

**B. PHARM.
FOURTH SEMESTER
MEDICINAL CHEMISTRY - I
BP402T**

(USE SEPARATE ANSWER SCRIPTS FOR OBJECTIVE & DESCRIPTIVE)

Duration: 3 hrs.

Full Marks: 75

(PART-A: Objective)

Time: 20 min.

Marks: 20

Choose the correct answer from the following:

1×20=20

- Cholinomimetic agents -
 - Act directly on cholinergic receptor
 - Function as stimulator of AChE
 - Exhibit no intrinsic activity
 - Both b and c
- What is the purpose of amino group in Carbachol?
 - It protects the ester group by an electronic effects
 - It acts as metabolic group
 - Interacts with hydrophilic group
 - Protect ester group as steric shield
- Neostigmine lacks CNS activity because of ____
 - Quarternary ammonium group
 - Phenyl group
 - Tertiary ammonium group
 - Methyl group
- Carbachol exhibits ____ than acetylcholine towards hydrolysis by gastric acid.
 - Greater stability
 - Lesser stability
 - Moderate stability
 - All of the above
- Choline esters of higher molecular weight acids possess -
 - Cholinergic antagonist activity
 - Adrenergic antagonist activity
 - Adrenergic agonist
 - Cholinergic agonist
- All are endogenous catecholamines except-
 - Epinephrine
 - Dobutamine
 - Norepinephrine
 - Dopamine
- Most potent cardiac stimulant is-
 - Epinephrine
 - Adrenaline
 - Salbutamol
 - Noradrenaline
- Which of the following acts on α_1 , α_2 , β_1 but not on β_2 receptors?
 - Adrenaline
 - Noradrenaline
 - Isoprenaline
 - Dobutamine
- IUPAC name of Noradrenaline is -
 - 4-[R-2-amino-2-hydroxymethyl]benzene-1,2-diol
 - 4-[R-2-amino-2-hydroxyethyl]benzene-1,2-diol
 - 2-[R-4-amino-2-hydroxymethyl]benzene-1,2-diol
 - 2-[R-4-amino-2-hydroxyethyl]benzene-1,2-diol

10. Naturally occurring catecholamines include all of the following except
 - a. Norepinephrine
 - b. Dobutamine
 - c. Epinephrine
 - d. Dopamine
11. Long acting barbiturate is -
 - a. Thiopentone
 - b. Secobarbitone
 - c. Phenobarbitone
 - d. Pentobarbitone
12. Shortest acting benzodiazepine is-
 - a. Flurazepam
 - b. Alprazolam
 - c. Midazolam
 - d. Diazepam
13. Benzodiazepine binding site on GABA receptors is on-
 - a. γ - subunit
 - b. α - subunit
 - c. β -subunit
 - d. δ -subunit
14. In phenothiazines the side chain present is-
 - a. Propylalkylamino side chain
 - b. Propyldialkylamino side chain
 - c. Propyltrialkylamino side chain
 - d. Propylamino side chain
15. Which of the following is cyclic GABA analogues?
 - a. Ethosuximide
 - b. Pregabalin
 - c. Lamotrigine
 - d. Topiramate
16. Which of the following contain piperidine side chain?
 - a. Trifluoperazine
 - b. Thioridazine
 - c. Triflupromazine
 - d. Chlorpromazine
17. 5-aryl substitution is possible at-
 - a. Barbiturates
 - b. Benzodiazepine
 - c. Phenothiazine
 - d. Both a & b
18. Prochlorperazine contain-
 - a. Pyrrolidinyl ring
 - b. Piperidinyl ring
 - c. Propyl amine
 - d. Both a & b
19. 3-ethyl-3-methyl-pyrrolidine-2,5-dione is IUPAC name of -
 - a. Phenytoin
 - b. Ethosuximide
 - c. Thiopentone
 - d. Chlorpromazine
20. Antipsychotic drug is also known as-
 - a. Neuroleptic
 - b. Antischizophrenic drugs
 - c. Both a & b
 - d. None of these

PART-B : Descriptive

Time: 1 hr. 40 minutes

Marks : 35

[*Answer any seven (7)*]

1. Write the synthesis and uses of the following drugs- 5
 - a) Propranolol
 - b) Procyclidine

2. Write the biosynthesis of acetylcholine? Write the synthesis of Ipratropium bromide with suitable uses. 3+2=5

3. Describe the SAR of cholinolytic agents. 5

4. What are anticonvulsant drugs? Classify them? Write the synthesis of phenytoin with suitable uses? 1+2+2=5

5. Define Sedatives and Hypnotics? Classify them? Draw the structure of the following drugs - 1+2+2=5
 - a) Thiopentone
 - b) Diazepam
 - c) Phenobarbitone
 - d) Zaleplon

6. Write the SAR of benzodiazepines? 5

7. Write the MOA for Diazepam with proper diagram? Write synthesis of ethosuximide. 3+2=5

8. Write the biosynthesis of acetylcholine with proper diagram? Draw the structure of the following drugs- 4+1=5
 - a) Prazosin
 - b) Carvedilol

9. Write the SAR of morphine analogues? 5

Time : 1 Hr.

Marks : 20

[*Answer any two (2)*]

1. Describe the SAR of sympathomimetic agents? Write a brief note on optical isomerism. 7+3=10
2. Write the catabolism of catecholamines. Write a brief note on partition coefficient. 7+3=10
3. Define antipsychotics. Classify them. Write the SAR of phenothiazines? 2+2+6=10

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