SC

SEAT No._____ No. of printed pages: 02

[61/A-40]

SARDAR PATEL UNIVERSITY

M.Sc. (Chemistry), Semester – IV

April 19, 2018 :: Thursday

Time: 02:00 P.M. – 05:00 P.M.

MEDICINAL CHEMISTRY [PS04ECHE01]

Note: Figures to the right indicate full marks. **Total marks: 70**

Q-1 **Select the correct answer and mention only the code of correct answer against their question numbers.** [08]

a. Hormones and neurotransmitters need to remain active at concentration, respectively
(i) $< 10^{-8}$ M, $> 10^{-4}$ M
(ii) $> 10^{-8}$ M, $< 10^{-4}$ M
(iii) $< 10^{-8}$ M, $< 10^{-4}$ M
(iv) 10^{-8} M, 10^{-4} M

b. Intrinsic activity of inverse agonist is _____
(i) < 0
(ii) > 0
(iii) $= 0$
(iv) none of these

c. Which of the following antibiotics is cell membrane synthesis inhibitor?
(i) Erythromycin
(ii) Rifampin
(iii) Tigecyclin
(iv) Polymyxin

d. Which drug administration route produces much faster response and quickly reaches to the blood supply?
(i) injection (ii) topical (iii) rectal (iv) inhalation

e. Drugs can enter in to the CNS, if only they are_____
(i) lipid soluble drugs
(ii) non lipid soluble drugs
(iii) low particle sized drugs
(iv) none of these

f. Drug that leads to physical addiction is called _____
(i) soft drug (ii) lead compound (iii) hard drug (iv) none of these

g. Which of the following drugs not bellowing in to antithyroid class?
(i) methyl thiouracil
(ii) resorcinol
(iii) Methimazole
(iv) sodium nitroprusside

h. Which of the following is topoisomerase inhibitor?
(i) cisplatin (ii) etoposide (iii) thioguuanine (iv) Herceptin

Q-2 **Answer ANY SEVEN of the following in short.** [14]

a. Write two functions of receptor.
b. Discuss the mode of action of penicillin drug.
c. Which factors are responsible for the choice of drug administration route?
d. How competitive antagonist is different from non-competitive antagonist?
e. What is angina pectoris?
f. Which are the advantages of solid support reagents in combinatorial chemistry?
g. Write about the cell cycle of cancer cell.
h. What is a hallucinogenic drug? Give its two examples.
i. Define the terms- i) Bio availability ii) First pass effect

(P.T.O.)

Q-3 [A] **Answer the followings.** [06]

(i) Write short note on "Drug distribution"
(ii) Explain the different routes by which dugs and their metabolites are excreted.

Q-3 [B] Describe the various approaches of lead discovery. [06]

OR

Q-3 [B] Define 'Latentiated drug'. Write their advantages with suitable examples [06]

Q-4 [A] What are receptors? Explain (i) channel linked, (ii) enzyme linked and (iii) G-protein coupled receptor. [06]

Q-4 [B] **Do as directed.** [06]

(i) Justify the statement by giving suitable example.
(a) Most peptide hormones are synthesized as preprohormones
(b) Several hormones are not secreted in their active form.
(ii) Write a short note on a local chemical mediator, Prostaglandin.

OR

Q-4 [B] Explain signalling through neurotransmitter. [06]

Q-5 [A] Give classification of antianxiety drugs. Give synthesis, properties and uses of oxazepam. [06]

Q-5 [B] Discuss the structure activity relationship of "Benzodiazepines" [06]

OR

Q-5 [B] Explain calcium channel blockers? Discuss the structure activity relationship of "Dihydropyridines" [06]

Q-6 [A] Using schematic diagram, Explain how cell wall of gram positive bacteria is different from gram negative bacteria. How β-lactam antibiotics work against gram positive and gram negative bacteria? [06]

Q-6 [B] Give detailed classification of Alkylating agent. Write mode of action of nitrogen mustard. [06]

OR

Q-6 [B] Write the synthesis of followings. [06]
(i) Ofloxacine (ii) Cefuroxime (iii) Procarbazine

—X—