

Sem IV
CBSCS

Pharmacology-I March 2015

Q.P. Code : 15855

(3 Hours)

[Total Marks : 70

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

1. (a) Answer the following : 12
- (i) "High degree of protein binding generally makes the drug long acting". Justify.
 - (ii) Define plasma half life of a drug and give its significance.
 - (iii) What are receptors ? Classify and give the functions of receptors.
 - (iv) Define nephrotoxicity.
 - (v) Classify adrenergic receptors and give examples of selective agonists and antagonists acting on these receptors.
 - (vi) Give the mechanism of action of Captopril.
- (b) (i) Define Prodrug. 3
(ii) Enlist factors affecting absorption.
(iii) What is neurohumoral transmission ?
2. (a) Answer any two of the following : 8
- (i) Discuss the advantages and disadvantages of oral and parenteral route of administration.
 - (ii) Give a detailed account of phase I reactions with suitable examples.
 - (iii) Discuss the factors affecting bioavailability.
- (b) Answer any one of the following : 3
- (i) Write a short note on hepatotoxicity giving suitable examples.
 - (ii) Write briefly on mutagenicity and carcinogenicity.
3. (a) Answer any two of the following : 8
- (i) What are transmembrane enzyme linked receptors. Explain the transducer pathway of enzyme linked receptors.
 - (ii) Discuss in detail enzyme induction and enzyme inhibition of drugs.
 - (iii) Explain how genetic variations affect drug action.
- (b) Answer any one of the following : 3
- (i) Classify cholinergic receptors with predominant action of muscarinic receptor activation.
 - (ii) Explain the mechanism of action of :
(i) Clonidine (ii) Physostigmine

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4. (a) Answer any **two** of the following : 8
- (i) Describe synthesis, storage and hydrolysis of Acetylcholine.
 - (ii) Give the pharmacological actions of Adrenaline.
 - (iii) Classify peripherally acting muscle relaxants. Discuss pharmacological actions of any one type.
- (b) Answer any **one** of the following : 3
- (i) Give an account of cholinergic drugs used in the treatment of glaucoma.
 - (ii) Classify adrenoreceptors and give their location.
5. (a) Answer any **two** of the following : 8
- (i) Classify antianginal drugs. Write a note on combination therapy used in the treatment of angina pectoris.
 - (ii) Write a short note on Digitalis in the treatment of congestive heart failure.
 - (iii) Classify antihyperlipidemic drugs. Write a note on bile acid sequestrants.
- (b) Answer any **one** of the following : 3
- (i) Compare and Contrast Losartan and Ramipril.
 - (ii) Give mechanism of action of organic nitrates.
6. (a) Answer any **two** of the following : 8
- (i) Classify diuretics. Give a detailed account on thiazide diuretics.
 - (ii) Discuss in detail the role of diuretics in the treatment of hypertension.
 - (iii) Compare and contrast succinylcholine and gallamine.
- (b) Answer any **one** of the following : 3
- (i) Give the effects of route of drug administration on drug action.
 - (ii) What is drug dependence and drug tolerance.
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