

- N. B. (1) All questions are compulsory
(2) Figures to the right indicate full marks

Marks: 80

- Q 1a. Answer the following 16
- (i) Define
 - 1) Pharmacodynamics
 - 2) Pharmacokinetics
 - (ii) Explain following terms i.e. bioavailability and bioequivalence
 - (iii) Explain the term 'receptor' and classify with examples
 - (iv) Classify muscarinic receptors and give example of selective antagonist for each subtype
 - (v) Give mechanism of action of Enalapril
 - (vi) Why HDL is known as good cholesterol?
 - (vii) Enlist factors affecting volume of drug distribution
 - (viii) Define therapeutic index and give significance
- Q 1b. (i) Explain the term "inverse agonist" with example 4
- (ii) Classify antiarrhythmic drugs
 - (iii) Enlist factors affecting drug absorption
 - (iv) Define- placebo
- Q 2 (a) Answer any two of the following 8
- (i) Discuss in-detail pharmacological actions of adrenaline
 - (ii) Classify skeletal muscle relaxants. Differentiate between depolarizing and non-depolarizing muscle relaxants.
 - (iii) Describe synthesis, storage, and hydrolysis of acetylcholine
- Q 2 (b) Answer any one of the following 4
- (i) Discuss various consequences of plasma protein binding on distribution and elimination of drugs
 - (ii) Classify routes of administration and discuss advantages and disadvantages of parenteral route over topical route
- Q 3 (a) Answer any two of the following 8
- (i) Classify beta blockers and give their role in the management of cardiovascular diseases
 - (ii) Classify anti-anginal drugs and write a note on combination therapy used in the treatment of angina
 - (iii) Classify anti-hyperlipidemic drugs. Write a note on fibrates
- Q 3 (b) Answer any one of the following 4
- (i) Give mechanism of action of organic nitrates
 - (ii) Write a note on sodium channel blockers with therapeutic uses
- Q 4 (a) Answer any two of the following 8
- (i) Describe synthesis, storage, release, and metabolism of catecholamines
 - (ii) Explain in-detail the therapeutic effects of parasympatholytics
 - (iii) Classify adrenergic receptors and discuss therapeutic uses of selective agonist and antagonist for each subtype of receptor
- Q 4 (b) Answer any one of the following 4
- (i) Classify anticholinesterases and discuss related therapeutic uses
 - (ii) Explain the mechanism of action of olmesartan & therapeutic use

- Q 5 (a) Answer any two of the following 8
- (i) What are GPC receptors? Explain role of secondary messengers with example
 - (ii) Discuss ligand gated ion channel receptors in-detail
 - (iii) What are nuclear receptors? Explain the mechanism of action of drugs acting on nuclear receptors
- Q 5 (b) Answer any one of the following 4
- (i) Discuss various routes of excretion with examples of drugs
 - (ii) Describe phase I reactions in-detail with example
- Q 6 (a) Answer any two of the following 8
- (i) Classify diuretics. Discuss role of carbonic anhydrase inhibitors in-detail
 - (ii) Discuss therapeutic uses and complication of diuretics
 - (iii) Compare and contrast loop diuretics with thiazide diuretics
- Q 6 (b) Answer any one of the following 4
- (i) How does gender and body weight affect drug action?
 - (ii) Discuss pathological conditions affecting drug action with example
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