

[Time: 2½ Hours]

[Marks:70]

Please check whether you have got the right question paper.

- N.B:**
1. All questions are **compulsory**
 2. Figures –to the right indicate full marks.

1. (a) Answer the following: 12
 - i) Define:
 - a) Inverse agonist
 - b) Bioequivalence
 - ii) Enlist factors affecting volume of drug distribution.
 - iii) Classify cholinergic receptors with the examples of agonist and antagonist of each sub-types.
 - iv) "Beta blockers are contraindicated in diabetic patients". State true or false and justify.
 - v) Enlist the therapeutic uses of adrenergic drugs.
 - vi) Enlist the therapeutic uses of statins.
- b) i) What is neurohumoral transmission? 03
 ii) Enlist the side effects of atropine.
 iii) Classify antiarrhythmic drugs.
2. (a) Answer any two of the following: 08
 - i) Describe synthesis, storage, and hydrolysis of Acetylcholine.
 - ii) Classify cholinergic receptors with examples of agonist and antagonist of each. Discuss predominant pharmacological actions of muscarinic receptor activation.
 - iii) Explain in detail the pharmacotherapeutic actions of anticholinergic drugs.
- b) Answer any one of the following. 03
 - i) What are the different routes of administration? Give advantages and disadvantages of parenteral route of administration.
 - ii) What is biotransformation? Discuss various Phase I reactions.
3. (a) Answer any two of the following: 08
 - i) Discuss the mechanism of action of each class of antihypertensive drug.
 - ii) Classify drugs used as antihyperlipidemic therapy. Write briefly about bile acid sequestrants.
 - iii) Classify calcium channel blockers and give their role in the management of angina pectoris.
- b) Answer any one of the following: 03
 - i) Explain the actions of Angiotensin receptor blockers.
 - ii) Explain the mechanism of action of Digitalis.
4. (a) Answer any two of the following: 08
 - i) Describe the clinical uses of anticholinesterases. What are the symptoms and treatment of organophosphorus poisoning?
 - ii) Classify skeletal muscle relaxants. Differentiate between Galamine and Succinylcholine.
 - iii) Explain the Pharmacological actions of Acetylcholine.

b) Answer any one of the following.

- i)** Discuss the therapeutic role of Adrenaline.
- ii)** Discuss the treatment of glaucoma.

03

5. (a) Answer any two of the following:

- i)** Classify receptors? Explain IP3 DAG pathway in-detail.
- ii)** What are nuclear receptors? Explain the mechanism of action of drug acting on nuclear receptors.
- iii)** Differentiate between competitive and non-competitive inhibition.

08

b) Write short note on any one of the following.

- i)** Nephrotoxicity
- ii)** Paracetamol over-dosage causes hepatotoxicity
- iii)** Discuss factors affecting bioavailability.

03

6. (a) Answer any two of the following:

- i)** Classify diuretics. Write a short note on Potassium Sparing Diuretics.
- ii)** What is the role of beta blockers in the management of cardiovascular diseases? Classify with related drug examples.
- iii)** Discuss the mechanism of action of:
 - a)** Quinidine
 - b)** Organic Nitrates

08

b) Answer any one of the following:

- i)** What is the correlation between protein binding capacity of a drug and its action?
- ii)** Explain dose response relationship.

03