

SIRDA POLYTECHNIC SUNDERNAGAR

Lesson Plan for: **PHARMACOTHERAPEUTICS**

Sem/year: 2nd

Branch: **D. PHARMACY**

S.No	Month	Week	Date	Name of Chapter	Contents to be Taught	Remarks
1	August		07/08/23	Pharmacotherapeutics	Introduction	
			11/08/23		Scope and objective	
			18/08/23		Rational use of medicine	
			19/08/23		Evidence based medicine	
			21/08/23		Evidence based medicine	
			25/08/23		Essential medicine list	
			26/08/23		Essential medicine list	
			28/08/23		Standards treatment guidelines	
	September		01/09/23		Test	
2 (a)			02/09/23	Cardiovascular system	Hypertension	
			04/09/23		Hypertension	
			08/09/23		Angina and myocardial infarction	
			09/09/23		Angina and myocardial infarction	
			11/09/23		Congestive heart failure	
			15/09/23		Congestive heart failure	
			16/09/23		Hyperlipidemia	
			18/09/23		Hyperlipidemia	
			22/09/23		Test	
(b)			23/09/23	Respiratory system	Asthma	
			25/09/23		Asthma	
			30/09/23		COPD	
	October		06/10/23		COPD	
			07/10/23		Test	
(c)			09/10/23	Endocrine system	Diabetes	
			13/10/23		Diabetes	
			16/10/23	Thyroid disorder	Hypothyroidism	
			20/10/23		Hyperthyroidism	
			21/10/23		Revision	
			23/10/23		Test	
(d)			27/10/23	CNS	Epilepsy	
			28/10/23		Epilepsy	
			30/10/23		Parkinson's disease	
	November		10/11/23		Parkinson's disease	
			17/11/23		Alzheimer's disease	
			18/11/23		Alzheimer's disease	
			20/11/23		Stroke	
			24/11/23		Migraine	
			25/11/23		Test	
(e)				Gastro intestinal disorders	Gastro oesophageal reflux disease	

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					Gastro oesophageal reflux disease	
					Peptic ulcer disease	
					Peptic ulcer disease	
					Test	
					Alcoholic liver disease	
					Alcoholic liver disease	
				Inflammatory bowel diseases	Crohn's disease	
					Ulcerative disease	
					Test	
(f)				Hematological disorders	Iron deficiency anemia	
					Iron deficiency anemia	
					Megaloblastic anaemia	
					Megaloblastic anaemia	
					Test	
(g)				Infectious disease	Tuberculosis	
					Tuberculosis	
					Pneumonia	
					Urinary tract infection	
					Test	
					Hepatitis	
					Gonorrhoea	
					Syphilis	
					Test	
					Malaria	
					HIV	
					Opportunistic infections	
				Viral infection	SARS	
					CoV2	
					Test	
(h)				Musculoskeletal disorders	Rheumatoid arthritis	
					Rheumatoid arthritis	
					Osteoarthritis	
					Test	
(i)				Dermatology	Psoriasis	
					Scabies	
					Eczema	
					Test	
(j)				Psychiatrics	Depression	
					Anxiety	
					Psychosis	
					Revision	
					Test	

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Lesson Plan for: HOSPITAL AND CLINICAL PHARMACY Sem/year: 2nd

Branch: D. PHARMACY

S.No	Month	Week	Date	Name of Chapter	Contents to be Taught	Remarks
1	August		11/08/23	Hospital pharmacy	Definition, scope, national and international scenario	
			11/08/23		Organizational structure	
			19/08/23		Professional responsibilities, qualification and experience requirements, job specification, workload requirements and inter professional relationship	
			22/08/23		GPP in hospitals	
			26/08/23		Hospital pharmacy standards	
			29/08/23		Introduction to NAQS guidelines and NABH accreditation and role of pharmacist	
	September		02/09/23		Test	
2			02/09/23	Different committees in hospital	PTC- objective composition and functions	
			05/09/23	Hospital formulary	Definition, procedure for developments and use of hospital formulary	
			08/09/23	Infection control committee	Role of pharmacist in preventing anti-microbial resistance	
			12/09/23		Revision	
			12/09/23		Test	
3			19/09/23	Supply chain and inventory control	Preparation of drugs lists- high risk drugs, emergency drugs	
			22/09/23		Schedule H1 drugs, NDPS drugs, reserved antibiotics	
			23/09/23	Procedure of drugs purchases	Drug selection, short term, long term	
			23/09/23		Tender process, quotations	
			26/09/23	Inventory control technique	Economic order quantity	
			26/09/23		Reorder quantity level, inventory turn-over	
			30/09/23	Inventory management of central drug store	Storage condition, method of storage	
	October		06/10/23		Distribution, maintaining cold chain, devices used for cold storage	

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		07/10/22		FEFO method	
		07/10/22		FIFO method	
		10/10/22		Expiry drug removal and handling, disposal	
		17/10/22		Disposal of narcotics , cytotoxic drugs	
		21/10/22	Documentation	Purchase	
		21/10/22		Inventory	
4		21/10/22		Test	
		27/10/22	Drug distribution	Definition, advantages and disadvantages of individual prescription order method	
	November	17/10/22		Floor stock method , unit dose drug distribution method	
		18/11/22		Drug basket method	
		21/11/22		Distribution of drugs to ICCU/ ICU	
		24/11/22		NICU/ emergency bar	
		25/11/22		Automated drug dispensing system and devices	
		30/11/22		Distribution of narcotic and psychotropic substances and their storage	
5				Test	
			Compounding in hospital	Bulk compounding	
				IV admixture	
				Services and incompatibility	
				Total parenteral nutrition	
6				Test	
			Radio pharmaceuticals	Storage , dispensing	
				Disposal of radiopharmaceuticals	
7				Test	
			Hospital pharmacy	Application of computers in hospital pharmacy practice	
				Electronic health records , software used in hospital pharmacy	
8				Test	
			Clinical pharmacy	Definition , scope and development in India and other countries	
				Technical definition , common terminologies used in clinical setting and their significance	

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					such as paediatrics , geriatric , anti natal care , post natal care	
				Daily activities of clinical pharmacists	Ward round participation	
					Treatment chart review	
					Adverse drug reaction Monitoring	
					Drug information and poisons information	
					Medication history , patient counseling	
					Inter professional collaboration	
				Pharmaceutical care	Definition , classification of drug related problems	
					Principles and procedure to provide pharmaceutical care	
					Revision	
					Test	
9				Clinical laboratory test	Hematological test	
					Liver function test	
					Renal function test	
					Thyroid function test	
					Test associated with cardiac disorder	
					Test associated with cardiac disorder	
					Fluid and electrolyte balance	
					Fluid and electrolyte balance	
					Pulmonary function test	
					Pulmonary function test	
					Test	
10				Poisoning	Type of poisoning	
					Clinical manifestations and antidotes	
				Drugs and poison information center and their services	Definition, services	
					Information resources with examples	
					Advantages and disadvantages	
					Revision	
					Test	

Electrochemical

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Lesson Plan for: **PHARMACOTHERAPEUTICS**

Sem/year: 2nd

Branch: **D. PHARMACY**

S.No	Month	Week	Date	Name of Chapter	Contents to be Taught	Remarks
1	August		07/08/23	Pharmacotherapeutics	Introduction	
			11/08/23		Scope and objective	
			18/08/23		Rational use of medicine	
			19/08/23		Evidence based medicine	
			21/08/23		Evidence based medicine	
			25/08/23		Essential medicine list	
			26/08/23		Essential medicine list	
			28/08/23		Standards treatment guidelines	
	September		01/09/23		Test	
2 (a)			02/09/23	Cardiovascular system	Hypertension	
			04/09/23		Hypertension	
			08/09/23		Angina and myocardial infarction	
			09/09/23		Angina and myocardial infarction	
			11/09/23		Congestive heart failure	
			15/09/23		Congestive heart failure	
			16/09/23		Hyperlipidemia	
			18/09/23		Hyperlipidemia	
			22/09/23		Test	
(b)			23/09/23	Respiratory system	Asthma	
			25/09/23		Asthma	
			30/09/23		COPD	
	October		06/10/23		COPD	
			07/10/23		Test	
(c)			09/10/23	Endocrine system	Diabetes	
			13/10/23		Diabetes	
			16/10/23	Thyroid disorder	Hypothyroidism	
			20/10/23		Hyperthyroidism	
			21/10/23		Revision	
			23/10/23		Test	
(d)			27/10/23	CNS	Epilepsy	
			28/10/23		Epilepsy	
			30/10/23		Parkinson's disease	
	November		10/11/23		Parkinson's disease	
			17/11/23		Alzheimer's disease	
			18/11/23		Alzheimer's disease	
			20/11/23		Stroke	
			24/11/23		Migraine	
			25/11/23		Test	
(e)				Gastro intestinal disorders	Gastro oesophageal reflux disease	

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					Gastro oesophageal reflux disease	
					Peptic ulcer disease	
					Peptic ulcer disease	
					Test	
					Alcoholic liver disease	
					Alcoholic liver disease	
				Inflammatory bowel diseases	Crohn's disease	
					Ulcerative disease	
					Test	
(f)				Hematological disorders	Iron deficiency anemia	
					Iron deficiency anemia	
					Megaloblastic anaemia	
					Megaloblastic anaemia	
					Test	
(g)				Infectious disease	Tuberculosis	
					Tuberculosis	
					Pneumonia	
					Urinary tract infection	
					Test	
					Hepatitis	
					Gonorrhoea	
					Syphilis	
					Test	
					Malaria	
					HIV	
					Opportunistic infections	
				Viral infection	SARS	
					CoV2	
					Test	
(h)				Musculoskeletal disorders	Rheumatoid arthritis	
					Rheumatoid arthritis	
					Osteoarthritis	
					Test	
(i)				Dermatology	Psoriasis	
					Scabies	
					Eczema	
					Test	
(j)				Psychiatrics	Depression	
					Anxiety	
					Psychosis	
					Revision	
					Test	

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Lesson Plan for: **BIOCHEMISTRY & CLINICAL PATHOLOGY**

Sem/year: **2nd**

Branch: **D. PHARMACY**

S.No	Month	Week	Date	Name of Chapter	Contents to be Taught	Remarks
1	August		07/08/23	Introduction to biochemistry	Scope of biochemistry in pharmacy	
			09/08/23		Cell and its biochemical organization	
2			19/08/23	Carbohydrates	Definition, classification with examples, chemical properties	
			26/08/23	Monosaccharide's	Structure of glucose, fructose and galactose	
	September		04/09/23	Disaccharides	Structure of maltose, lactose and sucrose	
			06/09/23	Polysaccharides	Chemical nature of starch and glycogen	
			11/09/23		Qualitative test and biological role of carbohydrates	
			13/09/23		Test	
3			19/09/23	Proteins	Definition, classification of proteins based on composition and solubility with example	
			23/09/23		Definition, classification of amino acid based on chemical nature and nutritional requirements with examples	
			27/09/23		Structure of proteins	
	October		07/10/23		Qualitative and biological role of proteins and amino acid	
			09/10/23		Disease related to malnutrition of proteins	
4			16/10/23	Lipids	Definition, classification with example, structure and properties of triglyceride	
			23/10/23	Fatty classification	Based on chemical and nutritional requirements with example	
	November		18/11/23		Structure and function of cholesterol in the body	
			22/11/23	Lipoproteins	Types, composition and function in the body	
			25/11/23		Qualitative test and function of lipids	
			29/11/23		Test	
5				Nucleic acid	Definition, purine and pyrimidine bases	
					Components of nucleosides and nucleotides with examples	

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					Structure of DNA	
					RNA and their functions	
					Test	
6				Enzymes	Definition , properties and IUB and MB classification	
					Factors affecting enzyme activity	
					Mechanism of action of enzymes	
					enzyme inhibitors	
					Therapeutic and pharmaceutical Importance of enzymes	
					Test	
7				Vitamins	Definition and classification with examples	
					Sources , chemical nature	
					Function, co-enzyme form	
					Recommended dietary requirements	
					Deficiency disease of fat soluble vitamins	
					Deficiency disease of water soluble vitamins	
					Test	
8				Metabolism	Metabolism of carbohydrate:	
					glycolysis	
					TCA cycle	
					Glycogen metabolism	
					Regulation of blood glucose level	
					Disease related abnormal metabolism of carbohydrates	
				Metabolism of lipids	Lipolysis	
					Beta-oxidation of fatty acid	
					Ketogenesis and ketolysis	
					Disease related to abnormal metabolism of lipids such as ketoacidosis	
					Fatty liver , Hypercholesterolemia	
					Test	
				Metabolism of amino acid	General reaction of amino acid and its significance	
					Transamination and Deamination	

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					Test	
					Urea cycle	
					Decarboxylation	
					Disease related to abnormal metabolism of amino acid	
					Disorder of ammonia metabolism	
					Phenylketonuria	
					Alkaptonuria , jaundice	
				Biological oxidation	Electron transport chain	
					Oxidative phosphorylation	
					Test	
9				Minerals	Types	
					Functions	
					Deficiency disease	
					Recommended dietary requirements	
					Revision	
					Test	
10				Water and electrolytes	Distribution, function of water in the body	
					Water turn over and balance	
					Electrolytes composition of the body fluids	
					Dietary intake of electrolytes and electrolytes balance	
					Dehydration , causes and oral rehydration therapy	
					Test	
11				Introduction to biotechnology	Introduction to biotechnology	
12				Organ function tests	Function of kidney	
					Routinely performed testes to assess the function of kidney	
					Clinical significance	
					Function of liver	
					Routinely performed testes to assess the function of liver and their Clinical significance	
					Lipid profile tests and its clinical significance	
					Test	
13				Introduction to pathology of	Lymphocytes and platelets	

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Lesson Plan for: **COMMUNITY PHARMACY AND MANAGERMENTS** Sem /year: **2ND** Branch: **D.PHARMACY**

S.No	Month	Week	Date	Name of Chapter	Contents to be Taught	Remarks
1	August		07/08/23	Community pharmacy practices	Definition, history and developments of community pharmacy	
			10/08/23		International and Indian scenarios	
2			21/08/23	Professional responsibilities of community pharmacist	Introduction of good Pharmacy Practices	
			22/08/23		SOPs	
			23/08/23		Revision	
			24/08/23		Test	
3	September		04/09/23	Prescription and prescription handling	Definition, parts of prescription	
			06/09/23		Legality of prescription	
			11/09/23		Prescription handling	
			13/09/23		Labeling of dispensed medications	
			18/09/23		Brief instruction on medication usage	
			21/09/23		Dispensing process, good dispensing practices	
			27/09/23		Dispensing errors and strategies to minimize them	
	October		04/10/23		Test	
4			09/10/23	Communication skills	Definition, types of communication skill	
			11/10/23		Interaction with professionals and patients	
			16/10/23		Verbal communication skills	
			18/10/23		Written communication skills	
			23/10/23		Body language	
			26/10/23		Patients interview technique	
	November		16/11/23		Test	
5			20/11/23	Patients counseling	Definition and benefits of patients counseling	
			23/11/23	Stages of patients counseling	Introduction, counseling contacts	
			27/11/23		Counseling process and closing the counseling session	
			29/11/23	Barriers to effective	Types and strategies to overcome the barriers	

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				counseling		
			30/11/23	Patients counseling points for chronic disease	Hypertension, diabetes , asthma	
					TB, chronic obstructive pulmonary disease and AIDS	
				Patients packages inserts	Definition, importance and benefits	
					Scenarios of PPI use in India and other country	
				Patients information leaflets	Definition, use	
					Revision	
					Test	
6				Medication adherence	Definition , factors influencing non adherence	
					Strategies to overcome non adherence	
7				Health screening services in community pharmacy	Introduction	
					Scope	
					Importance of various health screening services for routine monitoring patients	
					Early detection	
					Referral of undiagnosed cases	
					Test	
9				OTC medications	Definition	
					Need and role of pharmacist	
					OTC medication in India	
					Counseling for OTC products	
					Self-medication and role of pharmacist in promoting the safe practices during self-medication	
					Responding to systems	
					Minor ailments	
					Advice for self-care Pain managements	
					Cough, Cold	
					Diarrhea , Constipation	
					Constipation	
					Vomiting , Fever	

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Lesson Plan for: **PHARMACOLOGY**

Sem /year: **2ND**

Branch: **D.PHARMACY**

S.No	Month	Week	Date	Name of Chapter	Contents to be Taught	Remarks
1	August		09/08/23	General pharmacology	Introduction and scope of pharmacology	
			15/08/23		Various route of drug administration	
			22/08/23	Drug absorption	Definition, factor affecting drug distribution	
			29/08/23		Bioavailability and the factor affecting drug distribution	
	September		05/09/23	Drug distribution	Definition, factor affecting bioavailability	
			06/09/23	Biotransformation of drug	Definition, type of biotransformation reaction	
			12/09/23		Factor influencing drug metabolisms	
			14/09/23	Excretion of drugs	Definition, route of drugs extraction	
			20/09/23		General mechanism of drug action and factors modifying drug action	
			26/09/23		General mechanism of drug action and factors modifying drug action	
	October		03/10/23		Test	
2			05/10/23	Drug acting on the peripheral nervous system	Step involved in neurohumoral transmission	
			10/10/23		Cholinergic drugs	
			11/10/23		Anti-cholinergic drugs	
			17/10/23		Adrenergic drugs	
			18/10/23		Anti-adrenergic drugs	
			20/10/23		Neuromuscular blocking agents	
			22/10/23		Neuromuscular blocking agents	
			26/10/23		Drugs used in myasthenia gravis	
			28/10/23		Local anesthetic agents	
			22/11/23		NSAIDs	
			23/11/23		NSAIDs	
			23/11/23		Test	
3				Drug acting on eye	Miotics & mydriatics	
					Drugs used in glaucoma	
					Test	

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4				Drugs acting on CNS	General anesthetic	
					Hypnotics and sedative	
					Anti-convulsant drugs	
					Anti-anxiety drugs	
					Anti-depressant drugs and anti-psychotics	
					Nootropic agents	
					Centrally acting muscle relaxants	
					Opioid analgesic	
					Test	
5				Drugs acting on the cardiovascular system	Anti-hypertensive drugs	
					Anti-anginal drugs	
					Anti-arrhythmic drugs	
					Drugs used in atherosclerosis	
					Congestive heart failure	
					Drugs therapy for shock	
					Test	
6				Drugs acting on blood and blood forming organs	Hematinics agents	
					Anti-coagulants	
					Anti-platelet agents	
					Thrombolytic agents	
7					Bronchodilators, Expectorants	
					Anti-tussive agents, mucolytic	
					Test	
8				Drugs acting on the gastro intestinal tract	Anti-ulcer	
					Anti-ulcer	
					Anti-emetics	
					Laxative and purgatives	
					Anti-diarrheal drugs	
					Test	
9				Drugs acting on the kidney	Diuretics	
					Anti-diuretics	
					Test	
10				Hormones and hormones antagonists	Thyroid hormones and anti-thyroid hormones	
					Parathormone, calcitonin	

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					Vitamin D	
					Insulin	
					Oral hypoglycemic agents	
					Estrogen , progesterone	
					Oxytocin	
					Corticosteroid	
					Test	
11				Autocoids	Physiological role of histamine	
					5 HT and prostaglandins	
					Classification , clinical uses and side effects of anti- histamine and 5HT antagonists	
					Test	
12				Chemotherapeutics agents	Penicillin	
					Cephalosporin	
					Aminoglycosides, fluoroquinolones	
					Macrolides	
					Tetracyclines	
					Sulphonamides	
					Anti-tubercular drugs	
					Anti-fungal and anti-viral drugs	
					Anti-amoebic agents	
					Anti-helminthics	
					Anti- malarial agents	
					Anti-neoplastic agents	
					Test	
13				Biological	Definition , types	
					Indication of biological agents test	