

# Question Paper

Exam Date & Time: 09-Jan-2021 (09:30 AM - 12:30 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal College of Pharmaceutical Sciences  
B-Pharm - Semester -V  
End Semester Examination January- 2021

Course Code: PCH-BP501T  
Course Title: MEDICINAL CHEMISTRY-II (THEORY)  
Medicinal Chemistry II [PCH-BP501T]

Marks: 75

Duration: 180 mins.

### I Multiple Choice Questions (MCQs)

Answer all the questions.

Section Duration: 30 mins

- 1) How para substitution of phenyl ring system of amino-alkyl ethers (H1 antihistamines) with small lipophilic groups increases the potency? (1)

Increases lipid water partition coefficient  
Increases metabolic stability  
Increases oral bioavailability  
Adopt a noncoplanar conformation

- 2) Synthesis of which of the following drugs involves aminoalkylation of p-methyl acetophenone with pyrrolidine and formaldehyde (1)

Tripolidine  
Procyclidine  
Cimetidine  
Promethazine

- Which of the following diuretic prevents the overall excretion of potassium (1)

Furosemide  
Bumetanide  
Amiloride  
Mannitol

- 4) Which of the following functional group is necessary for binding and inhibiting carbonic anhydrase enzyme (1)

Thiazide  
Sulfamoyl  
Phenoxyacetic acid  
Furanyl

- 5) Which of the following antiarrhythmic drug causes inhibition of adrenergic stimulation to the heart and cannot be given to patients with bronchial asthma (1)

Quinidine  
Phenytoin  
Propranolol  
Metoprolol

- 6) Which among the following antiarrhythmic drug is a benzofuran derivative (1)

- Rings B and D  
Rings C and D
- 16) 12-Pregn-4-ene-3,20-dione IUPAC name for (1)
- Progesterone  
Estradiol  
Prednisolone  
Sildenafil
- 17) Thyroxine hormone is used for (1)
- Hyperthyroidism  
Hypothyroidism  
Heart burn  
None of the above
- 18) Aromatic ring in local anesthetics increases (1)
- Lipophilicity  
Hydrophilicity  
Distribution  
Metabolism
- 19) Which one of the following drug is showing allergenic effect (1)
- Losartan  
Lisinopril  
Reserpine  
dibucaine
- 20) Which of the following drug has got a tetrazole nucleus (1)
- Valsartan  
Hydralazine  
Timolol  
Clonidine

### II Long Answers

Answer all the questions.

- 1) Discuss the general SAR features of H1 antihistamines (5)
- A) Outline the synthesis of Triprolidine (2)
- B) Give the structure of any one bile acid sequestering agent and explain its mechanism of action (3)
- 2) Classify local anesthetics giving the structure of one agent from each class (3)
- A) Explain the MOA and SAR of benzoic acid derivatives (4)
- B) Outline the method of synthesis of Dibucaine (3)

### III Short Answers

Answer all the questions.

- 1) Discuss the SAR of thiazide diuretics. Outline the synthesis of Chlorthiazide (5)
- 2) Discuss the SAR of 1, 4 dihydropyridines as calcium channel blockers (5)
- 3) Classify oral hypoglycaemic agents giving one structure from each class and outline the synthesis of tolbutamide (5)
- 4) Write the structure and uses of Methyl dopa, Minoxidil, Clonidine, Hydralazine (5)
- 5) Classify DNA alkylators giving the structure of one agent from each class and discuss the mechanism of action of DNA alkylators (5)
- 6) Explain the stereochemistry of steroids and outline the method of synthesis of warfarin (5)