

Answer the following questions:

1. Define what is the "bioavailability" of a drug? Explain why for a particular drug, its bioavailability is usually less when it is given orally than when it is given intravenously. (10%)
2. Five common pharmaceutical medications are listed below; for each of these drugs, give description of : (a)its clinical application, and (b)its mechanism of action.
 - i. Tropicamide (atropin agonist) on eyes (8%)
 - ii. Cimetidine on stomach (7%)
 - iii. Prostaglandins on smooth muscle (8%)
 - iv. Aspirin on platelets and endothelial cells (8%)
 - v. Cisplatin (6%)
3. Ethyl ether is seldom used to anesthetize humans, but it is often used on small animals such as rats. What are the advantages and disadvantages of using ether in anesthesia? (8%)
4. Estrogens , progestins and certain steroid hormone antagonists are presently in use, either in mixtures or individually, to serve as oral contraceptive medications. Describe 3 examples showing how (a)one hormone, or (b)a mixture of two hormones, or (c)a hormone antagonist are used as oral contraceptives. (30%)
- 5: A medication commonly used to treat patients with hypertension is an adrenergic antagonist called propranolol. Describe how this drug can bring about a therapeutic reduction in systemic blood pressure. (10%) Why doesn't propranolol induce peripheral vasoconstriction (like ephedrine in nasal mucosa). (5%)