



GANDHI INSTITUTE OF TECHNOLOGY AND MANAGEMENT (GITAM)

(Declared as Deemed to be University u/s 3 of UGC Act, 1956)

Visakhapatnam | Hyderabad | Bengaluru

Accredited by NAAC with A++ Grade

Website: www.gitam.edu

GITAM SCHOOL OF PHARMACY

PhD Entrance Test Syllabus

PhD in Pharmacy: Pharmacology

Module 1:

- a) **Fundamentals of general pharmacology:** Dosage forms and routes of administration, mechanism of action, combined effect of drugs, factors modifying drug action, tolerance and dependence; Pharmacogenetics; Principles of Basic and Clinical pharmacokinetics, absorption, Distribution, Metabolism and Excretion of drugs, Adverse Drug Reactions; Bioassay of Drugs and Biological Standardization; Discovery and development of new drugs, Bioavailability and bioequivalence studies.
- b) **Pharmacology of Peripheral Nervous System:** Neurohumoral transmission (autonomic and somatic), Parasympathomimetics, Parasympatholytics, Sympathomimetics, Sympatholytics, Ganglion stimulants and blocking agents, Neuromuscular blocking Agents, Local anesthetic Agents.
- c) **Pharmacology of Central Nervous System:** Neurohumoral transmission in the C.N.S., General Anesthetics, Alcohols and disulfiram, Sedatives, Hypnotics, Anti-anxiety agents and Centrally acting muscle relaxants, Psychopharmacological agents (anti-psychotics), anti- maniacs, and hallucinogens, Antidepressants, Anti-epileptics drugs, Anti-Parkinsonism drugs, Analgesics, Antipyretics, Narcotic analgesics and antagonists, C.N.S. stimulants, Drug Addiction and Drug Abuse.

Module 2:

- a) **Pharmacology of Cardiovascular System:** Drugs used in the management of congestive cardiac failure, Antihypertensive drugs, Anti-angina drugs and Vasodilator drugs, including calcium channel blockers and beta adrenergic antagonists, Anti arrhythmic drugs, Anti- hyperlipidemic drugs, drugs used in the therapy of shock.
- b) **Drugs acting on urinary system:** Fluid and electrolyte balance, Diuretics, Anti-diuretics; **Drugs Acting on the Respiratory System:** Anti-asthmatic drugs including bronchodilators, Anti- tussives and expectorants, Respiratory stimulants.
- c) **Drugs acting on the Gastrointestinal Tract:** Antacids, Anti-secretory and Anti-ulcer drugs, Laxatives and anti-diarrhoeal drugs, Appetite Stimulants and Suppressants, Emetics and anti- emetics, Miscellaneous: Carminatives, demulcents, protectives, adsorbents, astringents, digestants, enzymes and mucolytics.



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Module 3:

- a) **Pharmacology of Endocrine System:** Hypothalamic and pituitary hormones, Thyroid hormones and anti-thyroid drugs, parathormone, calcitonin and Vitamin D, Insulin, glucagons, incretins, oral hypoglycemic agents and insulin analogs, ACTH and corticosteroids, Androgens and anabolic steroids, Estrogens, progesterone and oral contraceptives, Drugs acting on the uterus.
- b) **Chemotherapy:** General Principles of Chemotherapy, Bacterial resistance; Sulfonamides and cotrimoxazole, Antibiotics- Penicillins, Cephalosporins, Aminoglycosides, Chloramphenicol, Macrolides, Tetracyclines, Quinolones, fluoroquinolones and Miscellaneous antibiotics; Chemotherapy of tuberculosis, leprosy, fungal diseases, viral diseases, HIV and AIDS and Cancer Chemotherapy.