to patients.
10. Demonstrate the awareness of legal and ethical issues in nursing practice.

I. NURSING MANAGEMENT OF PATIENTS WITH MEDICAL CONDITIONS

A. Skill Lab

Use of manikins and simulators

- Intravenous therapy
- Oxygen through mask
- Oxygen through nasal prongs
- Venturi mask
- Nebulization
- Chest physiotherapy

B. Clinical Postings

Clinical area/unit	Duration (weeks)	Learning Outcomes	Procedural Competencies/ Clinical Skills	Clinical Requirements	Assessment Methods
General medical	4	Develop skill in intravenous injection administration and IV therapy	• Intravenous therapy ○ IV cannulation ○ IV maintenance and monitoring ○ Administration of IV medication	• Care Study – 1 • Health education • Clinical presentation/ Care	• Clinical evaluation • OSCE • Care Study
		Assist with diagnostic procedures Develop skill in the management of patients with Respiratory problems Develop skill in managing patients with metabolic abnormality	• Care of patient with Central line • Preparation and assisting and monitoring of patients undergoing diagnostic procedures such as thoracentesis, Abdominal paracentesis *Management patients with respiratory problems* • Administration of oxygen through mask, nasal prongs, venturi mask • Pulse oximetry • Nebulization • Chest physiotherapy • Postural drainage • Oropharyngeal suctioning • Care of patient with chest drainage • Diet Planning ○ High Protein diet ○ Diabetic diet • Insulin administration • Monitoring GRBS	note) – 1	evaluation • Care Note/ Clinical presentation

II. NURSING MANAGEMENT OF PATIENTS WITH SURGICAL CONDITIONS

A. Skill Lab

Use of manikins and simulators

- Nasogastric aspiration
- Surgical dressing
- Suture removal
- Colostomy care/ileostomy care
- Enteral feeding

B. Clinical Postings

Clinical area/unit	Duration (Weeks)	Learning Outcomes	Procedural Competencies/ Clinical Skills	Clinical Requirements	Assessment Methods
General surgical wards	4	Develop skill in caring for patients during pre- and post- operative period Assist with diagnostic procedures Develop skill in managing patient with Gastro-intestinal Problems	• Pre-Operative care • Immediate Post-operative care • Post-operative exercise • Pain assessment • Pain Management • Assisting diagnostic procedure and after care of patients undergoing ○ Colonoscopy ○ ERCP ○ Endoscopy ○ Liver Biopsy	• Care study – 1 • Health teaching	• Clinical evaluation, OSCE • Care study • Care note/ Clinical presentation
		Develop skill in wound management	• Nasogastric aspiration • Gastrostomy/Jejunostomy feeds • Ileostomy/Colostomy care • Surgical dressing • Suture removal • Surgical soak • Sitz bath • Care of drain		

III. NURSING MANAGEMENT OF PATIENTS WITH CARDIAC CONDITIONS

A. Skill Lab

Use of manikins and simulators

- Cardiovascular assessment
- Interpreting ECG
- BLS/BCLS
- CPR
- ABG analysis
- Taking blood sample
- Arterial blood gas analysis – interpretation

B. Clinical Postings

Clinical area/unit	Duration (Weeks)	Learning Outcomes	Procedural Competencies/ Clinical Skills	Clinical Requirements	Assessment Methods

Cardiology wards	2	Develop skill in management of patients with cardiac problems
		
		Develop skill in management of patients with disorders of Blood
			• Cardiac monitoring
			• Recording and interpreting ECG
			• Arterial blood gas analysis – interpretation
			• Administer cardiac drugs
			• Preparation and after care of patients for cardiac catheterization
			• CPR
			• Collection of blood sample for:
			  ○ Blood grouping/cross matching
			  ○ Blood sugar
			  ○ Serum electrolytes
			• Assisting with blood transfusion
			• Assisting for bone marrow aspiration
			• Application of anti-embolism stockings (TED hose)
			• Application/maintenance of sequential Compression device
				• Cardiac assessment – 1
				• Drug presentation – 1
					• Clinical evaluation
					• Drug presentation

IV. NURSING MANAGEMENT OF PATIENTS WITH DISORDERS OF INTEGUMENTARY SYSTEM

A. Skill Lab

Use of manikins and simulators

Application of topical medication

B. Clinical Postings

Clinical area/unit	Duration (Weeks)	Learning Outcomes	Procedural Competencies/ Clinical Skills	Clinical Requirements	Assessment Methods
Dermatology wards	1	Develop skill in management of patients with disorders of integumentary system	• Intradermal injection-Skin allergy testing • Application of topical medication • Medicated bath		• Clinical evaluation

V. NURSING MANAGEMENT OF PATIENTS WITH COMMUNICABLE DISEASES

A. Skill Lab

- Barrier Nursing
- Reverse Barrier Nursing
- Standard precautions

B. Clinical Postings

Clinical area/unit	Duration (Weeks)	Learning Outcomes	Procedural Competencies/ Clinical Skills	Clinical Requirements	Assessment Methods
Isolation ward	1	Develop skill in the management of patients requiring isolation	• Barrier Nursing • Reverse barrier nursing • Standard precautions (Universal precaution), use of PPE, needle stick and sharp injury prevention, Cleaning and disinfection, Respiratory hygiene, waste disposal and safe injection practices)	• Care Note – 1	• Clinical evaluation • Care note

VI. NURSING MANAGEMENT OF PATIENTS WITH MUSCULOSKELETAL PROBLEMS

A. Skill Lab

Use of manikins and simulators

- Range of motion exercises
- Muscle strengthening exercises
- Crutch walking

B. Clinical Postings

Clinical area/unit	Duration (Weeks)	Learning Outcomes	Procedural Competencies/ Clinical Skills	Clinical Requirements	Assessment Methods
Orthopedic wards	2	Develop skill in management of patients with musculoskeletal problems	• Preparation of patient with Myelogram/CT/MRI • Assisting with application & removal of POP/Cast • Preparation, assisting and after care of patient with Skin	• Care Note – 1	• Clinical evaluation, • Care note
			traction/skeletal traction • Care of orthotics • Muscle strengthening exercises • Crutch walking • Rehabilitation		

VII. NURSING MANAGEMENT OF PATIENTS IN THE OPERATING ROOMS

A. Skill Lab

Use of manikins and simulators

- Scrubbing, gowning and gloving
- Orient to instruments for common surgeries
- Orient to suture materials
- Positioning

B. Clinical Postings

Clinical area/unit	Duration (Weeks)	Learning Outcomes	Procedural Competencies/ Clinical Skills	Clinical Requirements	Assessment Methods
Operation theatre	4	Develop skill in caring for intraoperative patients	• Position and draping • Preparation of operation table • Set up of trolley with instrument • Assisting in major and minor operation • Disinfection and sterilization of equipment • Scrubbing procedures – Gowning, masking and gloving • Intra operative monitoring	• Assist as circulatory nurse – 4 • Positioning & draping – 5 • Assist as scrub nurse in major surgeries – 4 • Assist as scrub nurse in minor surgeries – 4	• Clinical evaluation • OSCE

APPLIED MICROBIOLOGY AND INFECTION CONTROL INCLUDING SAFETY

PLACEMENT: III SEMESTER

THEORY: 2 Credits (40 hours)

PRACTICAL: 1 Credit (40 hours) (Lab/Experiential Learning – L/E)

SECTION A: APPLIED MICROBIOLOGY

THEORY: 20 hours

PRACTICAL: 20 hours (Lab/Experiential Learning – L/E)

DESCRIPTION: This course is designed to enable students to acquire understanding of fundamentals of Microbiology, compare and contrast different microbes and comprehend the means of transmission and control of spread by various microorganisms. It also provides opportunities for practicing infection control measures in hospital and community settings.

COMPETENCIES: On completion of the course, the students will be able to:

1. Identify the ubiquity and diversity of microorganisms in the human body and the environment.
2. Classify and explain the morphology and growth of microbes.
3. Identify various types of microorganisms.
4. Explore mechanisms by which microorganisms cause disease.
5. Develop understanding of how the human immune system counteracts infection by specific and non-specific mechanisms.
6. Apply the principles of preparation and use of vaccines in immunization.
7. Identify the contribution of the microbiologist and the microbiology laboratory to the diagnosis of infection.

COURSE OUTLINE

T – Theory, L/E – Lab/Experiential Learning

Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
I	3		Explain concepts and principles of microbiology and its importance in nursing	**Introduction:** • Importance and relevance to nursing • Historical perspective • Concepts and terminology • Principles of microbiology	• Lecture cum Discussion	• Short answer • Objective type
II	10	10 (L/E)	Describe structure, classification morphology and growth of bacteria Identify Microorganisms	**General characteristics of Microbes:** • Structure and classification of Microbes • Morphological types • Size and form of bacteria • Motility • Colonization • Growth and nutrition of microbes • Temperature • Moisture • Blood and body fluids • Laboratory methods for Identification of Microorganisms • Types of Staining – simple, differential (Gram's, AFB), special – capsular staining (negative), spore, LPCB, KOH mount. • Culture and media preparation – solid and liquid. Types of media – semi synthetic, synthetic, enriched, enrichment, selective and differential media. Pure culture techniques – tube dilution, pour, spread, streak plate. Anaerobic cultivation of bacteria	• Lecture cum Discussion • Demonstration • Experiential Learning through visual	• Short answer • Objective type
III	4	6 (L/E)	Describe the different disease producing organisms	**Pathogenic organisms** • Micro-organisms: Cocci – gram positive and gram negative; Bacilli – gram positive and gram negative • Viruses • Fungi: Superficial and Deep mycoses • Parasites • Rodents & Vectors ○ Characteristics, Source, portal of entry, transmission of infection, Identification of disease producing micro-organisms	• Lecture cum Discussion • Demonstration • Experiential learning through visual	• Short answer • Objective type
IV	3	4 (L/E)	Explain the concepts of	**Immunity**	• Lecture	• Short answer • Objective

Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
			immunity, hyper sensitivity and immunization	• Immunity: Types, classification • Antigen and antibody reaction • Hypersensitivity reactions • Serological tests • Immunoglobulins: Structure, types & properties • Vaccines: Types & classification, storage and handling, cold chain, Immunization for various diseases • Immunization Schedule	• Discussion • Demonstration • Visit to observe vaccine storage • Clinical practice	type • Visit report

SECTION B: INFECTION CONTROL & SAFETY

THEORY: 20 hours

PRACTICAL/LAB: 20 hours (Lab/Experiential Learning – L/E)

DESCRIPTION: This course is designed to help students to acquire knowledge and develop competencies required for fundamental patient safety and infection control in delivering patient care. It also focuses on identifying patient safety indicators, preventing and managing hospital acquired infections, and in following universal precautions.

COMPETENCIES: The students will be able to:

1. Develop knowledge and understanding of Hospital acquired Infections (HAI) and effective practices for prevention.
2. Integrate the knowledge of isolation (Barrier and reverse barrier) techniques in implementing various precautions.
3. Demonstrate and practice steps in Hand washing and appropriate use of different types of PPE.
4. Illustrate various disinfection and sterilization methods and techniques.
5. Demonstrate knowledge and skill in specimen collection, handling and transport to optimize the diagnosis for treatment.
6. Incorporate the principles and guidelines of Bio Medical waste management.
7. Apply the principles of Antibiotic stewardship in performing the nurses'role.
8. Identify patient safety indicators and perform the role of nurse in the patient safety audit process.
9. Apply the knowledge of International Patient Safety Goals (IPSG) in the patient care settings.
10. Identify employee safety indicators and risk of occupational hazards.
11. Develop understanding of the various safety protocols and adhere to those protocols.

COURSE OUTLINE

T – Theory, L/E – Lab/Experiential Learning

Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
I	2	2 (E)	Summarize the evidence based and effective patient care practices for the prevention of common healthcare associated infections in the healthcare	**HAI (Hospital acquired Infection)** • Hospital acquired infection • Bundle approach - Prevention of Urinary Tract Infection (UTI) - Prevention of Surgical Site Infection (SSI) - Prevention of Ventilator	• Lecture & Discussion • Experiential learning	• Knowledge assessment • MCQ • Short answer

Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
			Setting	Associated events (VAE) - Prevention of Central Line Associated Blood Stream Infection (CLABSI) • Surveillance of HAI – Infection control team & Infection control committee		
II	3	4 (L)	Demonstrate appropriate use of different types of PPEs and the critical use of risk assessment	**Isolation Precautions and use of Personal Protective Equipment (PPE)** • Types of isolation system, standard precaution and transmission-based precautions (Direct Contact, Droplet, Indirect) • Epidemiology & Infection prevention – CDC guidelines • Effective use of PPE	• Lecture • Demonstration & Re-demonstration	• Performance assessment • OSCE
III	1	2 (L)	Demonstrate the hand hygiene practice and its effectiveness on infection control	**Hand Hygiene** • Types of Hand hygiene. • Hand washing and use of alcohol hand rub • Moments of Hand Hygiene • WHO hand hygiene promotion	• Lecture • Demonstration & Re-demonstration	• Performance assessment
IV	1	2 (E)	Illustrates disinfection and sterilization in the healthcare setting	**Disinfection and sterilization** • Definitions • Types of disinfection and sterilization • Environment cleaning • Equipment Cleaning • Guides on use of disinfectants • Spaulding's principle	• Lecture • Discussion • Experiential learning through visit	• Short answer • Objective type
V	1		Illustrate on what, when, how, why specimens are collected to optimize the diagnosis for treatment and management.	**Specimen Collection (Review)** • Principle of specimen collection • Types of specimens • Collection techniques and special considerations • Appropriate containers • Transportation of the sample • Staff precautions in handling specimens	• Discussion	• Knowledge evaluation • Quiz • Performance assessment • Checklist
VI	2	2 (E)	Explain on Bio Medical waste management & laundry management	**BMW (Bio Medical Waste Management)** *Laundry management process and infection control and prevention*	• Discussion • Demonstration • Experiential learning through	• Knowledge assessment by short answers, objective type • Performance

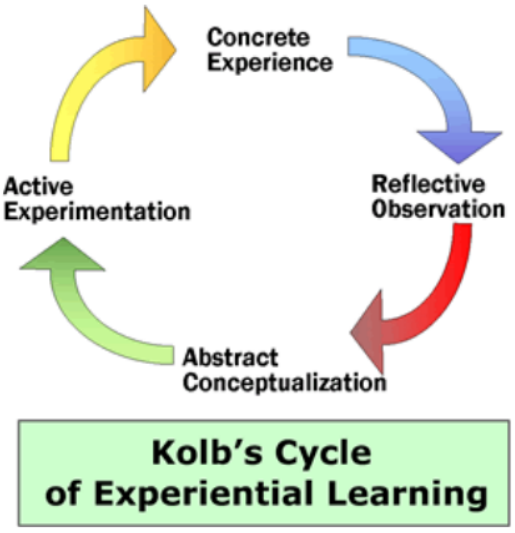
Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
				• Waste management process and infection prevention • Staff precautions • Laundry management • Country ordinance and BMW National guidelines 2017: Segregation of wastes, Colour coded waste containers, waste collection & storage, Packaging & labeling, Transportation	visit	Assessment
VII	2		Explain in detail about Antibiotic stewardship, AMR Describe MRSA/ MDRO and its prevention	**Antibiotic stewardship** • Importance of Antibiotic Stewardship • Anti-Microbial Resistance • Prevention of MRSA, MDRO in healthcare setting	• Lecture • Discussion • Written assignment –Recent AMR (Antimicrobial resistance) guidelines	• Short answer • Objective type • Assessment of assignment
VIII	3	5 (L/E)	Enlist the patient safety indicators followed in a health care organization and the role of nurse in the patient safety audit process Captures and analyzes incidents and events for quality improvement	**Patient Safety Indicators** • Care of Vulnerable patients • Prevention of Iatrogenic injury • Care of lines, drains and tubing's • Restrain policy and care – Physical and Chemical • Blood & blood transfusion policy • Prevention of IV Complication • Prevention of Fall • Prevention of DVT • Shifting and transporting of patients • Surgical safety • Care coordination event related to medication reconciliation and administration • Prevention of communication errors • Prevention of HAI • Documentation **Incidents and adverse Events** • Capturing of incidents • RCA (Root Cause Analysis) • CAPA (Corrective and Preventive Action) • Report writing	• Lecture • Demonstration • Experiential learning • Lecture	• Knowledge assessment • Performance assessment • Checklist/ OSCE • Knowledge assessment • Short answer

Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
					• Role play • Inquiry Based Learning	• Objective type
IX	1		Enumerate IPSG and application of the goals in the patient care settings.	**IPSG (International Patient safety Goals)** • Identify patient correctly • Improve effective communication • Improve safety of High Alert medication • Ensure safe surgery • Reduce the risk of health care associated infection • Reduce the risk of patient harm resulting from falls • Reduce the harm associated with clinical alarm system	• Lecture • Role play	• Objective type
X	2	3 (L/E)	Enumerate the various safety protocols and its applications	**Safety protocol** • 5S (Sort, Set in order, Shine, Standardize, Sustain) • Radiation safety • Laser safety • Fire safety - Types and classification of fire - Fire alarms - Firefighting equipment • HAZMAT (Hazardous Materials) safety - Types of spill - Spillage management - MSDS (Material Safety Data Sheets) • Environmental safety - Risk assessment - Aspect impact analysis - Maintenance of Temp and Humidity (Department wise) - Audits • Emergency Codes • Role of Nurse in times of disaster	• Lecture • Demonstration/ Experiential learning	• Mock drills • Post tests • Checklist
XI	2		Explain importance of employee safety	**Employee Safety Indicators** • Vaccination • Needle stick injuries (NSI)	• Lecture • Discussion	• Knowledge assessment by short answers,

Unit	Time (Hrs)		Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
	T	P				
			indicators Identify risk of occupational hazards, prevention and post exposure prophylaxis.	prevention • Fall prevention • Radiation safety • Annual health check **Healthcare Worker Immunization Program and management of occupational exposure** • Occupational health ordinance • Vaccination program for healthcare staff • Needle stick injuries and prevention and post exposure prophylaxis	• Lecture method • Journal review	objective type • Short answer

***Experiential Learning:**

Experiential learning is the process by which knowledge iscreated through the process of experience in the clinical field. Knowledge results from the combination of grasping andtransforming experience. (Kolb, 1984). The experiential learning cycle begins with an experience that the student has had, followed by an opportunity to reflect on that experience.Then students may conceptualize and draw conclusions about what they experienced and observed, leading to future actions in which the students experiment with different behaviors. This begins the new cycle as the students have new experiences based on their experimentation. These steps may occur in nearly and order as the learning progresses. As perthe need of the learner, the concrete components and conceptual components can be in different order as they mayrequire a variety of cognitive and affective behaviors.



Kolb's Cycle of Experiential Learning

Bibliography:

1. Alice Corraine Smith, " Microbilogy and pathology" 9th ed., Mosby Co.

2. Bernard D. Davis, Rentap Dalbecco Herman N. Eisen & Harold S. Ginsberg, "Microbiology", 3rd ed, A Harper International edition.

3. Hug L. L Moffet, (1981) "Clinical microbiology", 2nd ed., J. B. Lippincott Co.

4. Macbie and Mecartney, (1980), "Medical microbiology" 13th ed., printed.

5. P. Ananthanarayan and C. K. Jayarm Panikar, "Textbook of microbiology", 8th ed., Orient Longman Company Ltd.

6. Chakravarti Text book of Microbiology.

7. T. Panjratan Text Book of Microbiology in nursing, new central Book agency Calcutta 200

PATHOLOGY - I

PLACEMENT: III SEMESTER

THEORY: 1 Credit (20 hours) (includes lab hours also)

DESCRIPTION: This course is designed to enable students to acquire knowledge of pathology of various disease conditions, understanding of genetics, its role in causation and management of defects and diseases and to apply this knowledge in practice of nursing.

COMPETENCIES: On completion of the course, the students will be able to

1. Apply the knowledge of pathology in understanding the deviations from normal to abnormal pathology.
2. Rationalize the various laboratory investigations in diagnosing pathological disorders.
3. Demonstrate the understanding of the methods of collection of blood, body cavity fluids, urine and feces for varioustests.
4. Apply the knowledge of genetics in understanding the various pathological disorders.
5. Appreciate the various manifestations in patients with diagnosed genetic abnormalities.
6. Rationalize the specific diagnostic tests in the detection of genetic abnormalities.
7. Demonstrate the understanding of various services related to genetics.

COURSE OUTLINE

T – Theory

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
I	8 (T)	Define the common terms used in pathology Identify the deviations from normal to abnormal structure and functions of body system	**Introduction** • Importance of the study of pathology • Definition of terms in pathology • Cell injury: Etiology, pathogenesis of reversible and irreversible cell injury, Necrosis, Gangrene • Cellular adaptations: Atrophy, Hypertrophy, Hyperplasia, Metaplasia, Dysplasia, Apoptosis • Inflammation: ○ Acute inflammation (Vascular and Cellular events, systemic effects of acute inflammation) ○ Chronic inflammation (Granulomatous inflammation, systemic effects of chronic inflammation) • Wound healing • Neoplasia**:** Nomenclature, Normal and Cancer cell, Benign and malignant tumors, Carcinoma in situ, Tumor metastasis: general mechanism, routes of spread and examples of each route • Circulatory disturbances: Thrombosis, embolism, shock • Disturbance of body fluids and electrolytes: Edema, Transudates and Exudates	• Lecture • Discussion • Explain using slides • Explain with clinical scenarios	• Short answer • Objective type
II	5 (T)	Explain pathological changes in disease conditions of various systems	**Special Pathology** **Pathological changes in disease conditions of selected systems:** **1. Respiratory system** • Pulmonary infections: Pneumonia, Lung abscess, pulmonary tuberculosis • Chronic Obstructive Pulmonary Disease: Chronic bronchitis, Emphysema, Bronchial Asthma, Bronchiectasis • Tumors of Lungs **2. Cardio-vascular system** • Atherosclerosis • Ischemia and Infarction. • Rheumatic Heart Disease	• Lecture • Discussion • Explain using slides, X-rays and scans • Visit to pathology lab, endoscopy unit and OT	• Short answer • Objective type

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
			• Infective endocarditis **3. Gastrointestinal tract** • Peptic ulcer disease (Gastric and Duodenal ulcer) • Gastritis-H Pylori infection • Oral mucosa: Oral Leukoplakia, Squamous cell carcinoma • Esophageal cancer • Gastric cancer • Intestinal: Typhoid ulcer, Inflammatory Bowel Disease (Crohn's disease and Ulcerative colitis), Colorectal cancer **4. Liver, Gall Bladder and Pancreas** • Liver: Hepatitis, Amoebic Liver abscess, Cirrhosis of Liver • Gall bladder: Cholecystitis. • Pancreas: Pancreatitis • Tumors of liver, Gall bladder and Pancreas **5. Skeletal system** • Bone: Bone healing, Osteoporosis, Osteomyelitis, Tumors • Joints: Arthritis - Rheumatoid arthritis and Osteoarthritis **6. Endocrine system** • Diabetes Mellitus • Goitre • Carcinoma thyroid		

III	7 (T)	Describe various laboratory tests in assessment and monitoring of disease conditions	**Hematological tests for the diagnosis of blood disorders** • Blood tests: Hemoglobin, White cell and platelet counts, PCV, ESR • Coagulation tests: Bleeding time (BT), Prothrombin time (PT), Activated Partial Prothrombin Time (APTT) • Blood chemistry • Blood bank: ○ Blood grouping and cross matching ○ Blood components ○ Plasmapheresis ○ Transfusion reactions **Note:** Few lab hours can be planned for observation and visits (Less than 1 credit, lab hours are not specified separately)	• Lecture • Discussion • Visit to clinical lab, biochemistry lab and blood bank	• Short answer • Objective type

Bibliography – Pathology

1. Harsh Mohan : Text book of Pathology, IV Edition Jaypee Brothers, New Delhi 2000.
2. Heller : Pathology: Comprehensive Review 1999 Edition.
3. Emanuel Rubin M D, John L Farber : Pathology , III Edition , Lippincott, Philadelphia 1999.
4. Carol Mattson Porth : Pathophisiology ,VII Edition Lippincott Philadelphia 2002.
5. Ramzi S Cotran etal : Robins Pathologic basib of disease, VI Edition, W B Saunders coy USA 1999.
6. JCE Underwood : General and systemic pathology , III Edition, Churchill liuvingstone , Philadelphia 2000.
7. Canjanov and Linder : Anderson's pathology, X Edition , Lippincott , Philadelphia 1996.
8. Vinay Kumar M D etal : Basic Pathology , VI Edition W B Saunders coy USA 1997.
9. Walter F Coulson : Surgical Pathology , II Edition J B Lippincott coy Philadelphia, 1988.
10. Parakrama Chandrasoma : Concise pathology, III Edition, Hall International, USA,1998.
11. Lynne's Gracia, M S & David A Brucker : Diagnostic medical parasitology , III Edition ASM press, Washington'2005.
12. Haber et al : Differential diagnosis in pathology , W B Saunders coy, Philadelphia, 2002.

PHARMACOLOGY - I

PLACEMENT: III SEMESTER

THEORY: 1 Credit (20 hours)

DESCRIPTION: This course is designed to enable students to acquire understanding of Pharmacodynamics,Pharmacokinetics, principles of therapeutics and nursing implications.

COMPETENCIES: On completion of the course, the students will be able to

1. Describe Pharmacodynamics and pharmacokinetics.
2. Review the principles of drug calculation and administration.
3. Explain the commonly used antiseptics and disinfectants.
4. Describe the pharmacology of drugs acting on the GI system.
5. Describe the pharmacology of drugs acting on the respiratory system.
6. Describe drugs used in the treatment of cardiovascular and blood disorders.
7. Explain the drugs used in the treatment of endocrine system disorders.
8. Describe the drugs acting on skin and drugs used to treat communicable diseases.

COURSE OUTLINE

T – Theory

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/Learning Activities	Assessment Methods
I	3 (T)	Describe Pharmacodynamics, Pharmacokinetics, Classification, principles of administration of drugs	**Introduction to Pharmacology** • Definitions & Branches • Nature & Sources of drugs • Dosage Forms and Routes of drug administration • Terminology used • Classification, Abbreviations, Prescription, Drug Calculation, Weights and Measures • *Pharmacodynamics:* Actions, Drug Antagonism, Synergism, Tolerance, Receptors, Therapeutic, adverse, toxic effects, pharmacovigilance • *Pharmacokinetics:* Absorption, Bioavailability, Distribution, Metabolism, Interaction, Excretion • Review: Principles of drug administration and treatment individualization ○ Factors affecting dose, route etc. • Indian Pharmacopoeia: Legal Issues, Drug Laws, Schedule Drugs • Rational Use of Drugs • Principles of Therapeutics	• Lecture cum Discussion • Guided reading and written assignment on schedule K drugs	• Short answer • Objective type • Assessment of assignments
II	1 (T)	Describe antiseptics, and disinfectant & nurse's responsibilities	**Pharmacology of commonly used antiseptics and disinfectants** • Antiseptics and Disinfectants • Composition, action, dosage, route, indications, contraindications, Drug interactions, side effects, adverse effects, toxicity and role of nurse	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type
III	2 (T)	Describe drugs acting on gastro-intestinal system & nurse's responsibilities	**Drugs acting on G.I. system** • Pharmacology of commonly used drugs ○ Emetics and Antiemetics ○ Laxatives and Purgatives ○ Antacids and antipeptic ulcer drugs ○ Anti-diarrhoeals – Fluid and electrolyte therapy, Furazolidone, dicyclomine • Composition, action, dosage, route, indications, contraindications, drug interactions, side effects, adverse effects, toxicity and role of nurse	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/Learning Activities	Assessment Methods
IV	2 (T)	Describe drugs acting on respiratory system & nurse's responsibilities	**Drugs acting on respiratory system** • Pharmacology of commonly used ○ Antiasthmatics – Bronchodilators (Salbutamol inhalers) ○ Decongestants ○ Expectorants, Antitussives and Mucolytics ○ Broncho-constrictors and Antihistamines • Composition, action, dosage, route, indications, contraindications, drug interactions, side effects, adverse effects toxicity and role of nurse	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type
V	4 (T)	Describe drugs used on cardio-vascular system & nurse's responsibilities	**Drugs used in treatment of Cardiovascular system and blood disorders** • Haematinics, & treatment of anemia and antiadrenergics • Cholinergic and anticholinergic • Adrenergic Drugs for CHF & vasodilators • Antianginals • Antiarrhythmics • Antihypertensives • Coagulants & Anticoagulants • Antiplatelets & thrombolytics • Hypolipidemics • Plasma expanders & treatment of shock • Drugs used to treat blood disorders • Composition, action, dosage, route, indications, contraindications, drug interactions, side effects, adverse effects, toxicity and role of nurse	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type
VI	2 (T)	Describe the drugs used in treatment of endocrine system disorders	**Drugs used in treatment of endocrine system disorders** • Insulin & oral hypoglycemics • Thyroid and anti-thyroid drugs • Steroids ○ Corticosteroids ○ Anabolic steroids • Calcitonin, parathormone, vitamin D3, calcium metabolism ○ Calcium salts	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/Learning Activities	Assessment Methods
VII	1 (T)	Describe drugs used in skin diseases & nurse's responsibilities	**Drugs used in treatment of integumentary system** • Antihistaminics and antipruritics • Topical applications for skin- Benzylbenzoate, Gamma BHC, Clotrimazole, Miconazole, Silver Sulphadiazine (burns) • Composition, action, dosage, route, indications, contraindications, drug interactions, side effects, adverse effects toxicity and role of nurse	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type
VIII	5 (T)	Explain drug therapy/ chemotherapy of specific infections & infestations & nurse's responsibilities	**Drugs used in treatment of communicable diseases (common infections, infestations)** • General Principles for use of Antimicrobials • Pharmacology of commonly used drugs: o Penicillin, Cephalosporin's, Aminoglycosides, Macrolide & broad spectrum antibiotics, Sulfonamides, quinolones, Misc. antimicrobials • Anaerobic infections • Antitubercular drugs, • Antileprosy drugs • Antimalarials • Antiretroviral drugs • Antiviral agents • Antihelminthics, Antiscabies agents • Antifungal agents • Composition, action, dosage, route, indications, contraindications, Drug interactions, side effects, adverse effects, toxicity and role of nurse	• Lecture cum Discussion • Drug study/ presentation	• Short answer • Objective type

Bibliography: (Pharmacology)

1. Satoskar, Bhandarkar, Ainapure: Pharmacology and pharmacotherapeutics, 18 Edition Popular Prakashan Mumbai.

2. M M Das: Pharmacology, Books & Allied (p) Ltd, 4 Edition 2001.

3. Linda, Skidmore Roth: Mosby's 2000 Nursing Drug Reference, Mosby Inc, Harcourt Health Sciences Company, Missouri 2000.

4. Ramesh Karmegan: First aid to Pharmacology for undergraduates, Paras Medical publishers, Hyderabad, India, 1 Edition 2003.

5. K D Tripathi: Essentials of medical pharmacology, 4 Edition, Jaypee Brothers, Bangalore.

6. Govoni & Hayes: Drugs and nursing implications, 8 Edition, Appleton & Lange Newyork.

7. Rodman & Smith: Clinical pharmacology in nursing, 2 Edition, J B Lippincott company, Philadelphia.

8. Richard A Lehne : Pharmacology for nursing care , 3 Edition ,W B S aunderers company , Philadelphia, 1990.

9. Lalit Mishra: Drug Today, Vol 12, No 12, Lorina publications Inc. Delhi 2004