



AMITY UNIVERSITY

— UTTAR PRADESH —

COURSE CURRICULUM

Course Title: PHYSIOLOGICAL PHARMACOLOGY

Credit Units: 03

Course Level: PG

Course Code:

Course Objectives: The course is designed to help students understand the concept of:

- The physiological effects of drug actions in the human being.

Note: Course is not prescription oriented.

Pre-requisites: Knowledge of anatomy, physiology & pathology.

Course Contents/Syllabus:

	Weightage (%)
Module I: The importance of pharmacology in the study of physiological processes	20

L	T	P/ S	SW/ FW	TOTAL CREDIT UNITS
3	0	0	0	3

<ul style="list-style-type: none"> • Definition of drug, agonist and antagonist. • Drug delivery Drug reactivity. • Pharmacokinetics: Drug-receptor interaction, Desensitization of receptors, Absorption, Distribution, Permeation, Elimination, Clearance, Half-life. • Pharmacodynamics: dose-response curves. • Beneficial versus toxic effects of drugs. 	
Module II: Drug biotransformation	20
<ul style="list-style-type: none"> • Bioavailability. • Drug accumulation. • Drug toxicity – LD50, ED50, • Therapeutic index. 	
Module III: Anaesthetics	10
<ul style="list-style-type: none"> • Anaesthetic types and mechanism of action of general anaesthetics. • Sedatives - hypnotics: benzodiazepine, zolpidem. 	
Module IV: Diuretics	20
<ul style="list-style-type: none"> • Carbonic anhydrase inhibitor, loop diuretic, potassium sparing and osmotic diuretics. • Neuromuscular blockers: Tubocurarine and succinyl choline. • Organ system effects and mechanism of action of adrenoceptor agonists and antagonists. 	
Module V: Adrenergic stimulants	20

<ul style="list-style-type: none"> • Amphetamine and ephedrine. α- adrenergic stimulants – Methaxomine and clonidine. • β- adrenergic stimulants – Metaproterenol and salbutamol. • Adrenergic antagonists : Labetelol. α- adrenergic blockers – Phenoxybenzamine and phentolamine. • β- adrenergic blockers – Propranolol and atenolol. 	
Module VI: Antianginal drugs	10
<ul style="list-style-type: none"> • Nitroglycerine and calcium-channel blocker – Nifedipine and verapamil. 	

Student Learning Outcomes:

After completing the course students will be demonstrate a good understanding of :

- Pharmaco-kinetics, pharmaco-dynamics.
- Usage of common drugs with (indications, contraindications, side effects).

Pedagogy for Course Delivery:

The class will be taught using theory and case based method.

Classes are conducted on the basis of power presentation, demonstration and discussion sessions.

Lab/ Practicals details, if applicable: not applicable

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	End Term Examination
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100	NA	100
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Theory Assessment (L&T):

Continuous Assessment/Internal Assessment					End Term Examination
Components (Drop down)	Attendance	Class test	Home Assignment	Case/Presentation	Theory Paper
Weightage (%)	5	15	5	5	70

Lab/ Practical/ Studio Assessment: NA

Continuous Assessment/Internal Assessment					End Term Examination		
Components (Drop down)							
Weightage (%)							

Text:

1. Goodman & Gilman's The Pharmacological Basis of Therapeutics, McGraw-Hill.
2. Basic and Clinical Pharmacology by E.G. Katzung. Appleton and Lange.
3. Essentials of Medical Pharmacology, K.D. Tripathi