

[A-25]

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SARDAR PATEL UNIVERSITY
M.Sc. Semester IV Examination
Medicinal Chemistry (PSO4E CHE01)

Tuesday, 28 /04/2015
10.30 a.m. to 01.30 p.m.

Marks: 70

Q. 1. Choose the correct answers from the options given below each question.

[08]

- a) Pharmacodynamics means _____.
- (i) the art and science of compounding and dispensing drugs
 - (ii) knowledge of the disease for its prevention, mitigation or cure
 - (iii) physiological and biochemical effects of drugs at organ system
 - (iv) movement and alteration of drug in the body
- b) _____ is a bacteriostatic agent.
- (i) Ampicillin (ii) Ciprofloxacin (iii) Clindamycin (iv) Vencomycin
- c) Antithyroid drugs are compounds that act within the _____.
- (i) thyroid gland to prevent biosynthesis of thyroid hormones
 - (ii) thyroid gland to increase biosynthesis of thyroid hormones
 - (iii) antithyroid gland to exhibit biosynthesis of thyroid hormones
 - (iv) human body to decrease supply of iodine to thyroid gland
- d) The general mechanism of action for erythromycin is _____.
- (i) inhibition of a metabolic enzyme
 - (ii) inhibition of protein synthesis
 - (iii) inhibition of cell wall synthesis
 - (iv) inhibition of nucleic acid transcription and replication
- e) _____ is an example of a tranquillizer.
- (i) Phenacetin (ii) Morphine (iii) Seconal (iv) Nitroglycerine
- f) Vasodilators are applicable to _____.
- (i) constrict the blood vessels (ii) stop blood flow to liver
 - (iii) increase presystemic metabolism (iv) dilate blood vessels
- g) _____ can exhibit direct action on malignant tumor.
- (i) Antianginal agents (ii) Antithyroid drugs
 - (iii) Psychoactive drugs (iv) Antineoplastic drugs
- h) _____ is active against anaerobic bacteria.
- (i) Moxifloxacin (ii) Norfloxacin (iii) Ciprofloxacin (iv) Levofloxacin

Q. 2. Answer the following. [Any seven] [14]

- a) List the agencies through which drugs can be eliminated from human body?
- b) What are prodrugs? List their advantages over active drugs.
- c) Discuss the mode of action of penicillin drug.
- d) What is bioavailability of a drug?
- e) What is the difference between 'Drug action' and 'Drug effect'?
- f) What is E-test?
- g) Give the difference between benign tumour and malignant tumour.
- h) Which functional groups are required in drug molecules to undergo Phase II reactions?
- i) High degree of protein binding generally makes the drug long acting-explain.

Q. 3. [a] Write notes on the following. [06]

- i) Preclinical studies involved in new drug development
- ii) Plateau Effect

[b] Explain pharmacokinetics in terms of time course of drug actions. [06]

OR

[b] Answer the following. [06]

- i) What is first pass metabolism? List characteristics of drugs with high first pass metabolism.
- ii) List the factors deciding choices for routes of drug administration. How do routes of administration affect drug absorption process?

Q. 4. [a] Explain the actions of agonists, antagonists, partial agonists and inverse agonists. [06]

[b] Explain receptor mediated operation of membrane ion channel for Na^+ , K^+ and Ca^{2+} ions with diagrammatic representation. [06]

OR

[b] Explain channel linked, enzyme linked and intracellular receptors in detail. [06]

Q. 5. [a] Answer the following. [06]

- i) Explain various pharmacological actions of antipsychotic agents.
- ii) Give the importance of calcium channel blockers.
- iii) Give principles of therapy for angina.

[b] Write a note on antihypertensive drugs giving their classification. [06]

OR

[b] Give synthesis, properties and therapeutic uses of ANY TWO of the following drugs. [06]

- (i) Carbimazole (ii) Diazepam (iii) Isocarboxazide

Q. 6. [a] Classify chemotherapeutic agents used in the treatment of cancer and describe any one of them in detail. [06]

[b] Explain the term-Antibiotics with their classification. Discuss the mode of action of aminoglycosides and tetracyclines. [06]

OR

[b] Write synthesis, properties and therapeutic uses of ANY TWO of the following drugs. [06]

- (i) Amoxicillin (ii) Cifotaxime (iii) Sparfloxacin .
