

Question Paper

Exam Date & Time: 01-Mar-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education
Manipal College of Pharmaceutical Sciences
B-Pharm - Semester -V
End Semester Examination December- 2021

Course Code: PCH-BP501T
Course Title: MEDICINAL CHEMISTRY-II (THEORY)

Medicinal Chemistry II [PCH-BP501T - S2]

Marks: 75

Duration: 180 mins.

I Multiple Choice Questions (MCQs)

Answer all the questions.

Section Duration: 30 mins

1) Which of the following drug is optically active (1)

Cyproheptadine

Cyclizine

Omeprazole

Triprolidine

2) What kind groups are preferred on pyridine ring of proton pump inhibitors so that *in vivo* conversion to Pyridinium sulfonamide is fast enough? (1)

Electron withdrawing groups

Electron donating groups

Lipophilic groups

Hydrophilic groups

3) Which of the following coronary vasodilator that also inhibits platelet aggregation (1)

Nicardipine

Bepidil

Dipyridamole

Diltiazem

4) Which of the following antiarrhythmic drug prolong phase 3 repolarization (1)

phenytoin

Amiodarone

Sotalol

Mexiletine

5) Which among the following is PPAR-alpha agonist (1)

Clofibrate

Pioglitazone

Cholestyramine

- Metformin
- 6) Which among the following antidiabetic drugs is a AMP-activated protein kinase (AMPK) activator (1)
- Pioglitazone
Repaglinide
Metformin
Glipizide
- 7) Which among the following antiarrhythmic drug is a butanamide (1)
- Lidocaine
Lorcainide
Amiodarone
Disopyramide
- 8) Which among the following drugs is made up of thiazolidinedione ring system (1)
- Tolbutamide
Repaglinide
pioglitazone
Glipizide
- 9) Which of the following drug synthesis involves thiocarbamoylation of hydrazine hydrate (1)
- Furosemide
Acetazolamide
Chlorthiazide
Ethacrynic acid
- 10) Identify the IUPAC name of furosemide (1)
- 2,4,7-triamino-6-phenyl pteridine
4-Chloro-2-[(furan-2-ylmethyl)amino]-5-sulfamoylbenzoic acid
N-(5-sulfamoyl-1,3,4-thiadiazol-2-yl)acetamide
4-chloro-N-(2,6-dimethylphenyl)-2-hydroxy-5-sulfamoylbenzamide
- 11) Which among the following is an endothelin receptor blocker (1)
- Tezosentan
Enalapril
Lisinopril
Captopril
- 12) Phytomenadione is also known as (1)
- Vitamin K
Vitamin B
Vitamin A
Vitamin C
- 13) which of the following drug is an example of oral anticoagulant (1)
- Hydrochlorthiazine
Furosamide
Chlorthalidone
Dicoumarol
- 14) Which of the following drug is an amino benzoic acid derivative (1)

Butacaine
Prilocaine
Etidocaine
Dibucaine

15) Which of the following is a benzothiazepine derivative (1)

Clonazepam
Nitrozapam
Diltiazem
Diazepam

16) Which of the following local anaesthetic is restricted for spinal anaesthesia (1)

Procaine
Lignocaine
Cocaine
Dibucaine

17) Which drug is used for erectile dysfunction? (1)

Norgestril
Tadalafil
Reserpine
Cortisone

18) Give an example of DNA Intercalator (1)

Thiotepa
Doxorubicin
Busulphan
Thioguanine

19) Which of the following is a centrally acting sympatholytic agent (1)

Hydralazine
Minoxidil
Sodium nitroprusside
Methyl dopa

20) Which of the following is 19-nortestosterone (1)

Progesteron
Oestradiol
Norgestril
Nandrolone

II Long Answers

Answer all the questions.

- 21) Write the SAR of sulphonyl urea derivatives as hypoglycaemic agents and explain with structures why chlorpropamide and glipizide are more potent than tolbutamide (3.5)
- A)
- B) Outline the synthesis of tolbutamide (1.5)
- C) Write the synthesis of Diphenhydramine and Triprolidine and give the structural features of H₂ receptor antagonist (5)
- 22) Explain the MOA of antimetabolites and write the structure of two anticancer antibiotics (5)

- A)
- B) Classify local anesthetics giving the structure of one agent from each class and discuss the SAR of ester derivatives of local anesthetics (5)

III Short Answers

Answer all the questions.

- 23) Classify antiarrhythmic agents with one structure from each class and outline the synthesis of any one class-1 antiarrhythmic agent (5)
- 24) Explain the SAR of 1, 4 dihydropyridines (4)
- A)
- B) Give the structure and uses of any one proton pump inhibitor (1)
- 25) Write the synthesis of any one thiazide diuretic and explain the SAR of thiazide diuretics (5)
- 26) Give the structure of any one bile acid sequestering agent. Discuss how bile acid sequestering agent affect cholesterol degradation (2.5)
- A)
- B) Outline the method of synthesis of propyl thiouracil (2.5)
- 27) Write the structure and uses of the following drugs. (5)
a) Methimazole b) Estradiol c) Betamethasone d) Testosterone
- 28) Classify gonadal hormones giving the structure of one agent from each class and discuss the stereochemistry of steroid hormones (5)
- 29) Outline the method of synthesis of Procaine and Warfarin (5)

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