DR D.Y. PATIL DEEMED UNIVERSITY
COLLEGE OF NURSING
PIMPRI, PUNE-18

Subject: Pharmacology
Second Year B. Sc. Nursing
Faculty: Department of Pharmacology, Dr D.Y.Patil Medical College.

UNIT	TOPIC	No of lectures	Lecture Serial No
UNIT-I Pharmacodynamics, pharmacokinetics, classification and the principles of drug administration 2 Hours	* Introduction to Pharmacology, Definitions, Sources, Terminology used *Types: Classification, Pharmaco-dynamics: Actions, therapeutic, Adverse, toxic * Pharmacokinetics: Absorption, distribution, metabolism, interaction, excretion * Review: Routes and principles of administration of drugs * Indian pharmacopoeia: Legal issues Storage of various drugs, Calculation of drug dosage, Rational use of drugs, Principles of therapeutics	1 1	1 2
UNIT-II Chemotherapy, Pharmacology of commonly used drugs 5 Hours	* Chemotherapy, Pharmacology of commonly used drugs Penicillin,infections, Cephalosporins and Aminoglycosides infestations, Macrolide & Broad Spectrum and nurse's responsibilities * Antibiotics: Sulfonamides, Quinolones, Antiamoebic, Antimalarials, Antihelmintics, * Antiscabies agents, Antiviral & Antifungal agents, Antitubercular drugs, Antileprosy drugs, * Anticancer drugs, Immuno-suppressants, Composition, action, dosage, route,indications, contraindications, drug interactions, side effects, adverse, effects, toxicity & role of nurse.	1 1 1 1 1	3 4 5 6 7
UNIT-III Pharmacology of commonly used antiseptics,anitiseptics, disinfectants and	* Pharmacology of commonly used antiseptics, anitiseptics, disinfectants and disinfectants, insecticides, * Antiseptics: Composition, and Nurse's action, dosage, route,responsibilitiindications, contraindications,drug interactions, side-effects,	1 1	8 9

disinfectants, insecticides 2 Hours	adverse effects, toxicity, and role of nurse * Disinfectants, Insecticides		
UNIT-IV Drugs acting on G I System 2 Hours	* Drugs acting Pharmacology of commonly used gastro- system and nurse's responsibilities * Antiemetics, intestinal, Emetics,Purgatives, Antacids, Cholinergic, Anticholinergics,Fluid and Electrolyte therapy, Antidiarrhoeals, Histamines, Composition, action, dosage, route, ndications, contraindications, drug	1 1	10 11
UNIT-V Drugs acting on G I System 2 Hours	* Drugs acting Pharmacology of commonly used gastro- system and nurse's responsibilities * Antiemetics, intestinal, Emetics,Purgatives, Antacids, Cholinergic, Anticholinergics,Fluid and Electrolyte therapy, Antidiarrhoeals, Histamines, Composition, action, dosage, route, ndications, contraindications, drug	1 1	12 13
UNIT-VI Drugs used on Urinary System 2 Hours	*Pharmacology of commonly used on Urinary, Diuretics and Antidiuretics systems and Urinary antiseptics,nurse's responsibilities * Cholinergics and anticholinergics, Acidifiers and alkalanizers- Composition, action, dosage, route,indications, contraindications, drug interactions, side effects, adverse effects, toxicity & role of nurse.	1 1	14 15
UNIT-VII Miscellaneous Drugs 3 Hours	* Drugs used in deaddiction, * Drugs used in CPR & emergency, deficiency of Vitamins and minerals vitamins * Immunosuppressants, minerals, Antidotes positioning, for Antivenom immunization and Vaccines and Sera immunosuppression and nurse's responsibilities	1 1 1	16 17 18
UNIT-VIII Drugs used on skin and mucus And membranes 1 Hours	* Topical applications for skin, eye,membranes andear, nose, and buccal cavity nurse's responsibilities * Antipruritics Composition, action, dosage, route, indications, contraindications, drug interactions, side effects, adverse effects, toxicity & role of nurse.	1	19

UNIT-IX Drugs acting on Nervous System 5 Hours	* Drugs used on NervousBasic & applied pharmacology of system and commonly used: nurse's responsibilities * Analgesics & Anesthetics Nonsteroidal anti-inflammatory (NSAID) drugs, Antipyretics, Hypnotics and sedatives, Opioids, Non opioids, * Tranquilizers, General & local anaesthetics, Gases – Oxygen, nitrous oxide, Carbon dioxide * Cholinergic & anticholinergics: Muscle relaxants, Major tranquilizers, Anti psychotics, Antidepressants, Anticonvulsants, Adrenergics, Noradrenergics, Mood stabilizers, Acetylcholine * Stimulants,Composition, action, dosage, route, indications, contraindications, drug interactions, side effects, adverse effects, toxicity & role of nurse.	1 1 1 1 1	20 21 22 23 24
UNIT-X Drugs used on Cardiovascular system and nurse's responsibilities 4 Hours	* Cardiovascular Drugs,Haematinics, Cardiotonics, Anti anginals, Antihypertensives & Vasodilators * Anti-arrhythmics, Plasma expanders,Coagulants & anticoagulants, * Antiplatelets & thrombolytics, Hypolipidemics Composition, action, dosage, route, indications, contraindications, drug interactions, side effects, adverse effects, toxicity & role of nurse.	1 1 2	25 26 28
UNIT-XI Describe drugs used for hormonal disorders and supplementation, contraception and medical termination of pregnancy and nurse's responsibilities 3 Hours	* Insulin & Oral hypoglycemics,Thyroid supplements & suppressants, Steroids,Anabolics * Uterine stimulants & relaxants , Oral contraceptives, Other estrogen –progestrone preparations, Corticotrophine & Gonadotropines * Adrenaline,Prostaglandins, Calcitonins,Calcium salts, Calcium regulators,Composition, action, dosage,route, indications,contraindications, drug interactions, side effects, adverse effects, toxicity & role of nurse	1 1 1	29 30 31
UNIT-XII Demonstrate awareness of the	* Introduction to drugs used in alternative system of medicine - Ayurveda, Homeopathy, Unani and Siddha etc	2 2	33 35

common drugs used in alternative system of medicine 4 Hours			

UNIT	TOPIC	No of lectures	Lecture Serial No
LAB—10 Hours	Administration of medications-oral Administration of medications – Subcutaneous, intramuscular and intravenous injections	2 4 4	2 6 10

REFERENCES 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.

PATHOLOGY

Subject: Pathology
Second Year B. Sc. Nursing
Faculty: Department of Pathology, Dr D.Y.Patil Medical College

UNIT	TOPIC	No of lectures	Lecture Serial No
UNIT-I 1.Define the common terms used in pathology 2.Appreciate the deviations from normal to abnormal structure and functions of the body system 3 Hours	**General Pathology** o Introduction to pathology o Review of cell and tissues • Definition of terms • Methods & techniques • Cellular & tissue changes • Infiltration and regeneration • Inflammations and infections • Wound healing and repair o Nature of injuries, adaptive responses, reversible & irreversible cell injury o Cell accumulations Vascular changes Cellular growth and neoplasms • Normal and cancer cell • Benign and malignant growths • In situ carcinoma Disturbances of fluid and electrolyte balance, role of nurse	1 1 1	1 2 3
UNIT-II Explain pathological changes in disease conditions of various systems 13 Hours	**Systemic Pathology** • Pathological changes in disease conditions of various systems: • Respiratory tract □ Tuberculosis, Bronchitis, □ Pleural effusion & Pneumonia □ Lung abscess, emphysema, bronchiectasis □ Bronchial asthma, chronic obstructive pulmonary disease and tumours. • Cardiovascular system □ Pericardial effusion □ Rheumatic heart disease □ Infective endocarditis, atherosclerosis	1 1 1 1 1 1 1	4 5 6 7 8 9 10

	□ Ischemia, infarction & aneurism • Gastointestinal tract □ Peptic ulcer, Typhoid □ Carcinoma of GI tract – buccal, esophageal, gastric and intestinal • Liver, Gall bladder & pancreas □ Hepatitis, chronic liver abscess, Cirrhosis □ Tumours of liver, gall bladder and pancreas □ Cholecystitis • Kidneys & Urinary tract □ Glomerulonephritis, pyelonephritis □ Calculi, Renal failure, Renal carcinoma & Cystitis □ Diabetes Mellitus • Male genital system □ Cryptorchidism, testicularAtrophy □ Prostatic hyperplasia, Carcinoma penis & prostate • Female genital system □ Fibroids □ Carcinoma cervix & endometrium □ Vesicular mole, choriocarcinoma □ Ectopic gestation □ Ovarian cyst & tumours • Cancer breast • Central Nervous System □ Vascular disorders – thrombosis, embolism □ Stroke, paraplegia, quadriplegia □ Tumours, meningiomas- gliomas • Metastatic tumour • Skeletal system □ Bone healing, osteoporosis, osteomyelitis • Arthritis and tumours	1 1 1 1 1 1	11 12 13 14 15 16
UNIT-III Laboratory test in assessment And monitoring of disease conditions 4 Hours	**Haematology & Pathology** • Various blood and bone marrow tests in assessment and monitoring of disease conditions □ Hemoglobin □ RBC, white cells & platelet Counts □ Bleeding time, clotting time and prothrombin time □ Blood grouping and cross matching	 1 1	 17 18

	□ Blood chemistry □ Blood culture □ Serological and immunological tests □ Other blood tests □ Examination of bone marrow □ Methods of collection of blood specimen for various clinical pathology, biochemistry, microbiological tests, inference and normal values o Nurse's role in collection and dispatch of various samples for laboratory tests. o Universal safety precautions Arthritis and tumours	1 1	19 20
UNIT-IV Laboratory tests for examination of body cavity fluids,transudates and exudates 2 Hours Laboratory test in assessment and monitoring of disease conditions	**Examination of body cavity fluids, transudates and exudates** • The laboratory tests used in CSF analysis • Examination of other body cavity fluids, transudates and exudatessputum, wound discharge etc. • Analysis of gastric and duodenal contents • Analysis of semen- sperm count, motility and morphology and their importance in infertility • Methods of collection of CSF and other cavity fluids specimen for various clinical pathology,biochemistry, microbiology tests,inference and normal values. • Nurse's role in assisting and preparing the patient for these diagnostic tests	1 1	21 22
UNIT-V Describe the laboratory tests for examinatio n of Urine and Faeces 1 Hour	**Urine & Faeces** • Urine □ Physical characteristics □ Analysis □ Culture and sensitivity • Characteristics □ Characteristics □ Stool examination: occult blood, ova, parasite and cyst, reducing substance etc. • Methods of collection for various tests, inference and normal value	1	23

LAB-7 Hours	Museum specimens of, o Respiratory disorders o Tuberculosis o Cardiovascular disorders-IE, RHD, Hypertension, MI o Ulcers of GIT o Hepatobiliary disorders o Renal diseases o Female genital tract	2 2 2 1	2 4 6 7

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.

GENETICS

Subject:Genetics
Second Year B. Sc. Nursing
Faculty: Department of Genetics, MUHS Regional Centre, Aundh, Pune

UNIT	TOPIC	No of lectures	Lecture Serial No
UNIT-I Explain nature, Principles and perspectives of heredity 3 Hours	**Introduction** • Practical application of genetics in Nursing • Impact of genetic condition on families • Review of cellular division mitosis and meiosis • Characteristics and structure of genes • Chromosomes – sex determination • Chromosomal aberrations pattern of inheritance □ Mendalian theory of inheritance □ Multiple allots and blood groups □ Sex linked inheritance □ Mechanism of inheritance □ Errors in transmission (Mutation)	1 1 1	1 2 3
UNIT-II Explain maternal, prenatal and genetic influences on development of defects and diseases 3Hours	**Maternal, prenatal and genetic influences on development of defects and diseases** □ Conditions affecting the mother: genetic and infections □ Consanguinity atopy □ Prenatal nutrition and food allergies □ Maternal age □ Maternal drug therapy □ Prenatal testing and diagnosis	1 1	4 5

	□ Effect of radiation, drugs and chemicals □ Infertility □ Spontaneous abortion □ Neural tube defects and the role of folic acid in lowering the risks □ Down syndrome (Trisomy21)	1	6
UNIT-III Explain the screening methods for genetic defects and diseases in neonates and children 2Hours	**Genetic tests in neonates and children** • Screening for □ Karyotype analysis □ Congenital abnormalities □ Developmental delay □ Dysmorphism	2	8
UNIT-IV Identify genetic disorders in adolescents and adults 2Hours	**Genetic conditions of adolescents and adults** • Cancer genetics – Familial cancer • Inborn errors of metabolism • Blood group alleles and hematological disorders • Genetic haemochromatosis • Huntington's disease • Mental illness	2	10
UNIT-V Describe the role of nurse in genetic services and counselling 5Hours	**Services related to Genetics** • Genetic testing • Human genome project • Gene therapy • The Eugenics movement • Genetic counseling • Legal and ethical issues • Role of nurse	1 1 1 1 1	11 12 13 14 15

Bibliography –(Genetics)

1. S Mandal: Fundamentals of Human Genetics II Edition New Central Book Agency, Kolkota 1996

2. S D Gangane : Human Genetics II Edition, Saurabh Printers, Noida.

3. Jorde Carey BamshadWhite : Medical Genetics, Mosby 2003.
4. J A Fraser Roberts : An introduction to medical genetics ,V Edition, Oxford University,1970.
5. Elisabeth F Lanzl : Medical Genetics ,The University of Chicago, USA1961.
6. J Ben Hill , Helen D Hill : Genetics and Human heredity , Mcgeaw hill book company, Newyork 1955.
7. Edmund W Sinnott : Principles of Genetics V Edition Mcgeaw hill book company, Newyork 1950.
8. P C Winter, G I Hickey : Instant notes in genetics , Viva books Pvt Ltd, New Delhi 2000.
9. Ching Chun L : Human Genetics- Principles and methods , Mcgeaw hill book company, Newyork 1961.
10. Mary B Mahowald , et al : Genetics in the clinic, Mosby Philadelphia.2001.
11. Robert F Muller , Ian D Young : Emery's elements of medical genetics , Churchill Livingstone,Philadelphia,2001.
12. Moore, Keith L: Developing Human Clinically oriented Embryology, II Edition, W B Saunders company, Philadelphia 1977
15. Pansky Ban, Review of Medical Embryology. Macmillian Publishing Company, New York 1982.
16.. Smell, Richard S: Clinical Embryology for medical students, Little Brown and Company, Boston,1972.
17 .Langman , Jan :Medical Embryology,William& Wilkins, Baltimore 1973.

EVALUATION SCHEME

Internal Assessment: Maximum Marks 25

Theory: 15 Marks

	Pharmacology	**Pathology and genetics**	**Total Marks**	**Average Out of**
Mid-term	30	20	50	-
Pre-final	40	35	75	-
Total			**125**	15

(125 Marks to be converted in to 15 Marks for Internal Assessment (Theory))

Assignments: Two

a) Pharmacology – Drug Study / Drug Presentation 25 Marks

b) Pathology - Preparation of Patient for diagnostic Test 25 Marks

Total: 50 Marks

(50 Marks to be converted in to 10 Marks for Internal Assessment (Assignments))

External assessment:

University Examination (Theory) 75 Marks