

GOVT POLLTECHNIC ROHRU DISTT. SHIMLA (HP)
DEPARTMENT OF D. PHARMACY

BRANCH/SEMESTER: D PHARMACY

SUBJECT: BIOCHEMISTRY AND CLINICAL PATHOLOGY

TEACHER: Manoj Shukla

YEAR- 2ND YEAR

PROPOSED COURSE PLAN: AS NOTIFIED BY PHARMACY COUNCIL OF INDIA

PERIOD:

Prepared Weak	Topic	Instruction Reference	Activity	TOTAL Learning Outcomes
1st WEAK	Introduction to biochemistry. Scope of biochemistry in pharmacy Cell and its biochemical organization	Dr r Nivasan. Ajay Pal Singh	Explain Biochemistry	Understand biochemistry
2nd Weak	Carbohydrates Definition, classification with examples, chemical properties	DO	Explain CARBOHYDRATE S	UNDERSTAND CARBOHYDRATES
3rd WEAK	Monosaccharides-Structure of glucose, fructose, and galactose	DO	Explain CARBOHYDRATE S	UNDERSTAND CARBOHYDRATES
4th WEAK	Disaccharides sucrose Polysaccharides chemical nature of starch and Qualitative tests and biological role of carbohydrates	DO	Explain CARBOHYDRATE S	UNDERSTAND CARBOHYDRATES
5th WEAK	Proteins Definition, classification of proteins based on	DO	EXPLAIN PROTEIN	UNDERSTAND PROTEIN
6th WEAK	Definition classification of amino acids based on chemical nature and nutritional requirements with	DO	EXPLAIN PROTEIN	UNDERSTAND PROTEIN
7th WEAK	Qualitative tests and biological role of proteins amino acids Diseases related to metabolism of proteins	DO	EXPLAIN AMINO ACID	UNDERSTAND AMINO ACIDS
8th WEAK	Lipids Definition, classification with examples . Structure and properties of triglycerides (oils and fats) . Structure and functions of cholesterol in	DO	EXPLAIN LIPIDS	UNDERSTAND LIPIDS

9th WEAK	the body . Lipoproteins-types composition and functions in the body . Qualitative tests and functions of lipids	DO	EXPLAIN LIPIDS	UNDERSTAND LIPIDS
10th WEAK	Nucleic acids Definition, purine and pyrimidine bases Components of nucleosides and nucleotides with	DO	EXPLAIN NUCLEIC ACIDS	UNDERSTAND NUCLEIC ACIDS
11th WEAK	. Structure of DNA (Watson and Crick model), RNA and their function Enzymes	DO	EXPLAIN STRUCTURE OF DNA	UNDERSTAND STRUCTURE OF DNA
12th WEAK	Enzymes Definition, properties and RB and MB classification Factors affecting enzyme activity	DO	EXPLAIN ENZYMES	understand ENZYMES
13th WEAK	Vitamins • Definition and classification with examples	DO	EXPLAIN Vitamins	UNDERSTAND Vitamins
14th WEAK	Sources chemical nature, functions, coenzyme form recommended dietary requirements deficiency diseases of fat-and water-soluble vitamin	DO	EXPLAIN Vitamins	UNDERSTAND VITAMINS
15th WEAK	Metabolism (study of cycle pathways without chemical structures) Metabolism of Carbohydrates Glycolysis TCA cycle and glycogen metabolism, regulation of blood	DO	EXPLAIN Metabolism	UNDERSTAND Metabolism
16th WEAK	Metabolism of lipids: Lipolysis, β -oxidation of Fatty acid (Palmitic acid) ketogenesis and ketolysis. Diseases related to abnormal metabolism of lipids such as Ketoacidosis,	DO	EXPLAIN Metabolism	UNDERSTAND Metabolism
17th WEAK	Diseases related to abnormal metabolism of amino acids, Disorders of ammonia metabolism, phenylketonuria, alkaptonuria and Jaundice. Biological oxidation: Electron	DO	EXPLAIN Metabolism	UNDERSTAND Metabolism
18th WEAK	Minerals: Types, recommended dietary requirements Functions, Deficiency .Water and Electrolytes Distribution, functions of water in the body	DO	EXPLAIN Minerals	UNDERSTAND • Minerals
19th WEAK	Introduction to Biotechnology	DO	EXPLAIN • Biotechnology	UNDERSTAND • Biotechnology

20th WEAK	Organ function tests Functions of kidney and routinely performed tests to assess the functions of kidney and their clinical significances	DO	EXPLAIN • Organ function test	UNDERSTAND • Organ function test
21th WEAK	Functions of liver and routinely performed tests to assess the functions of liver and their clinical significances	DO	EXPLAIN • Functions of liver	UNDERSTAND • Functions of liver
22th WEAK	Lipid profile tests and its clinical significances	DO	EXPLAIN Lipid profile tests	UNDERSTAND Lipid profile tests
23th WEAK	Introduction to Pathology of Blood and Urine	DO	EXPLAIN Introduction to Pathology	UNDERSTAND Introduction to Pathology
24th WEAK	Lymphocytes and Platelets, their role in health and disease Erythrocytes - Abnormal cells and their significance	DO	EXPLAIN Lymphocytes and Platelets	UNDERSTAND Lymphocytes and Platelets
25th WEAK	Normal and Abnormal constituents of Urine and significance.	DO	EXPLAIN Lymphocytes and Platelets	UNDERSTAND Lymphocytes and Platelets

SIGNATURE OF TEACHER:

DATE:

1. 8 2025

APPROVED

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DATE



PRINCIPAL
GOVT. POLYTECHNIC, ROHRU
DISTT. SHIMLA



GOVT POLYTECHNIC ROHRU DISTT. SHIMLA (HP)
DEPARTMENT OF D. PHARMACY

BRANCH/SEMESTER: D PHARMACY

TEACHER: MANOJ KUMAR

SUBJECT: PHARMACEUTICS-1

YEAR- 1st YEAR

PROPOSED COURSE PLAN: AS NOTIFIED BY PHARMACY COUNCIL OF INDIA




PERIOD:

TOTAL

Prepared Week	Topic	Instruction Reference	Activity	Learning Outcomes
1st WEAK	History of the profession of Pharmacy in India in relation to Pharmacy education, industry, pharmacy practice, and various professional associations.	Amit Chawla R M Mehta *P V KASTURE *S P AGGARWAL	EXPLAIN PROFFESION OF PHARMAC	KNOW ABOUT THE PROFFESION OF PHARMACY
2nd Weak	Pharmacy as a career Pharmacopoeia: Introduction to IP, BP, USP. NF and Extra Pharmacopoeia. Salient features of Indian	DO	EXPLAIN PHARMAC OPOEIA	UNDERSTAND PHARMACOPOE IA
3rd WEAK	Pharmacopoeia, Packaging materials: Types, selection criteria advantages and disadvantages of glass, plastic	DO	EXPLAIN PACKAGIN G	UNDERSTAND PACKAGING
4th WEAK	plastic, metal, rubber as packaging materials , Pharmaceutical aids: Organoleptic (Colouring, flavouring, and sweetening) agents	DO	EXPLAIN PHARMAC EUTICA AIDS	UNDERSTAND PHARMACEUTIC AL AIDS
5th WEAK	Preservatives: Definition, types with examples and uses. Unit operations: Definition, objectives/applications, principles, construction and workings of:	DO	EXPLAIN PRESERVA TIVES	UNDERSTAND PRESERVATIVES
6th WEAK	Size reduction: hammer mill and ball mill Size separation: Classification powder according to IP	DO	EXPLAIN SIZE SEPARATI ONS	UNDERSTAND SIZE SEPARATION
7th WEAK	Cyclone separator, Sieves and standards of sieves	DO	EXPLAIN SEPARATO RS	UNDERSTAND SEPARATORS
8th WEAK	Mixing: Double cone blender, Turbine mixer, Triple rollermill and Silverson mixer homogenizer	DO	PLAIN MIXII	UNDERSTAND MIXING

9th WEAK	Filtration: Theory of filtration, membrane filter and sintered glass filter .	DO	EXPLAIN FILTRATION	UNDERSTAND FILTRATION
10th WEAK	Drying: working of fluidized bed dryer and process of freeze drying	DO	EXPLAIN DRYING	UNDERSTAND DRYING
11th WEAK	Extraction: Definition, Classification, method and applications.	DO	EXPLAIN EXTRACTION	UNDERSTAND EXTRACTION
12th WEAK	Tablets-coated and uncoated tablets	DO	PLAIN TABLETS	UNDERSTAND TABLETS
13th WEAK	various modified tablets (sustained release, extended-release, fast dissolving double layered) Capsules hard and soft gelatin capsules	DO	EXPLAIN MODIFICATION OF TABLETS	UNDERSTAND MODIFICATION OF TABLETS
14th WEAK	Liquid oral preparations solution, syrup, elixir, emulsion suspension, dry powder for reconstitution,	DO	EXPLAIN PREPARATIONS OF LIQUIDS	UNDERSTAND PREPARATIONS OF LIQUIDS
15th WEAK	Topical preparations - ointments, creams, pastes, gels liniments and lotions	DO	EXPLAIN TOPICAL PREPARATIONS	UNDERSTAND TOPICAL PREPARATIONS
16th WEAK	suppositories and pessaries Nasal preparations, Ear preparations , Powders and granules -	DO	EXPLAIN TOPICAL PREPARATIONS	UNDERSTAND TOPICAL PREPARATIONS
17th WEAK	Insufflations, dusting powders, effervescent powders and effervescent granules	DO	EXPLAIN POWDERS	UNDERSTAND POWDERS
18th WEAK	Sterile formulations - Injectables, eye drops and eye ointments	DO	EXPLAIN STERILE FORMULATIONS	UNDERSTAND STERILE FORMULATIONS
19th WEAK	Immunological products: Sera, vaccines, toxoids and their manufacturing method.	DO	EXPLAIN IMMUNOLOGICAL PRODUCTS	UNDERSTAND IMMUNOLOGICAL PRODUCTS
	Basic structure, layout, sections and activities of		EXPLAIN	UNDERSTAND

20th WEAK	pharmaceutical manufacturing plants	DO	PHARMAC EUTICAL MANUFAC	PHARMACEUTIC AL MANUFACTURI
21th WEAK	Quality control and quality assurance	DO	EXPLAIN QUALITY CONTROL AND	UNDERSTAND QUALITY CONTROL AND
22th WEAK	Definition and concepts of quality control & quality assurance, current good manufacturing practice (cGMP)	DO	EXPLAIN CGMP	UNDERSTAND CGMP
23th WEAK	INTRODUCTION TO CONCEPT OF CALIBRATION \$VALIDATION	DO	EXPLAIN CALIBRATI ON AND VALIDATIO	UNDERSTAND CALIBRATION AND VALIDATION
24th WEAK	Novel drug delivery systems: Introduction	DO	EXPLAIN NOVEL DRUG DELIVERY	UNDERSTAND NOVEL DRUG DELIVERY SYSTEM
25th WEAK	Classification with examples, advantages and challeng	DO	EXPLAIN NOVEL DRUG DELIVERY	UNDERSTAND NOVEL DRUG DELIVERY SYSTEM

DATE: 1. 8. 2025	SIGNATURE OF TECHER 	
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	DATE	
PRINCIPAL GOVT. POLYTECHNIC, ROHRU DISTT. SHIMLA 		

GOVT POLYTECHNIC ROHRU DISTT. SHIMLA (HP)
DEPARTMENT OF D. PHARMACY

BRANCH/SEMESTER: D PHARMACY

SUBJECT: COMMUNITY PHARMACY

PROPOSED COURSE PLAN: AS NOTIFIED BY PHARMACY COUNCIL OF INDIA

TEACHER: Manoj Shukla

YEAR- 2nd YEAR

PERIOD:

Prepared Week	Topic	Instruction Reference	TOTAL LECTURE	
			Activity	Learning Outcomes
1st WEAK	community pharmacy practice- definition, history, and development of community pharmacy. International and Indian scenarios		Explain community pharmacy	Understand community pharmacy
2nd Weak	professional responsibilities of community pharmacist intro to the concept of community pharmacy practice and SOPs.	DO	Explain PROFESSIONAL RESPONSIBILITIES OF PHARMACISTS	UNDERSTAND PROFESSIONAL RESPONSIBILITIES OF PHARMACISTS
3rd WEAK	PRESCRIPTION AND PRESCRIPTION HEADING - DEFINITION, PART of prescriptions, legality of prescriptions, <u>prescription handling, labelling of dispensed</u>	DO	EXPLAIN PRESCRIPTION AND PRESCRIPTION HEADING	UNDERSTAND PRESCRIPTION AND PRESCRIPTION HEADING
4th WEAK	Main label, ancillary label, pictograms), brief instructions on medication usage	DO	EXPLAIN PRESCRIPTION AND PRESCRIPTION HEADING	UNDERSTAND PRESCRIPTION AND PRESCRIPTION HEADING
5th WEAK	• Dispensing process, Good Dispensing Practices, dispensing errors and strategies to minimize them	DO	EXPLAIN PRESCRIPTION AND PRESCRIPTION HEADING	UNDERSTAND PRESCRIPTION AND PRESCRIPTION HEADING
6th WEAK	Communication skills .. Definition, types of Communication skills	DO	EXPLAIN Communication skills	UNDERSTAND Communication skills
7th WEAK	Interactions with professionals and patients • Verbal communication skills (one-to-one over the telephone) <u>Written communication skills</u>	DO	EXPLAIN Interactions with professionals and patients	UNDERSTAND Interactions with professionals and patients
8th WEAK	Body language • Patient interview techniques Patient counselling • Definition and benefits of patient counselling	DO	EXPLAIN Interactions with professionals and patients	UNDERSTAND Interactions with professionals and patients
9th	Stages of patient counselling - Introduction, counselling content, counselling process, and	DO	EXPLAIN Stages of patient	UNDERSTAND Stages of patient

WEAK	closing the counselling session. Barriers to effective counseling - Types and strategies.	DO	Stages of patient counselling	Stages of patient counselling
10th WEAK	to overcome the barriers . Patient counselling points for chronic diseases/disorders Hypertension, Diabetes, Asthma,	DO	EXPLAIN Interactions with professionals and patients	UNDERSTAND Interactions with professionals and patients
11th WEAK	Tuberculosis, Chronic obstructive pulmonary disease, and AIDS • Patient Package Inserts Definition, importance and benefits, Scenarios of PPI use in India and other countries . Patient Information leaflets - Definition and	DO	EXPLAIN Patient Information leaflet	UNDERSTAND Patient Information leaflet
12th WEAK	Medication Adherence Definition, factors influencing non-adherence, strategies to overcome non-adherence	DO	EXPLAIN Medication Adherence Definition	understand Medication Adherence Definition
13th WEAK	Health Screening Services in Community Pharmacy Introduction, scope, and importance of various	DO	EXPLAIN Health Screening Service	UNDERSTAND Health Screening Service
14th WEAK	services for routine monitoring of patients, early detection, and referral of undiagnosed cases:	DO	EXPLAIN Health Screening Service	UNDERSTAND Health Screening Service
15th WEAK	Over The Counter (OTC) Medications • Definition, need and role of Pharmacists in OTC medication dispensing	DO	EXPLAIN Over The Counter (OTC) Medications	UNDERSTAND Over The Counter (OTC) Medications
16th WEAK	OTC medications in India, counseling for OTC products Self-medication and role of pharmacists in promoting the safe practices during self-medication	DO	EXPLAIN OTC medications in India	UNDERSTAND OTC medications in India
17th WEAK	Responding to symptoms, minor ailments, and advice for self-care in conditions such as Pain management, Cough.	DO	EXPLAIN OTC medications in India	UNDERSTAND OTC medications in India
18th WEAK	Cold, Diarrhea, Constipation, Vomiting, Fever, Sore throat, Skin disorders, Oral health (mouth ulcers, dental pain, gum swelling).	DO	EXPLAIN OTC medications in India	UNDERSTAND OTC medications in India
19th WEAK	Community Pharmacy Management	DO	EXPLAIN Community Pharmacy Management	UNDERSTAND Community Pharmacy Management
20th WEAK	Legal requirements to set up a community pharmacy. . Site selection requirements • Pharmacy designs and interiors	DO	EXPLAIN • Pharmacy designs and interiors	UNDERSTAND • Pharmacy designs and interiors



21th WEAK	• Vendor selection and ordering • Procurement, inventory control methods, and inventory.	DO	EXPLAIN • Vendor selection and ordering	UNDERSTAND • Vendor selection and ordering
22th WEAK	management • Financial planning and management • Accountancy in community pharmacy - Day book, Cash book	DO	EXPLAIN management	UNDERSTAND MANAGEMENT
23th WEAK	Introduction to pharmacy operation softwares - usefulness and availability.	DO	EXPLAIN management	UNDERSTAND MANAGEMENT
24th WEAK	Customer Relation Management (CRM) • Audits in Pharmacies	DO	EXPLAIN management	UNDERSTAND MANAGEMENT
25th WEAK	SOP of Pharmacy Management Introduction to Digital Health, mHealth and Online . Pharmacies	DO	EXPLAIN management	UNDERSTAND MANAGEMENT

DATE:

1. 8. 2025

SIGNATURE OF TEACHER:



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	DATE		
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GOVT POLYTECHNIC ROHRU DISTT. SHIMLA (HP)
DEPARTMENT OF D. PHARMACY

BRANCH/SEMESTER: D PHARMACY

TEACHER: SHASHI KUMAR

SUBJECT: PHARMACOGONOSY

YEAR- 1st YEAR

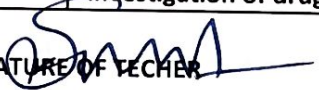


PROPOSED COURSE PLAN: AS NOTIFIED BY PHARMACY COUNCIL OF INDIA

TOTAL LECTURE PLANNED-75

PERIOD:

Prepared Week	Topic	Instruction Reference	Activity	Learning Outcomes
1st WEAK	Definition, history Of pharmacogonosy	CK.KOKATE	EXPLAIN Pharmacogonosy	KNOW ABOUT THE PHARMACOGONOSY
2nd Weak	Present status and scope of Pharmacognosy	DO	EXPLAIN Pharmacogonosy	KNOW ABOUT THE PHARMACOGONOSY
3rd WEAK	Classification of drugs: Alphabetical Taxonomical Morphological	DO	EXPLAIN Classification of drugs	UNDERSTAND Classification of drugs
4th WEAK	Classification of drugs: Pharmacological ,Chemical Chemo-taxonomical	DO	EXPLAIN Classification of drugs	UNDERSTAND Classification of drugs
5th WEAK	Quality control of crude drugs	DO	EXPLAIN crude drugs	UNDERSTAND crude drugs
6th	Different methods of adulteration of crude drugs	DO	EXPLAIN	UNDERSTAND

WEAK		DO	crude drugs	crude drugs
7th WEAK	Evolution of crude drugs	DO	EXPLAIN Evolution of crude drugs	UNDERSTAND Evolution of crude drugs
8th WEAK	Brief outline of occurrence, distribution, isolation, identification tests, therapeutic activity and pharmaceutical applications of alkaloids, terpenoids, glycosides.	DO	EXPLAIN alkaloids, terpenoids, glycosides	UNDERSTAND alkaloids, terpenoids, glycosides
9th WEAK	Brief outline of occurrence, distribution, isolation, identification tests, therapeutic activity and pharmaceutical applications of volatile Oils, tannins and resins:	DO	EXPLAIN volatile Oils, tannins and resins:	UNDERSTAND volatile Oils, tannins and resins:
10th WEAK	Biological source, chemical constituents and therapeutic efficacy of the following categories of crude drugs: Laxatives, cardiotonic, carminatives, GI REGULATOR	DO	EXPLAIN crude drugs	UNDERSTAND crude drugs
11th WEAK	Astringents, Drugs acting on nervous system, Anti-hypertensive, Anti-tussive, Anti-rheumatics	DO	EXPLAIN CRUDE DRUGS	UNDERSTAND crude drugs
12th WEAK	Anti-tumour, Antidiabetics, Diuretics, Anti-dysenteric, Antiseptics and disinfectants	DO	EXPLAIN CRUDE DRUGS	UNDERSTAND crude drugs
13th WEAK	Antimalarials, Oxytocic, Vitamins, Enzymes	DO	EXPLAIN CRUDE DRUGS	UNDERSTAND crude drugs
14th WEAK	Pharmaceutical Aids, Miscellaneous	DO	EXPLAIN CRUDE DRUGS	UNDERSTAND crude drugs

WEAK			HERBAL COSMATICS	HERBAL COSMATICS
24TH WEAK	therapeutic and cosmetic uses of: Aloe vera gel, Almond oil, Lavender oil, Olive oil, Rosemary oil, Sandal Wood oil	DO	EXPLAIN therapeutic and cosmetic uses	UNDERSTAND therapeutic and cosmetic uses
25th WEAK	Phytochemical investigation of drugs	DO	EXPLAIN Phytochemical investigation of drugs	UNDERSTAND Phytochemical investigation of drugs
DATE: SIGNATURE OF TEACHER 				
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		DATE 01-07-25		
PRINCIPAL GOVT. POLYTECHNIC, ROHRU DISTT. SHIMLA 				

GOVERNMENT POLYTECHNIC ROHRU
Rohru, DISTT. Shimla (HP) - 171207

DEPARTMENT OF PHARMACY
LESSON PLAN

Academic Year	2025-26
Semester	FIRST YEAR
Course Code	ER20-12T
Subject Title	PHARMACEUTICAL CHEMISTRY
Name of Faculty	MOTI SINGH SHARMA
Semester Start & End Dates	11-08-2025 TO 27-05-2026

STUDY AND EVALUATION SCHEME

Sr. No.	Name of the Subject	Th Pr		Internal Assessment			External Assessment					Total Marks
				Th	Pr	Total	Th	Hrs	Pr	Hrs	Total	
	PHARMACEUTICAL CHEMISTRY	3	3	20	20	40	80	3	80	3	160	200

Subject objectives:-

DAYS	Unit & Topic of Discussion	Topic objectives	Delivery Method
	Part-I: Pharmaceutical Chemistry		
	Unit-1		
DAY 01 TO 08		Introduction to Pharmaceutical chemistry: Scope and objectives Sources and types of errors: Accuracy, precision, significant figures Impurities in Pharmaceuticals: Source and effect of impurities in Pharmacopoeial substances, importance of limit test, Principle and procedures of Limit tests for chlorides, sulphates, iron, heavy metals and arsenic	Chalk & Talk
	Unit-2		
DAY 09 TO 16		Volumetric analysis: Fundamentals of volumetric analysis, Acid-base titration, non-aqueous titration, precipitation titration, complexometric titration, redox titration Gravimetric analysis: Principle and method	Chalk & Talk Chalk & Talk
	Unit-3&4		

DAY 17 TO 25		<p>Inorganic Pharmaceuticals: Pharmaceutical 7 21 Page formulations, market preparations, storage conditions and uses of • Haematinics: Ferrous sulphate, Ferrous fumarate, Ferric ammonium citrate, Ferrous ascorbate, Carbonyl iron • Antacids: Aluminium hydroxide gel, Magnesium hydroxide, Magaldrate, Sodium bicarbonate, Calcium Carbonate • Anti-microbial agents: Silver Nitrate, Ionic Silver, Chlorhexidine Gluconate, Hydrogen peroxide, Boric acid, Bleaching powder, Potassium permanganate • Dental products: Calcium carbonate, Sodium fluoride, Denture cleaners, Denture adhesives, Mouth washes • Medicinal gases: Carbon dioxide, nitrous oxide, oxygen</p> <p>Introduction to nomenclature of organic chemical systems with particular reference to heterocyclic compounds containing up to Three rings</p>	Chalk & Talk Chalk & Talk
	Unit-5		
DAY 26 TO 34		<p>Drugs Acting on Central Nervous System Anaesthetics: Thiopental Sodium*, Ketamine Hydrochloride*, Propofol • Sedatives and Hypnotics: Diazepam*, Alprazolam*, Nitrazepam, Phenobarbital* • Antipsychotics: Chlorpromazine Hydrochloride*, Haloperidol*, Risperidone*, Sulpiride*, Olanzapine, Quetiapine, Lurasidone • Anticonvulsants: Phenytoin*, Carbamazepine*, Clonazepam, Valproic Acid*, Gabapentin*, Topiramate, Vigabatrin, Lamotrigine • Anti-Depressants: Amitriptyline Hydrochloride*, Imipramine Hydrochloride*, Fluoxetine*, Venlafaxine, Duloxetine, Sertraline, Citalopram, Escitalopram, Fluvoxamine, Paroxetine</p>	Chalk & Talk
	Unit-6		
DAY 35 TO 44		<p>Drugs Acting on Autonomic Nervous System • Sympathomimetic Agents: Direct Acting: NorEpinephrine*, Epinephrine, Phenylephrine, Dopamine*, Terbutaline, Salbutamol (Albuterol),</p>	Chalk & Talk

		<p>Naphazoline*, Tetrahydrozoline. Indirect Acting 9 22 Page Agents: Hydroxy Amphetamine, Pseudoephedrine. Agents With Mixed Mechanism: Ephedrine, Metaraminol • Adrenergic Antagonists: Alpha Adrenergic Blockers: Tolazoline, Phentolamine • Phenoxybenzamine, Prazosin. Beta Adrenergic Blockers: Propranolol*, Atenolol*, Carvedilol • Cholinergic Drugs and Related Agents: Direct Acting Agents: Acetylcholine*, Carbachol, And Pilocarpine. Cholinesterase Inhibitors: Neostigmine*, Edrophonium Chloride, Tacrine Hydrochloride, Pralidoxime Chloride, Echothiopate Iodide • Cholinergic Blocking Agents: Atropine Sulphate*, Ipratropium Bromide Synthetic Cholinergic Blocking Agents: Tropicamide, Cyclopentolate Hy</p>	
	Unit-7		
DAY 45 TO 50		<p>Drugs Acting on Cardiovascular System</p> <ul style="list-style-type: none"> • Anti-Arrhythmic Drugs: Quinidine Sulphate, Procainamide Hydrochloride, Verapamil, Phenytoin Sodium*, Lidocaine Hydrochloride, Lorcaidine Hydrochloride, Amiodarone and Sotalol • Anti-Hypertensive Agents: Propranolol*, Captopril*, Ramipril, Methyldopate Hydrochloride, Clonidine Hydrochloride, Hydralazine Hydrochloride, Nifedipine, • Antianginal Agents: Isosorbide Dinitrate 	Chalk & Talk
	Unit-8		Chalk & Talk
DAY 51 TO 52		<p>Diuretics: Acetazolamide, Frusemide*, Bumetanide, Chlorthalidone, Benzthiazide, Metolazone, Xipamide, Spironolactone</p>	Chalk & Talk
	Unit-9		
DAY 53 TO 54		<p>Hypoglycemic Agents: Insulin and Its Preparations, Metformin*, Glibenclamide*, Glimepiride, Pioglitazone, Repaglinide, Gliflozins, Gliptins</p>	Chalk & Talk Chalk & Talk
	Unit-10		
DAY55 TO 57		<p>Analgesic And Anti-Inflammatory Agents: Morphine Analogues, Narcotic Antagonists; Nonsteroidal AntiInflammatory Agents (NSAIDs) - Aspirin*, Diclofenac, Ibuprofen*, Piroxicam, Celecoxib, Mefenamic Acid,</p>	Chalk & Talk

Unit-11DAY
58
TO
64

Anti-Infective Agents • Antifungal Agents: Amphotericin-B, Griseofulvin, Miconazole, Ketoconazole*, Itraconazole, Fluconazole*, Naftifine Hydrochloride • Urinary Tract Anti-Infective Agents: Norfloxacin, Ciprofloxacin, Ofloxacin*, Moxifloxacin, 8 23 | Page • Anti-Tubercular Agents: INH*, Ethambutol, Para Amino Salicylic Acid, Pyrazinamide, Rifampicin, Bedaquiline, Delamanid, Pretomanid* • Antiviral Agents: Amantadine Hydrochloride, Idoxuridine, Acyclovir*, Foscarnet, Zidovudine, Ribavirin, Remdesivir, Favipiravir • Antimalarials: Quinine Sulphate, Chloroquine Phosphate*, Primaquine Phosphate, Mefloquine*, Cycloguanil, Pyrimethamine, Artemisinin • Sulfonamides: Sulfanilamide, Sulfadiazine, Sulfamethoxazole, Sulfacetamide*, Mafenide Acetate, Cotrimoxazole, Dapsone

Chalk & Talk
Chalk & Talk**Unit-12**DAY
65
TO
72

Antibiotics: Penicillin G, Amoxicillin*, Cloxacillin, Streptomycin, Tetracyclines: Doxycycline, Minocycline, Macrolides: Erythromycin, Azithromycin, Miscellaneous: Chloramphenicol* Clindamycin

Chalk & Talk


Chalk & Talk


Unit-13DAY
73
TO
75

Anti-Neoplastic Agents: Cyclophosphamide*, Busulfan, Mercaptopurine, Fluorouracil*, Methotrexate, Dactinomycin, Doxorubicin Hydrochloride, Vinblastine Sulphate, Cisplatin*, Dromostanolone Propionate

Chalk & Talk

	Name of Book	Author Name	Publication
Prescribed Books	PHARMACEUTICAL CHEMISTRY	N C Chaudhary	Vallabh Prakashan
	PHARMACEUTICAL CHEMISTRY	Dr. Desh Deepak Pandey	Thakur prakashan
Reference Books			
		HK Singh	Vallabh Prakashan


 Faculty in Charge
 (MOTI SINGH SHARMA)


 HOD
 (SHASTI SHARMA)

GOVERNMENT POLYTECHNIC ROHRU
Rohru, DISTT. Shimla (HP) - 171207

DEPARTMENT OF PHARMACY

LESSON PLAN

Academic Year	2025-26
Semester	FIRST YEAR
Course Code	ER20-15T
Subject Title	HUMAN ANATOMY & PHYSIOLOGY
Name of Faculty	MAHESH KUMAR CHAUHAN
Semester Start & End Dates	11-08-2025 TO 27-05-2026

STUDY AND EVALUATION SCHEME

Sr. No.	Name of the Subject	Th	Pr	Internal Assessment			External Assessment					Total Marks
				Th	Pr	Total	Th	Hrs	Pr	Hrs	Total	
	HUMAN ANATOMY & PHYSIOLOGY	3	3	20	20	40	80	3	80	3	160	200

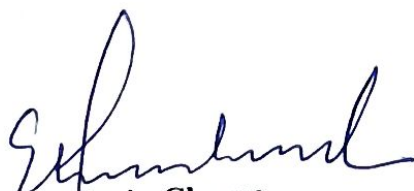
Subject objectives:


DAY	Unit & Topic of Discussion	Topic objectives	Delivery Method
	Unit- 1,2,3,4,5		
DAY 1 TO 22 DAYS		<p>Scope of Anatomy and Physiology Definition of various terminologies</p> <p>2 Structure of Cell: Components and its functions</p> <p>3 Tissues of the human body: Epithelial, Connective, Muscular and Nervous tissues – their sub-types and characteristics.</p> <p>4 Osseous system: structure and functions of bones of axial and appendicular skeleton Classification, types and movements of joints, disorders of joints 3</p> <p>5 Haemopoietic system • Composition and functions of blood • Process of Hemopoiesis • Characteristics and functions of RBCs, WBCs and platelets • Mechanism of Blood Clotting Importance</p>	Chalk & Talk

		of Blood groups	
	Unit-6,7		
DAY 23 TO 40 DAYS		Lymphatic system • Lymph and lymphatic system, composition, function and its formation. • Structure and functions of spleen and lymph node. 7 Cardiovascular system • Anatomy and Physiology of heart • Blood vessels and circulation (Pulmonary, coronary and systemic circulation) • Cardiac cycle and Heart sounds, Basics of ECG • Blood pressure and its regulation	Chalk & Talk Chalk & Talk
	Unit - 8,9		
DAY 41 TO 52 DAYS		Respiratory system • Anatomy of respiratory organs and their functions. • Regulation Mechanism of respiration. • Respiratory volumes and capacities – definitions 9 Digestive system • Anatomy and Physiology of GIT • Anatomy and functions of accessory glands • Physiology of digestion and absorption	Chalk & Talk Chalk & Talk Chalk & Talk
	Unit- 10,11		
DAY 53 TO 62 DAYS		Skeletal muscles • Histology • Physiology of muscle contraction • Disorder of skeletal muscles 2 11 Nervous system • Classification of nervous system • Anatomy and physiology of cerebrum, cerebellum, mid brain • Function of hypothalamus, medulla oblongata and basal ganglia • Spinal cord-structure and reflexes • Names and functions of cranial nerves. • Anatomy and physiology of sympathetic and parasympathetic nervous system (ANS)	Chalk & Talk Chalk & Talk Chalk & Talk
	Unit -12 ,13		
DAY 63 TO 69 DAYS		Sense organs - Anatomy and physiology of • Eye • Ear • Skin • Tongue Nose 13 Urinary system •	Chalk & Talk Chalk & Talk Chalk & Talk Chalk & Talk

		Anatomy and physiology of urinary system • Physiology of urine formation	
	Unit -14		
DAY 70 TO 75 DAYS		Endocrine system (Hormones and their functions) <ul style="list-style-type: none"> • Pituitary gland • Adrenal gland • Thyroid and parathyroid gland • Pancreas and gonads 	Chalk & Talk Chalk & Talk Chalk & Talk Chalk & Talk
	Unit- 15		
DAY 74 To 75		Reproductive system • <p>Anatomy of male and female reproductive system</p> <ul style="list-style-type: none"> • Physiology of menstruation • Spermatogenesis and Oogenesis • Pregnancy and parturition 	Chalk & Talk Chalk & Talk Chalk & Talk

	Name of Book	Author Name	Publication
Prescribed Books	HUMAN ANATOMY & PHYSIOLOGY	Dr. Avinash Kumar	Thakur Publication Pvt .Ltd
	HUMAN ANATOMY & PHYSIOLOGY	Dr. V Raghunandan	Vallabh prakashan
Reference Books			


 Faculty in Charge
 Mahesh Kumar


 HOD
 SHASHI SHARMA

GOVERNMENT POLYTECHNIC ROHRU
Rohru, DISTT. Shimla (HP) - 171207

DEPARTMENT OF PHARMACY
LESSON PLAN

Academic Year	2025-26
Semester	FIRST YEAR
Course Code	ER20-15T
Subject Title	SOCIAL PHARMACY
Name of Faculty	UDAY SINGH CHAUHAN
Semester Start & End Dates	11-08-2025 To 27-05-2026

STUDY AND EVALUATION SCHEME

Sr. No.	Name of the Subject	Th		Internal Assessment			External Assessment					Total Marks
		Th	Pr	Th	Pr	Total	Th	Hrs	Pr	Hrs	Total	
	SOCIAL PHARMACY	3	3	20	20	40	80	3	80	3	160	200


Subject objectives:


DAY	Unit & Topic of Discussion	Topic objectives	Delivery Method
	Unit- 1		
DAY 1-9	Introduction to Social Pharmacy	<p>Definition and Scope. Social Pharmacy as a discipline and its scope in improving public health. Role of Pharmacists in Public Health. (2)</p> <p>Concept of Health - WHO Definition, various dimensions, determinants, and health indicators. (3)</p> <p>National Health Policy – Indian perspective (1)</p> <p>Introduction to Millennium Development Goals, Sustainable Development Goals, FIP Development Goals (1)</p>	Chalk & Talk
	Unit-2		
DAY 10 To 27	Preventive Health care- Role of Pharmacist in the Following	<p>Demography and Family Planning (3)</p> <p>Mother and child health, importance of breastfeeding, ill effects of infant milk substitutes and bottle feeding (2)</p> <p>Overview of Vaccines, types of immunity and immunization (5)</p> <p>Effect of Environment on Health – Water pollution, importance of safe drinking water, waterborne diseases, air pollution, noise pollution, sewage and solid waste disposal, occupational illnesses, Environmental pollution due to pharmaceuticals (6)</p> <p>Psychosocial Pharmacy: Drugs of misuse and abuse – psychotropics, narcotics, alcohol, tobacco products. Social</p>	Chalk & Talk Chalk & Talk

		Impact of these habits on social health and productivity and suicidal behaviours (2)	
	Unit - 3		
DAY 28 To 37	Nutrition and Health	<p>Basics of nutrition – Macronutrients and Micronutrients (2)</p> <p>Importance of water and fibres in diet (1)</p> <p>Balanced diet, nutrition deficiency diseases, ill effects of junk foods, calorific and nutritive values of various foods, fortification of food (3)</p> <p>Introduction to food safety, adulteration of foods, effects of artificial ripening, use of pesticides, genetically modified foods (1)</p> <p>Dietary supplements, nutraceuticals, food supplements – indications, benefits, Drug-Food Interactions (2)</p>	<p>Chalk & Talk</p> <p>Chalk & Talk</p> <p>Chalk & Talk</p>
	Unit- 4		
DAY 38 To 65	Introduction to Microbiology and common microorganisms	<p>Introduction to Microbiology and common microorganisms</p> <p>(3) Epidemiology: Introduction to the terms Epidemiology, its applications, terms such as epidemic, pandemic, endemic, mode of transmission, quarantine, isolation, incubation period, contact tracing. (2)</p> <p>Causative agents, epidemiology and clinical presentations and Role of Pharmacists in educating the public in prevention of the following communicable diseases:</p> <p>Respiratory infections – chickenpox, measles, rubella, mumps, influenza (including Avian-Flu, H1N1, SARS, MERS, COVID-19), diphtheria, whooping cough, meningococcal meningitis, acute respiratory infections, tuberculosis, Ebola</p> <p>(10) Intestinal infections – poliomyelitis, viral hepatitis, cholera, acute diarrheal diseases, typhoid, amebiasis, worm infestations, food poisoning (8)</p> <p>Arthropod-borne infections - dengue, malaria, filariasis 33 38 P a g e and, chikungunya (4)</p> <p>Surface infections – trachoma, tetanus, leprosy (3) STDs, HIV/AIDS (3)</p>	<p>Chalk & Talk</p> <p>Chalk & Talk</p> <p>Chalk & Talk</p>
	Unit -5		
DAY 66 To 71	National Health Programs	Introduction to health systems and all ongoing National health programs in India, their objectives, functioning, outcome and the role of pharmacists.	<p>Chalk & Talk</p> <p>Chalk & Talk</p> <p>Chalk & Talk</p> <p>Chalk & Talk</p>
	Unit -6		
DAY 72 To 73	Disaster Management	Role of Pharmacists in disaster management.	<p>Chalk & Talk</p> <p>Chalk & Talk</p> <p>Chalk & Talk</p> <p>Chalk & Talk</p>

Unit- 7	Pharmacoeconomics	Pharmacoeconomics - basics, Health Insurance, Health Maintenance Organizations (HMOs), Health spending, Out-of-pocket expenses	Chalk & Talk Chalk & Talk Chalk & Talk
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	Name of Book	Author Name	Publication
Prescribed Books	SOCIAL PHARMACY	Dr. Virendra Kumar	Thakur Publication Pvt .Ltd
	SOCIAL PHARMACY	Dr. S.B BHISE	Nirali Publication
Reference Books			
	SOCIAL PHARMACY	Geoff Harding	The Pharmaceutical Press


 Faculty in Charge
 Uday Chaudhary


 HOD
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GOVERNMENT POLYTECHNIC ROHRU
Rohru, DISTT. Shimla (HP) - 171207

DEPARTMENT OF PHARMACY
LESSON PLAN

Academic Year	2025-26
Semester	SECOND YEAR
Course Code	ER20-25T
Subject Title	HOSPITAL & CLINICAL PHARMACY
Name of Faculty	UDAY SINGH CHAUHAN
Semester Start & End Dates	04-08-2025 to 27-05-2026

STUDY AND EVALUATION SCHEME

Sr. No.	Name of the Subject	Th	Pr	Internal Assessment			External Assessment					Total Marks
				Th	Pr	Total	Th	Hrs	Pr	Hrs	Total	
	HOSPITAL & CLINICAL PHARMACY	3	2	20	20	40	80	3	80	3	160	200


Subject objectives:-


DAYS	Unit & Topic of Discussion	Topic objectives	Delivery Method
	Part-I: Hospital Pharmacy		
	Unit-1		
DAY 01 To 06	Hospital Pharmacy	Hospital Pharmacy Definition, scope, national and international scenario Organisational structure Professional responsibilities, Qualification and experience requirements, job specifications, work load requirements and inter professional relationships Good Pharmacy Practice (GPP) in hospital Hospital Pharmacy Standards (FIP Basel Statements, AHSP) Introduction to NABH Accreditation and Role of Pharmacists	Chalk & Talk
	Unit-2		
DAY 07 To 10	Committees in the Hospital	Different Committees in the Hospital Pharmacy and Therapeutics Committee - Objectives, Composition and functions Hospital Formulary - Definition, procedure for development and use of hospital formulary Infection Control Committee – Role of Pharmacist in preventing Antimicrobial Resistance	Chalk & Talk Chalk & Talk
	Unit-3&4		

	Supply Chain and Inventory Control	Supply Chain and Inventory Control Preparation of Drug lists - High Risk drugs, Emergency drugs, Schedule H1 drugs, NDPS drugs, reserved antibiotics Procedures of Drug Purchases - Drug selection, short term, long term and tender/e-tender process, quotations, etc. Inventory control techniques: Economic Order Quantity, Reorder Quantity Level, Inventory Turnover etc. Inventory Management of Central Drug Store - Storage conditions, Methods of storage, Distribution, Maintaining Cold Chain, Devices used for cold storage (Refrigerator, ILR, Walk-in-Cold rooms) FEFO, FIFO methods Expiry drug removal and their disposal methods e.g., Narcotics Documentation - purchase and inventory	Chalk & Talk Chalk & Talk
	Unit-5		
DAY 25 To 31	Drug Distribution	Drug distribution Drug distribution (in- patients and out - patients) - Definition, advantages and disadvantages of individual prescription order method, Floor Stock Method, Unit Dose Drug Distribution Method, Drug Basket Method. Distribution of drugs to ICCU/ICU/NICU/Emergency wards. Automated drug dispensing systems and devices Distribution of Narcotic and Psychotropic substances and their storage	Chalk & Talk
	Unit-6		
DAY 32 To 35	Compounding	Compounding in Hospitals. Bulk compounding, IV admixture services and incompatibilities, Total parenteral nutrition	Chalk & Talk
	Unit-7		
DAY 36 To 37	Radiopharmaceuticals	Radio Pharmaceuticals - Storage, dispensing and disposal of radiopharmaceuticals	Chalk & Talk
	Unit-8		Chalk & Talk
DAY 38 To 39	Computer Applications in pharmacy	Application of computers in Hospital Pharmacy Practice, Electronic health records, Softwares used in hospital pharmacy	Chalk & Talk
	Unit-9		
DAY 40 To 51	Clinical Pharmacy , Daily activities of clinical pharmacist , Pharmaceutical care.	Clinical Pharmacy: Definition, scope and development - in India and other countries Technical definitions, common terminologies used in clinical settings and their significance such as Paediatrics, Geriatric, Anti-natal Care, Post-natal Care, etc. 12 67 P a g e Daily activities of clinical pharmacists: Definition, goal and procedure of Ward round participation Treatment Chart Review Adverse drug reaction monitoring Drug information and poisons information Medication history Patient counselling Interprofessional collaboration Pharmaceutical care: Definition, classification of drug related problems. Principles and procedure to provide pharmaceutical care Medication Therapy Management, Home Medication Review	Chalk & Talk Chalk & Talk
	Unit-10		
DAY 52 To 61	Clinical laboratory tests and evaluations of disease state.	Clinical laboratory tests used in the evaluation of disease states - significance and interpretation of test results Haematological, Liver function.	Chalk & Talk

		Renal function, thyroid function tests Tests associated with cardiac disorders Fluid and electrolyte balance Pulmonary Function Tests	
	Unit-11		
DAY 62 To 67 DAYS	Poisoning	Poisoning: Types of poisoning: Clinical manifestations and Antidotes Drugs and Poison Information Centre and their services - Definition, Requirements, Information resources with examples, and their advantages and disadvantages	Chalk & Talk Chalk & Talk
	Unit-12		
DAY 68 To 69	Pharmacovigilance	Pharmacovigilance Definition, aim and scope Overview of Pharmacovigilance	Chalk & Talk
			Chalk & Talk
	Unit-13		
DAY 70-75	Medication error and drug interactions.	Medication errors: Definition, types, consequences, and strategies to minimize medication errors, LASA drugs and Tallman lettering as per ISMP Drug Interactions: Definition, types, clinical significance of drug interactions	Chalk & Talk

	Name of Book	Author Name	Publication
Prescribed Books	Hospital & Clinical Pharmacy	Dr. N MURUGESH	Sathya Publications
	Hospital & Clinical Pharmacy	Dr. Hemendra Gautam	Thakur Publication
Reference Books			


Faculty in Charge
 U Day Chakraborty


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DEPARTMENT OF PHARMACY
LESSON PLAN

Academic Year	2025-26
Semester	SECOND YEAR
Subject Code	IV
Subject Title	PHARMOTHERAPEUTICS
Name of Faculty	MOTI SINGH SHARMA
Semester Start & End Dates	04-08-20 To 27-05-26

STUDY AND EVALUATION SCHEME

Sr. No.	Name of the Subject	Th	Pr	Internal Assessment			External Assessment					Total Marks
				Th	Pr	Total	Th	Hrs	Pr	Hrs	Total	
	PHARMOTHERAPEUTICS	3	2	20	20	40	80	3	80	3	160	200

Subject objectives:

DAY	Unit & Topic of Discussion	Topic objectives	Delivery Method
	Unit-1		
DAY 1 To 08	Introduction	Pharmacotherapeutics – Introduction, scope and objectives. Rational use of Medicines, Evidence Based Medicine, Essential Medicines List, Standard Treatment Guidelines (STGs)	Chalk & Talk
	Unit-2		
DAY 09-75 days	Definition, etiopathogenesis, clinical manifestations, nonpharmacological and pharmacological management of the diseases associated with	<p>(a) Cardiovascular System</p> <p>Hypertension Angina and Myocardial infarction Hyperlipidaemia Congestive Heart Failure</p> <p>(b) Respiratory System</p> <p>Asthma COPD</p> <p>(c) Endocrine System</p> <p>Diabetes Thyroid disorders- Hypo and Hyperthyroidism</p>	Chalk & Talk

Central Nervous System

Epilepsy
Parkinson's disease
Alzheimer's disease
Stroke
Migraine

Gastro Intestinal Disorders

Gastro oesophageal reflux disease
Peptic Ulcer Disease
Alcoholic liver disease
Inflammatory Bowel Diseases (Crohn's Disease and Ulcerative Colitis)

(f) Haematological disorders

Iron deficiency anaemia
Megaloblastic anaemia

(g) Infectious diseases

Tuberculosis Pneumonia
Urinary tract infections
Hepatitis
Gonorrhoea and Syphilis
Malaria
HIV and Opportunistic infections
Viral Infections (SARS, CoV2)

Musculoskeletal disorders

Rheumatoid arthritis
Osteoarthritis

Dermatology

Psoriasis
Scabies
Eczema

Psychiatric Disorders

Depression
Anxiety
Psychosis


Ophthalmology

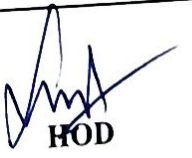
Conjunctivitis
(bacterial and viral)
Glaucoma

(I) Anti-microbial Resistance**Women's Health**

Polycystic Ovary Syndrome
Dysmenorrhea
Premenstrual Syndrome

	Name of Book	Author Name	Publication
Prescribed Books	Pharmacotherapeutics	Dr Preeti Chaudhary	S Vikas and company
	Pharmacotherapeutics	Dr. Vishal Garg	Thakur Publication
Reference Books			


Faculty in Charge
(MOTI SINGH SHARMA)


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DEPARTMENT OF PHARMACY
LESSON PLAN

Academic Year	2025-26
Semester	SECOND YEAR
Subject Code	VI
Subject Title	PHARMACY LAW AND ETHICS
Name of Faculty	MOTI SINGH SHARMA
Semester Start & End Dates	04-08-2025 TO 27-05-2026

STUDY AND EVALUATION SCHEME

Sr. No.	Name of the Subject	Th		Internal Assessment			External Assessment					Total Marks
		Th	Pr	Th	Pr	Total	Th	Hrs	Pr	Hrs	Total	
	PHARMACY LAW AND ETHICS	3	0	20	0	20	80	3	0	0	80	100

Subject objectives:

DAYS	Unit & Topic of Discussion	Topic objectives	Delivery Method
	Part-I: Pharmacy Pharmacy		
	Unit-1		
Day 01 To 02	INTRODUCTION	General Principals of Law, History and various Acts related to Drugs and Pharmacy profession	Chalk & Talk
	Unit-2		
Day 03 to 07		Pharmacy Act-1948 and Rules: Objectives, Definitions, Pharmacy Council of India: its constitution and functions, Education Regulations, State and Joint state pharmacy councils, Registration of Pharmacists, Offences and Penalties, Pharmacy Practice Regulations 2015	Chalk & Talk Chalk & Talk
	Unit-3		
Day 08 to 30		Drugs and Cosmetics Act 1940 and Rules 1945 and New Amendments Objectives, Definitions, Legal definitions of schedules to the Act and Rules Import of drugs – Classes of drugs and cosmetics prohibited from import, Import under license or permit. Manufacture of drugs – Prohibition of manufacture and 23 72 Page sale of	Chalk & Talk Chalk & Talk

		<p>certain drugs, Conditions for grant of license and conditions of license for manufacture of drugs, Manufacture of drugs for test, examination and analysis, manufacture of new drug, loan license and repacking license. Study of schedule C and C1, G, H, H1, K, P, M, N, X and Y. Sale of Drugs – Wholesale, Retail sale and Restricted license, Records to be kept in a pharmacy Drugs Prohibited for manufacture and sale in India Administration of the Act and Rules – Drugs Technical Advisory Board, Central Drugs Laboratory, Drugs Consultative Committee, Government analysts, licensing authorities, controlling authorities, Drug Inspectors</p>	
	Unit-4		
Day31 to 32	Manufacturing	Medicinal and Toilet Preparations Act 1955: Objectives, Definitions, Licensing, Offences and Penalties	Chalk & Talk
	Unit-5		
DAY 33 to 34		Narcotic Drugs and psychotropic substances Act 1985 and Rules Objectives, Definitions, Authorities and Officers, Prohibition, Control and Regulation, Offences and Penalties	Chalk & Talk
	Unit-6		
Day35 to 36		Drugs and Magic Remedies (Objectionable Advertisements) Act 1954 Objectives, Definitions, Prohibition of certain advertisements, Classes of Exempted advertisements, Offences and Penalties	Chalk & Talk
	Unit-7		
Day37 to 38		Prevention of cruelty to Animals Act-1960: Objectives, Definitions, CPCSEA - brief overview, Institutional Animal Ethics Committee, Breeding and Stocking of Animals, Performance of Experiments, Transfer and Acquisition of animals for experiment, Records, Power to suspend or revoke registration, Offences and Penalties	Chalk & Talk
	Unit-8		
Day 39 to 40		Poisons Act-1919: Introduction, objective, definition, possession, possession for sales and sale of any poison, import of poisons	Chalk & Talk Chalk & Talk

Unit-9			
Day 41 to 45		FSSAI (Food Safety and Standards Authority of India) Act and Rules: brief overview and aspects related to manufacture, storage, sale and labelling of Food Supplements	Chalk & Talk
Unit-10			
Day 46 to 50		National Pharmaceutical Pricing Authority: Drugs Price Control Order (DPCO) - 2013. Objectives, Definitions, Sale prices of bulk drugs, Retail price of formulations, Retail price and ceiling price of scheduled formulations, pharmaceutical 5 73 P a g e policy 2002, National List of Essential Medicines (NLEM	Chalk & Talk Chalk & Talk
Unit-11			
DAY 51 to 52		Code of Pharmaceutical Ethics: Definition, ethical principles, ethical problem solving, registration, code of ethics for Pharmacist in relation to his job, trade, medical profession and his profession, Pharmacist's oath.	Chalk & Talk
			Chalk & Talk
Unit-12			
Day 53		Medical Termination of Pregnancy Act and Rules – basic understanding/salient features	Chalk & Talk
Unit-13			
Day 54 to 56		Role of all the government pharma regulator bodies – Central Drugs Standards Control Organization (CDSCO), Indian Pharmacopoeia Commission (IPC	Chalk & Talk
Unit-14			
Day 57 to 63		Good Regulatory practices (documentation, licenses, renewals, e-governance) in Community Pharmacy, Hospital pharmacy, Pharma Manufacturing, Wholesale business, inspections, import, export of drugs and medical devices	Chalk & Talk
Unit-15			
Day 64 to 65		Introduction to BCS system of classification, Basic concepts of Clinical Trials, ANDA, NDA, New Drug	Chalk & Talk Chalk & Talk

		development, Schedule Y. Brand v/s Generic, Trade name concept, Introduction to Patent Law and Intellectual Property Rights, Emergency Use Authorization	
	Unit-16		
Day 66 to 67		Blood bank – basic requirements and functions	Chalk & Talk
	Unit-17		
Day 68 to 69		Clinical Establishment Act and Rules – Aspects related to Pharmacy	Chalk & Talk Chalk & Talk
	Unit-18		
Day 70 to 71		Biomedical Waste Management Rules 2016 – Basic aspects, and aspects related to pharma manufacture to disposal of pharma / medical waste at homes, pharmacies, and hospitals	Chalk & Talk
	Unit-19		
Day 72		Bioethics - Basic concepts, history and principles. Brief overview of ICMR's National Ethical Guidelines for Biomedical and Health Research involving human participants	Chalk & Talk
	Unit-20		
Day 73		Introduction to the Consumer Protection Act	Chalk & Talk
	Unit-21		
Day 74 to 75		Medical Devices – Categorization, basic aspects related to manufacture and sale	Chalk & Talk

	Name of Book	Author Name	Publication
Prescribed Books	PHARMACY LAW AND ETHICS	Dr Tulsidas	S vikas Company
	PHARMACY LAW AND ETHICS	Dr Lokesh Kumar	Thakur Publication
Reference Books			


Faculty in Charge

(MOTI SINGH SHARMA)


HOD

(SHASHI SHARMA)

GOVERNMENT POLYTECHNIC ROHRU

ROHRU, DISTT. SHIMLA (HP) - 171207

DEPARTMENT OF PHARMACY

LESSON PLAN

Academic Year	2025-26
Semester	2 ND YEAR PHARMACY
Subject Code	III
Subject Title	PHARMACOLOGY & TOXICOLOGY
Name of Faculty	MAHESH KUMAR CHAUHAN
Semester Start & End Dates	01-08-2025 To 27-05-2026

STUDY AND EVALUATION SCHEME

Sr. No.	Name of the Subject	Th	Pr	Internal Assessment			External Assessment					Total Marks
				Th	Pr	Total	Th	Hrs	Pr	Hrs	Total	
1	PHARMACOLOGY & TOXICOLOGY	3	4	20	20	40	80	3	80	3	160	200

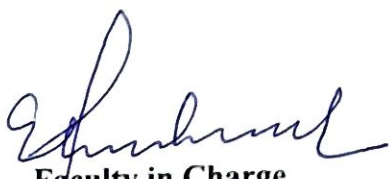
Subject objectives:


Day	Unit & Topic of Discussion	Topic objectives	Delivery Method
Day 1 To day 10	General Pharmacology	General Pharmacology Introduction and scope of Pharmacology Various routes of drug administration - advantages and disadvantages Drug absorption - definition, types, factors affecting drug absorption Bioavailability and the factors affecting bioavailability Drug distribution - definition, factors affecting drug distribution Biotransformation of drugs - Definition, types of biotransformation reactions, factors influencing drug metabolisms Excretion of drugs - Definition, routes of drug excretion General mechanisms of drug action and factors modifying drug action	Chalk & Talk
Day 11 to day 21	Drugs acting on PNS	Steps involved in neurohumoral transmission Definition, classification, pharmacological actions, dose, indications, and contraindications of a) Cholinergic drugs b) Anti-Cholinergic drugs c) Adrenergic drugs d) Anti-adrenergic drugs e) Neuromuscular blocking agents f) Drugs used in Myasthenia gravis g) Local anaesthetic agents h) Non-Steroidal Anti-Inflammatory drugs	Chalk & Talk
Day 22-day 23	drugs acting on the Eyes	Definition, classification, pharmacological actions, dose, indications and contraindications of Miotics Mydriatics Drugs used in Glaucoma	Chalk & Talk

Day 24 to 32 days	Drugs acting on CNS	Definition, classification, pharmacological actions, dose, indications and contraindications of General anaesthetics Hypnotics and sedatives Anti-Convulsant drugs Anti-anxiety drugs Anti-depressant drugs Anti-psychotics Nootropic agents Centrally acting muscle relaxants Opioid analgesics	Chalk & Talk
Day 33 to 38 days	Drugs acting on Cardiovascular system	Definition, classification, pharmacological actions, dose, indications and contraindications of Anti-hypertensive drugs Anti-anginal drugs Anti-arrhythmic drugs Drugs used in atherosclerosis and Congestive heart failure	Chalk & Talk
Day 39-44 days	Drugs acting on Blood and blood forming organs	Definition, classification, pharmacological actions, dose, indications and contraindications of Hematinic agents Anti-coagulants Anti-platelet agents Thrombolytic drugs Definition, classification, pharmacological actions, dose, indications and contraindications of Bronchodilators Expectorants Anti-tussive agents Mucolytic agents	Chalk & Talk
Day 45 to 49 days	Drugs acting on GIT	Definition, classification, pharmacological actions, dose, indications and contraindications of Anti-ulcer drugs Anti-emetics Laxatives and purgatives Anti-diarrheal drugs	Chalk & Talk
Day 50- to 51 days	Drugs acting on the Kidney	Definition, classification, pharmacological actions, dose, indications, and contraindications of Diuretics Anti-Diuretics	Chalk & Talk
Day 52- to 59 days	Hormones and hormone Antagonists	Physiological and pathological role and clinical uses of Thyroid hormones Anti-thyroid drugs Parathormone Calcitonin Vitamin D Insulin Oral hypoglycemic agents Estrogen Progesterone Oxytocin Corticosteroids	Chalk & Talk
Day 60 to 62 days	Autocoids	Physiological role of Histamine, 5 HT and Prostaglandins Classification, clinical uses and	Chalk & Talk

		adverse effects of antihistamines and 5 HT antagonists	
Day 63 to 73 days	Chemotherapeutic Agents	Introduction, basic principles of chemotherapy of infections, infestations and neoplastic diseases, Classification, dose, indication and contraindications of drugs belonging to Penicillins Cephalosporins Aminoglycosides Fluoroquinolones Macrolides Tetracyclines Sulphonamides Anti-tubercular drugs Anti-fungal drugs Anti-viral drugs Anti-amoebic agents Anthelmintics Anti-malarial agents Anti-neoplastic agents	Chalk & Talk
Day 74 to days 75 days	Biologicals	Definition, types and indications of biological agents with examples	Chalk & Talk

	Name of Book	Author Name	Publication
Prescribed Books	Elements of Pharmacology	Dr. Ramesh Goyal	B S Shah prakashan
	Pharmacology & Toxicology	Mr. SR Kale & R.R Kale	Nirala Prakashan
Reference Books	Pharmacological Basis of Therapeutics	Goodman & Gillman	Mcgraw Hill
Practical Books	Hand Book of Experimental Pharmacolgy	S.K. Kulkarni	Vallabh Prakashan


 Faculty in Charge
 Mahesh Kumar


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