Course Outcome: After completing the course, students will be able to

BP503T_1	**Pharmacology of drugs acting on cardio vascular system** A. Introduction to hemodynamic and electrophysiology of heart. B. Drugs used in congestive heart failure C. Anti-hypertensive drugs. D. Anti-anginal drugs. E. Anti-arrhythmic drugs. F. Anti-hyperlipidemic drugs.	Reference Books: 1. Rang H. P., Dale M. M., Ritter J. M., Flower R. J., Rang and Dale's Pharmacology, Churchil Livingstone Elsevier 2. Katzung B. G., Masters S. B., Trevor A. J., Basic and clinical pharmacology, Tata Mc Graw-HillManufacturing.
BP503T_2	**Pharmacology of drugs acting on cardio vascular system** A. Drug used in the therapy of shock. B. Hematinics, coagulants and anticoagulants. C. Fibrinolytics and anti-platelet drugs D. Plasma volume expanders **Pharmacology of drugs acting on urinary system** A. Diuretics B. b. Anti-diuretics.	Reference Books: 1. Goodman and Gilman's, The Pharmacological Basis of Therapeutics 2. Marry Anne K. K., Lloyd Yee Y., Brian K. A., Robbin L.C., Joseph G. B., Wayne A. K., Bradley R.W., Applied Therapeutics, The Clinical use of Drugs, The Point Lippincott Williams & Wilkins.
BP503T_3	**Autocoids and related drugs** A. Introduction to autacoids and classification B. Histamine, 5-HT and their antagonists. C. Prostaglandins, Thromboxanes and Leukotrienes. D. Angiotensin, Bradykinin and Substance P. E. Non-steroidal anti-inflammatory agents F. Anti-gout drugs g. Antirheumatic drugs	Reference Books: 1. Mycek M.J, Gelnet S.B and Perper M.M. Lippincott's Illustrated Reviews- Pharmacology. 2. K.D.Tripathi. Essentials of Medical Pharmacology, , JAYPEE Brothers Medical Publishers (P) Ltd, New Delhi.
BP503T_4	**Pharmacology of drugs acting on endocrine system** A. Basic concepts in endocrine pharmacology. B. Anterior Pituitary hormones- analogues and their	Reference Books: 1. Sharma H. L., Sharma K. K., Principles of Pharmacology, Paras medical publisher 2. Modern Pharmacology with clinical Applications, by Charles R.Craig& Robert

	inhibitors. c. Thyroid hormones- analogues and their inhibitors. C. Hormones regulating plasma calcium level- Parathormone, Calcitonin and Vitamin-D. d. Insulin, Oral Hypoglycemic agents and glucagon. D. ACTH and corticosteroids.	
BP503T_5	**Pharmacology of drugs acting on endocrine system** A. Androgens and Anabolic steroids. B. Estrogens, progesterone and oral contraceptives. C. Drugs acting on the uterus. **Bioassay** A. Principles and applications of bioassay. B. b.Types of bioassay C. c. Bioassay of insulin, oxytocin, vasopressin, ACTH,d-tubocurarine,digitalis, histamine and 5-HT	Reference Books: **1.** Ghosh MN. Fundamentals of Experimental Pharmacology. Hilton & Company, Kolkata. **2.** . Kulkarni SK. Handbook of experimental pharmacology. Vallabh Prakashan.

Note: TM-Teaching Method – Lecture (LT), Laboratory Visit (LV), Industrial Visit (IV); TA-Teaching Aids – Chalk Board (CB), Power Point Presentation (PPT), Models (MD); AT-Assessment Tool – Assignments (AS), Examinations (CA, MSE, ESE), Rubrics (RB)

Unit	Lecture No.	Lesson Plan	Duration	Planned Date	Conduction Date	TM	TA	AT	Reference Book	Mapping with Outcomes	
Unit	**Lecture No.**	**Content Delivery**	**Duration**	**Planned Date**	**Conduction Date**	**TM**	**TA**	**AT**	**Reference Book**	**CO**	**PO**
I	1	Introduction to hemodynamic and electrophysiology of heart.	1 Hour	3/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_1	1,2,3,6,7,8,9, 10, PSO2
I	2	Introduction to hemodynamic and electrophysiology of heart.	1 Hour	4/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_1	1,2,3,6,7,8,9, 10, PSO2
I	3	Anti-hypertensive drugs.	1 Hour	6/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_1	1,2,3,6,7,8,9, 10, PSO2
I	4	A. Anti-anginal drugs.	1 Hour	7/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_1	1,2,3,6,7,8,9, 10, PSO2
I	5	A. Anti-arrhythmic drugs.	1 Hour	10/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_1	1,2,3,6,7,8,9, 10, PSO2

Unit	Lecture No.	Lesson Plan	Duration	Planned Date	Conduction Date	TM	TA	AT	Reference Book	Mapping with Outcomes	
Unit	Lecture No.	Content Delivery	Duration	Planned Date	Conduction Date	TM	TA	AT	Reference Book	CO	PO
I	6	Anti-arrhythmic drugs.	1 Hour	11/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_1	1,2,3,6,7,8,9, 10, PSO2
I	7	Anti-hyperlipidemic drugs.	1 Hour	13/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_1	1,2,3,6,7,8,9, 10, PSO2
I	8	Anti-arrhythmic drugs.	1 Hour	17/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_1	1,2,3,6,7,8,9, 10, PSO2
I	9	Anti-hyperlipidemic drugs.	1 Hour	18/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_1	1,2,3,6,7,8,9, 10, PSO2
I	10	Anti-arrhythmic drugs. Anti-hyperlipidemic drugs.	1 Hour	20/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_1	1,2,3,6,7,8,9, 10, PSO2
II	11	**Drug used in the therapy of shock.** Hematinics, coagulants	1 Hour	21/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_2	1,2,3,6,7,8,9, 10, PSO2
II	12	Hematinics, coagulants	1 Hour	24/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_2	1,2,3,6,7,8,9, 10, PSO2
II	13	anticoagulants.	1 Hour	25/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_2	1,2,3,6,7,8,9, 10, PSO2
II	14	Fibrinolytics	1 Hour	27/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_2	1,2,3,6,7,8,9, 10, PSO2
II	15	anti-platelet drugs	1 Hour	28/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_2	1,2,3,6,7,8,9, 10, PSO2
II	16	Plasma volume expanders	1 Hour	31/8/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_2	1,2,3,6,7,8,9, 10, PSO2

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Unit	Lecture No.	Lesson Plan	Duration	Planned Date	Conduction Date	TM	TA	AT	Reference Book	Mapping with Outcomes	
Unit	Lecture No.	Content Delivery	Duration	Planned Date	Conduction Date	TM	TA	AT	Reference Book	CO	PO
II	17	Plasma volume expanders	1 Hour	1/9/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_2	1,2,3,6,7,8,9, 10, PSO2
II	18	Diuretics	1 Hour	3/9/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_2	1,2,3,6,7,8,9, 10, PSO2
II	19	anti-platelet drugs	1 Hour	4/9/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_2	1,2,3,6,7,8,9, 10, PSO2
II	20	Anti-diuretics.	1 Hour	7/9/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_2	1,2,3,6,7,8,9, 10, PSO2
III	21	**Autocoids and related drugs** Introduction to autacoids and classification	1 Hour	8/9/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_3	1,2,3,6,7,8,9, 10, PSO2
III	22	Introduction to autacoids and classification Histamine	1 Hour	10/9/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_3	1,2,3,6,7,8,9, 10, PSO2
III	23	5-HT and their antagonists.	1 Hour	11/9/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_3	1,2,3,6,7,8,9, 10, PSO2
III	24	Prostaglandins, Thromboxanes	1 Hour	15/9/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_3	1,2,3,6,7,8,9, 10, PSO2
III	25	Leukotrienes. Angiotensin	1 Hour	17/9/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_3	1,2,3,6,7,8,9, 10, PSO2
III	26	Bradykinin and Substance P.	1 Hour	18/9/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_3	1,2,3,6,7,8,9, 10, PSO2

III	27	Non-steroidal anti-inflammatory agents	1 Hour	28/9/26		LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_3	1,2,3,6,7,8,9, 10, PSO2

III	28	Angiotensin, Bradykinin and Substance P. Non-steroidal anti-inflammatory agents Anti-gout drugs g. Antirheumatic drugs	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_3	1,2,3,5,8,10, PSO2,PSO3
III	29	Non-steroidal anti-inflammatory agents Anti-gout drugs g. Antirhe	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_3	1,2,3,5,8,10, PSO2,PSO3

		umatic drugs									
III	30	Non-steroidal anti-inflammatory agents Anti-gout drugs g. Antirheumatic drugs	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_3	1,2,3,5,8,10, PSO2,PSO3
IV	31	**Pharmacology of drugs acting on endocrine system** Basic concepts in endocrine pharmacology. ACTH and corticosteroids.	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_4	1,2,3,5,8,10,12, PSO2,PSO3
IV	32	Anterior Pituitary	1 Hour			LT	CB, PPT	CA SE I,II	R1,R2	BP503T_4	1,2,3,5,8,10,12, PSO2,PSO3

		hormones-analogues						ESE			
IV	33	Anterior Pituitary hormones inhibitors, Thyroid hormones-analogues	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_4	1,2,3,5,8,10,12, PSO2,PSO3
IV	34	Thyroid hormones-analogues and their inhibitors.	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_4	1,2,3,5,8,10,12, PSO2,PSO3
IV	35	Hormones regulating plasma calcium level-Parathormone	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_4	1,2,3,5,8,10,12, PSO2,PSO3
IV	36	Calcitonin and Vitamin-	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_4	1,2,3,5,8,10,12, PSO2,PSO3

		D									
IV	37	Insulin, Oral Hypoglycemic agents and glucagon.	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_4	1,2,3,5,8,10,12, PSO2,PSO3
IV	38	ACTH and corticosteroids	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_4	1,2,3,5,8,10,12, PSO2,PSO3
V	39	**Pharmacology of drugs acting on endocrine system** Androgens Drugs acting on the uterus. **Bioassay** Principles and applications of bioassay.	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_5	1,2,3,5,8,10,12, PSO2,PSO3
V	40	Anabolic steroids. Estrogens	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_5	1,2,3,5,8,10,12, PSO2,PSO3
V	41	progesterone and oral contr acept	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_5	1,2,3,5,8,10,12, PSO2,PSO3

		ives									
V	42	Drugs acting on the uterus	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_5	1,2,3,5,8,10,12, PSO2,PSO3
V	43	**Bioassay** Principles and applications of bioassay	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_5	1,2,3,5,8,10,12,

Unit	Lecture No.	Lesson Plan	Duration	Planned Date	Conduction Date	TM	TA	AT	Reference Book	Mapping with Outcomes	
Unit	Lecture No.	Content Delivery	Duration	Planned Date	Conduction Date	TM	TA	AT	Reference Book	CO	PO
								CA SE I,II ESE			PSO2,PSO3
V	44	Types of bioassay Bioassay of insulin, oxytocin, vasopressin,	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_5	1,2,3,5,8,10,12, PSO2,PSO3
V	45	ACTH,d-tubocurarine,digitalis, histamine and 5-HT	1 Hour			LT	CB, PPT	CA SE I,II ESE	R1,R2	BP503T_5	1,2,3,5,8,10,12, PSO2,PSO3

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Mode of Assessment

Mode	Assessment Tool	Syllabus	CO Mapped	Marks Weightage	Remark
CA	Assignment/OBT	Unit I to V	CO1, CO2, CO3, CO4, CO5	3 M	As per PCI norms, the maximum weightage of Internal (Sessional) Assessment shall be 20 Marks.
	Attendance	Unit I to V	CO1, CO2, CO3, CO4, CO5	4 M	As per PCI norms, the maximum weightage of Internal (Sessional) Assessment shall be 20 Marks.
	Teacher –Student Interaction	Unit I to V	CO1, CO2, CO3, CO4, CO5	3 M	As per PCI norms, the maximum weightage of Internal (Sessional) Assessment shall be 20 Marks.
SE I	Written Exam	Unit I &II	CO1, CO2	15 M	As per PCI norms, the maximum weightage of Internal (Sessional) Assessment shall be 20 Marks.
SE II	Written Exam	Unit III to V	CO3, CO4, CO5	15 M	As per PCI norms, the maximum weightage of the End Semester Examination shall be 80 Marks.
ESE	Written Examination	Entire BP503T syllabus	CO1, CO2, CO3, CO4, CO5	75M	The Maximum weightage shall be 75 marks as per University Structure

Teaching–Learning Methods and Aids

Category	Items	Purpose
Teaching Methods	Lecture (LT), interactive questioning, discussion, case-based discussion, unit revision	Concept delivery and active learning
Teaching Aids	Chalk Board (CB), Power Point Presentation (PPT), diagrams/flowcharts, formulation examples	Visual and conceptual understanding
Assessment Tools	Class tests (CA), assignments, seminar/quiz, sessional examination (SE), end semester examination (ESE)	Formative and summative assessment

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Course Coordinator Academic Coordinator **HOD – Pharmaceutics**