

- N. B. (1) All questions are compulsory **Marks: 70**
 (2) Figures to the right indicate full marks

- Q 1a. Answer the following **12**
- Discuss following terms i.e. 'inverse agonist' and 'bioequivalence'
 - Explain terms
 - Carcinogenicity
 - Mutagenicity
 - Enlist the therapeutic uses of adrenergic drugs
 - Explain the term 'receptor' and classify with examples
 - Classify adrenergic receptors and give example of selective antagonist for each subtype
 - Enlist factors affecting volume of drug distribution
- Q 1b. (i) Give mechanism of action of loop diuretics **3**
 (ii) Classify skeletal muscle relaxants
 (iii) Enlist side effects of atropine
- Q 2 (a) Answer any two of the following **8**
- Describe synthesis, storage, release, and metabolism of acetylcholine
 - What are ganglion blocking agents? Compare and contrast between depolarizing and non-depolarizing agents.
 - Discuss in-detail pharmacological actions of adrenaline
- Q 2 (b) Answer any one of the following **3**
- Discuss hepatotoxicity and related causes
 - Classify routes of administration and discuss advantages and disadvantages of oral route over parenteral route
- Q 3 (a) Answer any two of the following **8**
- Classify anti-anginal agents and add a note on nitrates
 - Classify antiarrhythmic agents and discuss the role of calcium channel blockers in-detail
 - Classify antihyperlipidemic drugs. Write a note on bile acid sequestrants
- Q 3 (b) Answer any one of the following **3**
- Describe mechanism of action of digitalis and state related toxicity
 - Write a note on sodium channel blockers with examples
- Q 4 (a) Answer any two of the following **8**
- Classify cholinergic receptors and discuss therapeutic uses of selective agonist and antagonist for each subtype of receptor
 - Describe synthesis, storage, release, and metabolism of catecholamines
 - Explain in-detail the therapeutic effects of sympatholytics
- Q 4 (b) Answer any one of the following **3**
- Classify anticholinesterases and discuss related therapeutic use
 - Discuss the therapeutic role of adrenaline
- Q 5 (a) Answer any two of the following **8**
- Describe enzyme-linked receptors in-detail
 - Explain the adenylyl cyclase c-AMP pathway of GPC receptors.
 - What are nuclear receptors? Explain related mechanism of action with example

- Q 5 (b) Answer any one of the following 3
- (i) Discuss renal route of excretion with examples of a drug
 - (ii) Classify phase II reaction with example and write a note on any one reaction
- Q 6 (a) Answer any two of the following 8
- (i) Write a note on thiazide diuretics
 - (ii) Discuss therapeutic uses and complication of diuretics
 - (iii) Describe role of carbonic anhydrase inhibitors and loop diuretic in the treatment of hypertension
- Q 6 (b) Answer any one of the following 3
- (i) Write a short note on tolerance?
 - (ii) Explain how body weight affects drug action
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