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SARDAR PATEL UNIVERSITY

M.Sc. (Forth Semester) EXAMINATION

Organic Chemistry (PS04ECHE01)

Medicinal Chemistry

Thursday, 6th December, 2012

Time: 10:30 am to 1:30 pm

Note: Figure to the Right Indicates Marks **Total Marks: 70**

Q.-1. Answer the following multichoice questions. **[8]**

(1) Sulphonamide derivatives are .....

a] Antibiotic b] Antibacterial

c] Antivirus d] Antineoplastic

(2) Angiogenesis is responsible for the growth of .....

a] Tissue b] Blood vessels

c] Bones d] Teeth

(3) The Depsipeptide is currently being studied as an anticancer agent is .....

a] Synthetic b] Natural

c] Semi-synthetic d] Non of these

(4) The Glycene is .....

a] C-Protein b] G-Protein

c] Multiprotein d] Conjugated protein

(5) Blood is red due to .....

a] Plasma b] Hemoglobin

c] WBC d] Fibrinogen

(6) A diagram shows the phenol aromatic ring and an amine groups and their relative orientations. Which is the term for this ?

a] Pharmacodynamics b] Pharmacophore

c] Chromophore d] Pharmacokinetics

(7) Anticancer drugs are also known as .....

a] Antianxiety b] Antineoplastic

c] Antibiotics d] Antidepressant

(8) 2-Azetidinone moiety present in ..... drug.

a] Lisinopril b] Penicillin

c] Propranolol d] Mephalan

Q.-2. Answer the following. (Any seven) **[14]**

(1) A patient comes in to emergency room with serve infection and require immediate therapy with an antibiotic patient 70 Kg. The Vd of the antibiotic is 100 L / 70 Kg, F = 0.5, Css = 10 µg/ml, Calculate DI.

(2) What is QSAR study ?

(3) Draw the model of action of MLSK antibiotics.

(4) Define neurotransmitters and write structural formula for any four small molecules of it.

(5) Name at least four quinolone antibiotics.

(6) Explain molecular hybridization in drug design with examples.

(7) Explain the terms gram positive and gram negative bacteria.

(8) Define a] Psychosis b] Schizophrenia

(9) Define prodrugs with suitable example.

Q.-3 Answer the following:

[A] Explain briefly the drug distribution **OR** drug metabolism. **[6]**

[B] Explain pharmacokinetics in terms of the time course of drug concentration in patient. **[6]**

OR

[B] Explain any two: **[6]**

(i) Define various pharmacokinetics parameters

(ii) Drug elimination

(iii) Explain various methods for drug administration of drugs in human body.

Q.-4 Answer the following:

[A] Write a note on following: **[6]**

(i) Constitutive activity of receptor

(ii) Agonist and antagonist

[B] Explain the following: **[6]**

(i) Signaling by local chemical messenger

(ii) Intracellular receptor

OR

[B] Explain the foilowing: **[6]**

(i) Molecular Modeling of drug action

(ii) Methods used for lead modification

Q.-5 Answer the following:

[A] What are antibiotics ? Give their classification with examples.

Discuss the mode of action of at least two of the antibiotics categories. **[6]**

[B] What are antineoplastic drugs ? Give the details with mode of action. **[6]**

OR

[B] Write a note on following: **[6]**

(i) Cardiovascular drugs

(ii) Antidepressant agents

Q.-6 Answer the following:

[A] Write the synthesis of following: (Any two) **[6]**

(i) Haloperidol

(ii) Propafenone

(iii) Procainamide

[B] Write the synthesis of following: (Any two) **[6]**

(i) Nifedipine

(ii) Disopyramide

(iii) Procarbazine

OR

[B] Write the synthesis of following: (Any two) **[6]**

(i) Chlorpromazine

(ii) Zopiclone

(iii) Nalidixic Acid

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