

2016-2017
PHARMACOLOGY
 Sem-IV

Sem-IV (or-exam)
 Pharmacology-I
 Second half-2016

2016-2017

Q.P. Code : 527900

(3 Hours)

[Total Marks : 70]

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

1. (a) Answer the following: 12
 - (i) Define enzyme induction with an example.
 - (ii) What are nuclear receptors? Give examples of drugs binding to these receptors.
 - (iii) Classify adrenergic receptors. Give examples of agonists and antagonists at these receptors.
 - (iv) Give the mechanism of action of quinidine.
 - (v) What are the clinical uses of skeletal muscle relaxants?
 - (vi) Highly lipophilic drugs cross the blood brain barrier. Justify.
- (b)
 - (i) Define mutagenicity 3
 - (ii) Enlist factors modifying drug action
 - (iii) Classify diuretic drugs
2. (a) Answer any two of the following: 8
 - (i) What are functionalisation reactions? Explain the various types of reactions coming in this category with examples.
 - (ii) Enlist various routes of excretion of a drug. Explain briefly biliary excretion with examples of drugs undergoing this excretion.
 - (iii) What are the various routes of administration of a drug? Explain different routes of parenteral administration.
- (b) Answer any one of the following: 3
 - (i) Explain how overdosage of NSAIDs causes nephrotoxicity.
 - (ii) What is teratogenicity? Give examples of teratogens affecting different stages of fetal development.
3. (a) Answer any two of the following: 8
 - (i) What are enzyme linked receptors? Classify them and explain their transduction mechanisms.
 - (ii) Explain drug antagonism. Differentiate between competitive and non competitive antagonism.
 - (iii) Explain drug potency, efficacy and selectivity with suitable examples.

TURN OVER

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- (b) Answer any one of the following: **3**
- Write a short note on acetylcholine esterase inhibitors.
 - Explain the mechanism of action of:
 - Reserpine
 - Clonidine
4. (a) Answer any two of the following: **8**
- Classify skeletal muscle relaxants. Differentiate between depolarizing and non depolarizing muscle relaxants.
 - Explain the therapeutic effects of anticholinergic drugs.
 - Describe the synthesis storage, release and metabolism of adrenaline and noradrenaline.
4. (b) Answer any one of the following: **3**
- Classify beta adrenergic receptor antagonists. Add a note on metoprolol.
 - Give the pharmacological actions of acetylcholine.
5. (a) Answer any two of the following: **8**
- What is the role of calcium channel blockers in the management of cardiovascular diseases? Classify them with examples.
 - Classify antihyperlipidemic drugs. Write a short note on statins.
 - Classify drugs used in the treatment of hypertension with examples. Comment on their mechanism of action.
- (b) Answer any one of the following: **3**
- What is the effect of digitalis on a failing heart?
 - Give mechanism of action of organic nitrates.
6. (a) Answer any two of the following: **8**
- Compare and contrast loop diuretics with thiazide diuretics.
 - Write a short note on potassium sparing diuretics.
 - Classify alpha adrenergic receptors. Give location and actions on their stimulation.
- (b) Answer any one of the following: **3**
- How does age and gender affect drug action?
 - How do physiological factors affect drug action?