

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BACHELOR OF PHARMACY**  
**Semester: VII**

Subject Name: **Pharmacology – III**

Subject Code: **270006**

**[THEORY]**

Sr. No	Course Content	Total Hrs.
1.	<p><b>Chemotherapy</b></p> <ul style="list-style-type: none"> <li>• General principles of chemotherapy</li> <li>• Sulfonamides, cotrimoxazole and quinolones</li> <li>• Beta lactam antibiotics</li> <li>• Tetracycline and chloramphenicol</li> <li>• Aminoglycoside antibiotics</li> <li>• Macrolides</li> <li>• Antitubercular drugs</li> <li>• Antileprosy drugs</li> <li>• Antifungal drugs</li> <li>• Antiviral drugs</li> <li>• Antiprotozoal (Antimalarial ,Antiamoebic etc.) drugs</li> <li>• Anthelmintic drugs</li> <li>• Anticancer drugs</li> </ul>	<b>22</b>
2.	<p><b>Pharmacology of Endocrine system</b></p> <ul style="list-style-type: none"> <li>• Hypothalamic &amp; pituitary hormones</li> <li>• Thyroid and antithyroid drugs, parathormone, calcitonin and vitamin D</li> <li>• Glucagon, insulin and oral hypoglycaemic drugs</li> <li>• Corticosteroids</li> <li>• Androgens and anabolic steroids</li> <li>• Estrogens, progesterone and oral contraceptives</li> <li>• Oxytocics and Tocolytics</li> </ul>	<b>12</b>
3.	<p><b>Pharmacology of drugs acting on Respiratory system</b></p> <ul style="list-style-type: none"> <li>• Drugs used in bronchial asthma</li> <li>• Antitussive agents</li> <li>• Expectorants</li> </ul>	<b>03</b>

4.	<b>Drug Acting on the Gastrointestinal Tract</b> <ul style="list-style-type: none"> <li>• Anti-ulcer drugs (Antacids, Anti-secretory agents etc.)</li> <li>• Laxatives and antidiarrhoeal drugs</li> <li>• Emetics and anti-emetics</li> </ul>	<b>03</b>
5.	<b>Drugs acting on immune system</b> <ul style="list-style-type: none"> <li>• Immunosuppressive agents</li> <li>• Immunostimulant Agents</li> </ul>	<b>03</b>
6.	<b>Pharmacology of nitric oxide</b>	<b>02</b>

### [PRACTICALS]

1.	Introduction to general principles of bioassay, pharmacopoeial bioassays and biostandardization of various drugs
2.	Introduction to cell based assay: Definition, Types, Advantages, limitations of cell based assay, and application to High throughput screening
3.	Bioassay of Acetylcholine using Chick/Rat ileum by Graphical method
4.	Bioassay of Acetylcholine using Chick/Rat ileum by matching, method
5.	Bioassay of Acetylcholine using Chick/Rat ileum by three point method
6.	Bioassay of Acetylcholine using Chick/Rat ileum by four point method
7.	Bioassay of Histamine using Chick/ Guinea pig by matching, method
8.	Bioassay of Histamine using Chick/ Guinea pig by three point method
9.	Bioassay of Histamine using Chick/ Guinea pig by four point method
10.	Bioassay of Atropine using Chick/Rat ileum by Graphical method
11.	Bioassay of Mepyramine using Chick/ Guinea pig by Graphical method
12.	Demonstration experiments: <ul style="list-style-type: none"> <li>• To demonstrate effect of antihistaminic drugs on guinea pigs</li> <li>• To demonstrate effect of antiulcer drugs using rats</li> <li>• To demonstrate the effect of anti-motility drugs using mice/rat</li> <li>• To demonstrate bioassay of oxytocin using rat uterus</li> <li>• To demonstrate effect of l-thyronine on respiration rate</li> <li>• To demonstrate the effect of hypoglycemic agents on blood sugar level (metformin, glibenclamide/Insulin) using experimental animals.</li> </ul>

### **Text Books:**

1. Rang, H.P. and Dale, M.M. Pharmacology, 5th edition, 2010. Publisher : Churchill Livingstone.
2. Tripathi K.D., Essentials of medical pharmacology 6<sup>th</sup> ed, 2010, Jaypee brothers medical publishers pvt, ltd.

### **Reference Books:**

1. Goodman Gilman A., Rall T.W., Nies A.I.S. and Taylor, P. Goodman and Gilman's The Pharmacological Basis of therapeutics, 12th edition, 2011. Mc Graw Hill, Pergamon Press.
2. Katzung, B.G. Basic and Clinical Pharmacology, 8th Edition, McGraw Hill, New York, 11<sup>th</sup> edn, 2009
3. Satoskar, R.S. and Bhandarkar, S.D. Pharmacology and Pharmacotherapeutics, 20<sup>th</sup> edition (single volume), 2010, Popular, Dubai
4. Kulkarni S.K. Handbook of experimental pharmacology, 3rd edition, 2009, Vallabh Prakashan, New Delhi.