PHARMACOLOGY Basic B.Sc. N 2nd year

Total hours: 45

Unit No.					Contents with dis	stributed Hours			
& Hours	Objectives	Mu	st Know (60%)27		Desirable to Know	v (30%)14		Nice to Know (10	%) 4
I(3Hrs) Introduction	able to Knowledge: Understand and explain various sources and Pharmacodynamics and pharmacokinetics of different groups of drugs. Skill: Practice principles of therapeutics and administer different groups of drugs.	 Definitions. Types: Clas Pharmacody Therapeutic Pharmacoki metabolism. 	namics: Actions, s. Adverse, toxic. netics: absorption, o, interaction, excreti utes and principles on of drugs.	listribution, on	Indian pharmacopoe issues Rational use o (1 hour)	ia: Legal f drugs.			
Course Out	come		Program outcome	e					
			Clinician/Nurse educator	Profession	al Communicator	Leader and member of the health care team and system	Lifelong learner	Critical thinker	Researcher
				Profession PO-2	PO-3	member of the health care team	-	Critical thinker	Researcher PO-7
	ould be able to- e all terms used in pharmacology		educator			member of the health care team and system	learner		
CO-1: define			educator PO-1	PO-2	PO-3	member of the health care team and system PO-4	learner PO-5	PO-6	PO-7
CO-1: define CO-2: explai	e all terms used in pharmacology	ication of	educator PO-1 2	PO-2	PO-3	member of the health care team and system PO-4 2	learner PO-5 2	PO-6	PO-7

CO-5: desc	ribe routes and principles of administration of drugs	2	2		2	2		2	2	1
CO-6: expla of drugs	ain Indian pharmacopoeia: Legal issues Rational use	2	2		2	2		2	2	1
II(6Hrs)	At the end of unit student are able to; Knowledge: Understand and explain different chemotherapeutic agents their action and effects on clients. Skill: Administer chemotherapeutic agents correctly. Attitude: Observe the clients for adverse effects and therapeutic effects of the chemotherapeutic agents in different disease conditions.	Spectrum Antiamoe Antimala: Antihelm Antiscabe Antiviral agents. Antituber Anticance	porin. ycosides, iides. es. e and broad antibiotics ebic. ritas. intics. es agents. & antifung: rcular agent er drugs. suppressan action, dosa on and ons, drug ide effects s. toxicity a	al	Comp dosag indica contra drug i side et advers	troviral drugs osition action, e, route, tion and indications, nteractions, ffects and se effects, ty and role of	• 5 C	ontraindica	egimen. n action, dosage, ations, drug inter	, route, indication and actions, side effects and role of Nurse. (1 hour)
Chemother										
Course Ou	ltcome	Program outc	ome				-			I
		Clinician/Nurs e educator	Professio nal	Comn		Leader and member of the health care team and system	Lifeld learn	0	Critical thinker	Researcher
Students should be able to-		PO-1	PO-2	PO-3		PO-4	PO-5	5	PO-6	PO-7

Students should be able to-	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
CO-1: Explain Pharmacology of commonly used drugs: Penicillin,							
Cephalosporin, Amino glycosides, Sulfonamides,	2	2	2	2	2	2	1
CO-2: Explain Pharmacology of commonly used drugs: Quinolones, Macrolide and broad Spectrum antibiotics.	2	2	2	2	2	2	1

Antiamoebic,	CO-3: Explain Pharmacology of commonly used drugs Antiamoebic, Antimalarias, Antihelmintics, Antiscabes agents, Antiviral & antifungal agents, CO-4: Explain Pharmacology of commonly used			2		2	2		2	2	1
CO-4: Explai drugs:Antitub suppressants	bercular agents, Anticancer drugs	ed and Immuno-	2	2		2	2		2	2	1
CO-5: Expla Antiretroviral	in Pharmacology of commonly us l drugs, Antileprosy drugs.Swine	sed drugs flu regimen.	2	2		2	2		2	2	1
CO-6:Describ chemotherape	be Role of Nurse while administer eutic agents	ring different	3	3		2	2		2	2	2
III(2Hrs)	At the end of unit student are able to Knowledge: Understand and explain the actions of commonly used antiseptics, insecticides and disinfectants. Skill: Use disinfectants, insecticides and antiseptics judiciously. Attitude: Prevent misuse of these agents in clinical set up.	 Pharmacology of con antiseptics, disinfect insecticides: Antiseptics: Con dosage, route i contraindicatic interactions, si effects, toxicity (1 hour) 	ants and nposition action ndication,	rse	Comp dosag contra intera adver	fectants, Insec oosition action ge, route indica aindications, c actions, side effects, tox ole of nurse.	i, ation, Irug fects,				
Pharmacolog antiseptics, c	gy of commonly used disinfectants and insecticides	I						1			
Course Outc	come		Program of	utcome							
			Clinician/N urse educator	Professio	onal	Communicato r		er of the care and	Lifelong learner	Critical thinker	Researcher
CO-1: List th	build be able to- the major drugs and drug classes us	ed as a antiseptics and		PO-2		PO-3	PO-4		PO-5	PO-6	PO-7
contraindicati toxicity. Role	nposition action, dosage, route ind ions, drug interactions, side effect e of nurse	s, adverse effects,	2	2		2		2	2	2	1
composition,	O-2: List the major drugs used as disinfectants and describe opposition, action, dosage, route indication, contraindications, dru teractions, side effects, adverse effects, toxicity. Role of nurse		2	2		2		2	2	2	1
composition,	-3: List the major drugs used as a insecticides and describe position, action, dosage, route indication, contraindications, drug ractions, side effects, adverse effects, toxicity. Role of nurse		2	2		2		2	2	2	1

	ribe Role of Nurse while using dif is and Insecticides	ferent antiseptics,	2	2	2	2	2	2		1
IV(2Hrs)	At the end of unit student are able to Knowledge: Understand and explain various drugs used in the treatment of G. I. disorders. Skill: Administer drugs for all G. I. disorders accurately. Attitude: Observe the clients for adverse effects and therapeutic effects of the drugs used for G. I. disorders.	 Drugs acting on G. I. sy Pharmacology of condrugs: Composition route, indication, and contraindications, drinteractions, side eff adverse effects, toxic of Nurse: Antiemetic. Emetics. Purgatives. Antacids. Anticholinergic Fluid and electrot Cholinergic Histamines 	mmonly us action, dosa d "ug ects, and city and Ro	age, le						
Drugs act	ing on G. I. system									
Course Ou	tcome		F	rogram outc	ome					
				linician/Nurs educator	Professional	Communicat or	Leader and member of the health care team and system	Lifelong learner	Critical thinker	Researcher
Students sh	hould be able to-		P	0-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
			_	2	2	2	2	2	2	1
their pharms mechanisms	the major drugs and drug classes u acology including their indications s of action, physiological effects, p ects and clinically significant drug	s, contraindications, clinica harmacokinetic properties,	l use,							
pharmacolo mechanisms	the major drugs and drug classes u ogy including their indications, con s of action, physiological effects, p ects and clinically significant drug	traindications, clinical use, harmacokinetic properties,	,	2	2	2	2	2	2	1
pharmacolo mechanisms	the major drugs and drug classes u ogy including their indications, con s of action, physiological effects, p ects and clinically significant drug	traindications, clinical use, harmacokinetic properties,	,	2	2	2	2	2	2	1

their pharm mechanism	st the major drugs and drug classes used as a antacids and describe hacology including their indications, contraindications, clinical use, as of action, physiological effects, pharmacokinetic properties, major fects and clinically significant drug interactions.	2	2	2	2		2	2 1
describe the contraindic	the major drugs and drug classes used as antidiarrheal agents and eir pharmacology including their indications, eations, clinical use, mechanisms of action, physiological effects, inetic properties, major adverse effects and clinically significant drug s.	2	2	2	2		2	1
CO-6:Expla	ain Anticholinergics and Cholinergic	2	2	2	2		2 2	1
CO-7:Expl	lain Anticholinergics and Cholinergic	2	2	2	2		2	1
CO-8:Desc	cribe Histamines	2	2	2	2		2 2	1
CO-9:Desc	ribe Role of Nurse while using different drugs used in G.I. system	3	3	2	2		2	2
Drugs us	 explain the drugs used in the treatment of disorders of respiratory tract. Skill: Administer drugs in all conditions of respiratory tract. Attitude: Observe the clients for adverse effects and therapeutic effects of the drugs used in the treatment of disorders of respiratory tract. Bronchodilators. Bronchodilators. Bronchoconstrictors. Anihisthmatics. Mucolytics. (2 hours) 	adverse						
Course Ou	itcome	Program outc	ome					
		Clinician/Nurse educator	Professional	Communic ator	Leader and member of the health care team and system	Lifelon g learner	Critical thinker	Researcher
Students sl	hould be able to-	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
	the major drugs and drug classes used on respiratory system	2	2	2	2	2	2	1
CO-2: List	the major drugs and drug classes used as antiasthmatics	2	2	2	2	2	2	1

clinical use	cribe Decongestant including their ir e, mechanisms of action, physiologic	cal effects, pharmacokinetic	2		2	2	2	2	2	1
properties,	major adverse effects and clinically	significant drug interactions								
clinical use	ribe Expectorants including their in e, mechanisms of action, physiologic major adverse effects and clinically	cal effects, pharmacokinetic	2		2	2	2	2	2	1
use, mecha	cribe Antitussives including their in nisms of action, physiological effec rrse effects and clinically significant	dications, contraindications, clinical ts, pharmacokinetic properties, drug interactions.	2		2	2	2	2	2	1
clinical use	cribe Bronchodilators including their e, mechanisms of action, physiologic major adverse effects and clinically	cal effects, pharmacokinetic	2		2	2	2	2	2	1
use, mecha	cribe Mucolytics including their indi nisms of action, physiological effec crse effects and clinically significant	ts, pharmacokinetic properties,	2		2	2	2	2	2	1
CO-8:Desc respiratory	ribe Role of Nurse while administer system	ring different drugs used in	3		3	2	2	2	2	2
VI(2Hrs)	able to Knowledge: Understand and explain different therapeutic agents used in the treatment of urinary tract disorders. Skill: Administer all categories of therapeutic agents correctly to the patients of urinary tract disorders. Attitude: Observe the clients for adverse effects and therapeutic effects of the drugs used in the treatment of urinary disorders.	 Drugs used in urinary systems: Pharmacology of commonly us Composition action, dosage, ro indication, contraindications, do interactions, side effects, advert toxicity and Role of Nurse- Diuretics and antidiuretice Urinary antiseptics Cholinergic and anticho Acidifiers and alkalanize (2 hours) 	oute, lrug rse effects, s. linergic							
Drugs used	d in urinary systems									
Course Ou	itcome			Program	outcome					
				Clinician/ Nurse educator	Profession al	Communi cator	Leader and member of the health care team and system	Lifelong learner	Critical thinker	Researcher

Students sh	ould be able to-		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7		
CO-1:]	List the major drugs and drug classes	used on urinary system	2	2	2	2	2	2	1		
CO-2: c clinical major a	describe Diuretics including their cla use, mechanisms of action, physiolo adverse effects and clinically signific	ssification, indications, contraindications, gical effects, pharmacokinetic properties, ant drug interactions.	2	2	2	2	2	2	1		
mechar effects	describe Antidiuretics including thei nisms of action, physiological effects and clinically significant drug interac Explain urinary antiseptics	r indications, contraindications, clinical use, pharmacokinetic properties, major adverse ctions.							1		
CO-5:I	Differentiate Acidifiers and Alkalaniz	ers	2	2	2	2	2	2	1		
CO-6:I	Describe role of Nurse while administ	tering various drugs used in urinary system	3	3	2	2					
VII(4Hrs) Miscellaneo	At the end of unit student are able to Knowledge: Understand and explain different categories of drugs used in de-addiction, emergency resuscitation and as supplements and antisera. Skill: Administer all these categories of drugs correctly. Attitude: Participate in the immunization programme and educate people about immunization. Dus:	Miscellaneous: Drugs used in De-addiction Drugs used in CPR and emergency Antidotes Antivenom. (2 hour)		nes and so nosuppre		• Vitamins and (1hour)	1 minerals				
Course Out	tcome		Program (outcome							
			Clinician/N urse educator	Professi onal	Communic ator	Leader and member of the health care team and system	Lifelong learner	Critical thinker	Researcher		
			PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7		
			2	2	2	2	2	2	1		
	ould be able to- and Describe the major drugs used i	n De–addiction									
	and Describe the major drugs used i		2	2	2	2	2	2	1		
CO-3: List	and Describe the major drugs used a	as Antidotes	2	2	2	2	2	2	1		
CO-4: Desci	ribe antivenom		2	2	2	2	2	2	1		
					1		1	2 2 2 1			

CO-6: Desc	ribe Immunosuppressant		2	2	2	2	2	2	1
CO-7: List	and Describe Vitamins and Miner	als	2	2	2	2	2	2	1
CO-8:Descr	ibe role of Nurse while administer	ing various miscellaneous drugs	3	3	2	2	2	2	2
VIII(1Hrs)	At the end of unit student are able to Knowledge: Understand and explain various agents used on skin and mucous membrane. Skill: Administer medication correctly on skin and mucous membrane. Attitude: Observe the clients for adverse effects and therapeutic effects of the skin and mucous membrane application.	 Drugs used on skin and mucous membranes: Topical applications for skin, eye, ear, nos buccal cavity. Antipruritics Composition action, dosage, route, indication contraindications, drug interactions, side effe adverse effects, toxicity and role of nurse (1 hours) 	e and						
8	on skin and mucous membrane	5							
8		S	Program o	utcome	_				
8		3	Program o Clinician/N urse educator	utcome Professi onal	Communic ator	Leader and member of the health care team and system	Lifelong learner	Critical thinker	Researcher
Drugs used Course Out		S	Clinician/N urse	Professi		member of the health care team and	-		Researcher PO-7
Course Out	tcome	used on skin and mucous membranes and	Clinician/N urse educator PO-1 2	Professi onal	ator	member of the health care team and system	learner	thinker	
Students sh CO-1: List describe the mechanisms and clinicall	tcome bould be able to- the major drugs and drug classes ir pharmacology including their in s of action, physiological effects, p ly significant drug interactions		Clinician/N urse educator PO-1 2	Professi onal PO-2	ator PO-3	member of the health care team and system PO-4	learner PO-5	thinker PO-6	PO-7
Students sh COURSE OUT Students sh CO-1: List describe the mechanisms and clinicall CO-2: List a	tcome bould be able to- the major drugs and drug classes ir pharmacology including their in s of action, physiological effects, p ly significant drug interactions	used on skin and mucous membranes and dications, contraindications, clinical use, harmacokinetic properties, major adverse effects	Clinician/N urse educator PO-1 2	Professi onal PO-2 2	ator PO-3 2	member of the health care team and system PO-4 2	learner PO-5 2	thinker PO-6 2	PO-7 1

IX(8Hrs) Drugs used	At the end of unit student are able to Knowledge: Understand and explain different agents used for the treatment of nervous system disorders. Skill: Administer medications in neurological conditions correctly. Attitude: Observe the clients for adverse effects and therapeutic effects of the drugs used in the neurological disorders. on Nervous system	 Drugs used on Nervous system: Basic & applied pharmacology of commonly used drugs: Composition actidosage, route, indication, contraindication drug interactions, side effects, adverse effects, toxicity and role of nurse: Analgesics and anesthetics Analgesics Non steroidal anti inflammatory (NSAIE Drugs. Antipyretics Hypnotics and sedatives Opioids Non – Opioids, Tranquilizers General and local anesthetics(4 hours) 	on, ons, Maines, Anti Anti Cho Cho Muse Majo Anti	es: Oxygen and le, carbon diox i-psychotics. idepressants. linergics and a linergics: scle relaxants or tranquilizers iconvulsants nulants	ide. nti	 Norac 	Icholine. Iregenics. I stabilizer:	S.	
Course Out	tcome		Program ou	tcome					
			Clinician/Nur se educator	Professional	nicator	Leader and member of the health care team and system	Lifelong learner	Critical thinker	Researcher
			PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
	bould be able to- the major drugs and drug classes u	used on nervous system	2	2	2	2	2	2	1
their pharma contraindica	acology including their indications, ations, clinical use, mechani- netic properties, major adverse	sed as Analgesics, Antipyretics and describe sms of action, physiological effects, effects and clinically significant drug	2	2	2	2	2	2	1
describe the contraindica	ir pharmacology including their ind tions, clinical use, mechanis netic properties, major adverse	used as General and local anesthetics and dications, sms of action, physiological effects, effects and clinically significant drug	2	2	2	2	2	2	1

(NSAID) D contraindic	the major drugs and drug classes used as Non steroidal anti inflamm Drugs and describe their pharmacology including their indications, ations, clinical use, mechanisms of action, physiological effects, inetic properties, major adverse effects and clinically significant dru s.	-	2	2	2	2	2	2	1
their pharm indications,	the major drugs and drug classes used as Hypnotics and sedatives a bacology including their , contraindications, clinical use, mechanisms of action, physiolo inetic properties, major adverse effects and clinically sign s.	gical effects,	2	2	2	2	2	2	1
describe the indications,	the major drugs and drug classes used as Opioids and Non- eir pharmacology including their , contraindications, clinical use, mechanisms of action, physiolo inetic properties, major adverse effects and clinically sign s	gical effects,	2	2	2	2	2	2	1
CO-7:Expla	ain Gases: Oxygen and nitrous oxide, carbon dioxide		2	2	2	2	2	2	1
CO-8:Desc	ribe Major tranquilizers, Anti-psychotics. Antidepressants. Mood st	tabilizers	2	2	2	2	2	2	1
CO-9:Expla	ain Muscle relaxants, Anticonvulsants, Stimulants, Acetylcholine. No	oradregenics.	2	2	2	2	2	2	1
CO-10: De	scribe role of Nurse while administering various drugs used in nerv	ous system	3	3	2	2	2	2	2
X(5 Hrs)	At the end of unit student are able to Knowledge: Understand and explain therapeutic agents used in cardiovascular disorders. Skill: Administer cardiovascular drugs correctly. Attitude: Observe the clients for adverse effects and therapeutic effects of the cardiovascular drugs in different disease conditions. Cardiovascular drugs: • Pharmacology of common Composition action, dosag indication, and contraindic interactions, side effects, a effects, toxicity and role o • Anti anginal • Anti-hypertensive & vasoo Coagulants & anticoagular • Platelets and thrombolytic • Hypolipedimics • Cardiotonics (3 hours)	gé, route, cations, drug and adverse f Nurse dilators. nts	• Plasi	nantinics na expanders -arrhythmics ur)					
Cardiovas Course Ou	cular drugs itcome	Program ou	tcome						
		Clinician/Nurs e educator	s Professio	onal Commu cator	ni Leader memb the he care te and sy	er of lear alth eam	- 0	Critical thinker	Researcher

	nould be able to- the major drugs and drug classes u	PO-1	PO-2	F	PO-3	PO-4	PO-5	PO-6	PO-7	
describe the contraindica	eir pharmacology including their in ations, clinical use, mechanisms of inetic properties, major adverse effo	dications, action, physiological effects,	2		2	2	2	2	2	1
and describ contraindica	the major drugs and drug classes u e their pharmacology including the ations, clinical use, mechanisms of inetic properties, major adverse effe	ir indications, action, physiological effects,	2		2	2	2	2	2	1
CO-3: Desc	cribe Coagulants & anticoagulants,	2		2	2	2	2	2	1	
CO-4: Expl	ain Hypolipedimics, Cardiotonics,	2		2	2	2	2	2	1	
gents and d contraindica	ne, List the major drugs and drug c lescribe their pharmacology includi ations, clinical use, mechanisms of inetic properties, major adverse effe	ing their indications, action, physiological effects,	2		2	2	2	2	2	1
CO-6: Desc cardiovascu	ribe role of Nurse while administer llar system	ring various drugs used in	3		3	2	2	2	2	2
XI(4 Hrs) Drugs used	At the end of unit student are able to Knowledge: Understand and explain drugs used in hormonal disorders. Skill: Administer different hormonal therapies. Attitude: Observe the clients for adverse effects and therapeutic effects of the hormonal therapies.	nt are d and ormonal Drugs used for hormonal disorders and supplementation, contraception and medical termination of pregnancy: Other estrogen – progesterone preparations Other estrogen – progesterone preparations Corticotrophine and gonadotropines Adrenaline Prostaglandins (1 hour) Oral contraceptives Anabolics. Calcium salts Calcium regulators. (1hour) 								
				utcome	-					
ur			linician/N rse ducator	Professional	Commun or	me the	ader and ember of e health re team	Lifelong learner	Critical thinker	Researcher

					and system			
Students should be able to- CO-1: : List the major drugs and drug classes used in Hormonal disorders and describe their pharmacology including their indications, contraindications, clinical use, mechanisms of action, physiological effects, pharmacokinetic properties, major adverse effects and clinically significant drug interactions.			PO-2	PO-3	PO-4	PO-5	PO-6	PO-7
			2	2	2	2	2	1
CO-2: Expl	CO-2: Explain Insulin and oral hypoglycemic.			2	2	2	2	1
CO-3: Dscribe Thyroid supplements and suppressants.		2	2	2	2	2	2	1
CO-4: Describe Steroids.		2	2	2	2	2	2	1
CO-5:Explain Uterine stimulants and relaxants, oestrogen – progesterone preparations		rone 2	2	2	2	2	2	1
CO-6:Describe Corticotrophine and gonadotropines			2	2	2	2	2	1
CO-7:Explain Adrenaline, Prostaglandins and Oral contraceptives			2	2	2	2	2	1
CO-8: Explain Calcitonins, Calcium salts and Calcium regulators.			2	2	2	2	2	1
CO-9: Describe role of Nurse while administering various drugs used in hormonal disorders		3	3	2	2	2	2	2
XII(6Hrs)	Attitude: Observe the clients for adverse effects and therapeutic effects of the drugs used in alternative systems of medicine.	• Unani						
	on to drugs used in alternative system of medicine	D	4					
		Program ou	1					
		Clinician/Nu se educator	Professional	Communicat or	Leader Lifel and member of the	ong learner	Critical thinker	Researcher

	PO-1	PO-2		health care team and system PO-4	PO-5	PO-6	PO-7
Students should be able to- CO-1: Describe alternative system of medicine Ayurveda,	2	2	2	2	2	2	1
CO-2:Describe alternative system of medicine Unani, Siddha, homeopathy	2	2	2	2	2	2	1