Code No: BP402T **PCI** SET - 1

II B. Pharmacy II Semester Regular Examinations, April/May - 2019
MEDICINAL CHEMISTRY-I

Time: 3 hours Max. Marks: 75

Note: 1. Question Paper consists of three parts (**Part-I**, **Part-II & Part-III**)
2. Answer ALL (Multiple Choice) Questions from **Part-I**
3. Answer any **TWO** Questions from **Part-II**
4. Answer any **SEVEN** Questions from **Part-III**

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PART –I

1. (i) ……. is used for bioisosteric replacement of benzene ring (1M)
(a) Cyclohexane (b) piperidine (c) thiophene (d) hexane

(ii) LogP values of various drugs are given below. Which of the following compound is most hydrophilic? (1M)
(a) logP = 1 (b) logP = 2 (c) logP = 4 (d) logP = 6

(iii) Which of the following has a chiral center? (1M)
(a) Aspirin (b) indomethacin (c) valproic acid (d) paracetamol

(iv) ……. acts via chelation of iron in porphyrin ring of an oxidoreductase enzyme (1M)
(a) Fluconazole (b) propranolol (c) losartan (d) piroxicam

(v) ……. is the biosynthetic precursor for adrenaline (1M)
(a) Glycine (b) Phenylalanine (c) tryptophan (d) leucine

(vi) ……. is not true for adrenaline (1M)
(a) It increases heart rate
(b) In increases resistance to peripheral blood flow
(c) Constricts lung smooth muscle
(d) Increases glycogenolysis

(vii) MAO enzyme converts adrenaline to. (1M)
(a) Dihydroxymandelic acid
(b) Metanephrine
(c) Vanillyl mandelic acid
(d) Normetanephrine

(viii) Tolazoline is (1M)
(a) 2-benzyl-4,5-dihydro-1H-imidazole
(b) 2-toluidyl-4,5-dihydro-1H-imidazole
(c) 2-methyl-4,5-dihydro-1H-imidazole
(d) 2-ethyl-4,5-dihydro-1H-imidazole

(xi) ……. is an example of indirect cholinomimetic agent (1M)
(a) Carbachol (b) pralidoxime (c) pilocarpine (d) neostigmine

(x) Excess of ……. in CNS is mainly responsible psychosis. (1M)
(a) Adrenaline (b) Acetylcholine (c) Dopamine (d) GABA

(xi) In the MOA of opioid analgesics,…… level is reduced. (1M)
(a) Arachidonic acid (b) cAMP (c) Nitrous oxide (d) PGE1

(xii) In phenothiazine antipsychotics, presence of halogen is essential at ……..position (1M)
(a) C-1 (b) C-2 (c) C-3 (d) C-4

(xiii) Nordiazepam is obtained via ……. enzyme reaction of diazepam (1M)
(a) Oxidase (b) Transferase (c) Isomerase (d) Hydrolase
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(xiv) ……. is often used for short term surgeries (1M)
(a) Thiopental (b) Halothane (c) Isoflurane (d) Morphine

(xv) …… is responsible for high potency of heroin (1M)
(a) It binds to the opoid receptors strongly
(b) It is chemically very stable
(c) It is distributed more into brain
(d) It inhibits metabolism of neurochemicals

(xvi) …… is an example of benzomorphan opioid analgesic. (1M)
(a) Codeine (b) Pentazocine (d) Meperidine (c) Morphine

(xvii) ……. position is critical for increasing specificity of morphine towards mu receptor (1M)
(a) C-9 (b) C-14 (c) C-6 (d) C-15

(xviii) Among the following …….. doesn't possess any acidic functional group (1M)
(a) Aspirin (b) mefenamic acid (c) Indomethacin (d) nabumetone

(xix) …….. is used for synthesis of pethidine. (1M)
(a) benzylnitrile (b) propylnitrile (c) cyanobenzene (d) phenylacetic acid

(xx) Most powerful analgesic among the following is…. (1M)
(a) Mefenamic acid (b) celecoxib (c) indomethacin (d) fentanyl

PART –II

2. a) Discuss the role of solubility in bioactivity of a drug molecule. (5M)
   b) Explain why stereochemistry influences drug activity. (5M)

3. Write MOA, synthesis and uses of (5M)
   (a) Propranolol (b) Naphazoline (5M)

4. Classify barbiturates with examples. Explain the MOA, SAR and clinical uses of barbiturates. (10M)

PART –III

5. Write MOA, SAR and uses of atropine. (5M)

6. Outline the synthesis, MOA and uses of alprazolam. (5M)

7. What are atypical antipsychotics? Write their significance. (5M)

8. Write a note on GABA modulators as antiepileptics. (5M)

9. Differentiate general and local anesthetics. Give structures of any two drugs from each category. (5M)

10. With a neat sketch explain SAR of morphine. (5M)

11. Outline the synthesis and uses of loperamide. (5M)

12. Outline the biosynthesis of acetylcholine. Write its significance. (5M)

13. Write a note on distribution of adrenergic receptors. (5M)