

## **Unit 2: General Pharmacology (Pharmacodynamics, Adverse Reactions, Interactions, Drug Discovery)**

### **10 Mark Questions**

1. Explain in detail the principles of pharmacodynamics, including receptor theories, classification of receptors, and their regulation. Discuss signal transduction mechanisms with examples of different receptor types such as G-protein-coupled receptors and ion channel receptors.
2. Describe the dose-response relationship and therapeutic index. Elaborate on the combined effects of drugs (synergism, antagonism) and factors modifying drug action, with suitable examples.
3. Discuss adverse drug reactions in detail, including their classification, mechanisms, and methods for prevention and management. Provide examples of Type A and Type B reactions.
4. Explain drug interactions, differentiating between pharmacokinetic and pharmacodynamic interactions. Give examples and discuss their clinical significance.
5. Outline the process of drug discovery and clinical evaluation, including the drug discovery phase, preclinical evaluation, phases of clinical trials (I-IV), and the role of pharmacovigilance.

### **5 Mark Questions**

1. Classify receptors based on their signal transduction mechanisms. Give one example for each class.
2. What is therapeutic index? How is it calculated, and what is its clinical importance?
3. Describe the mechanisms of enzyme induction and inhibition in drug interactions, with examples.
4. Explain the phases of clinical trials and their objectives.
5. Discuss factors modifying drug action, such as age, sex, and disease states.
6. What is pharmacovigilance? Explain its importance in post-marketing surveillance.

### **2 Mark Questions**

1. Define agonist and antagonist.
2. What is tachyphylaxis?
3. Define therapeutic index.
4. What is a G-protein-coupled receptor?
5. Name two types of adverse drug reactions.
6. What is Phase I clinical trial?
7. Define synergism.
8. What is enzyme induction?
9. Name two factors modifying drug action.
10. What is pharmacovigilance?