

Printed Pages – 10

Roll No. :

341551(41)

**B. Pharmacy (Fifth Semester) Examination,
April-May 2021**

(PCI Scheme)

(Pharmacy Branch)

MEDICINAL CHEMISTRY-II

(Theory) (BP501T)

Time Allowed : Three hours

Maximum Marks : 75

Note : Questions paper has three parts A, B & C. All the questions in Part-A are compulsory. Each question carries 1 marks. Part-B is long answer type questions. It contains 3 questions of which attempt any two questions. Each question carries 10 marks. (2×10 = 20 marks). Part-C is short answer type questions. It contains 9 questions, of which attempt any seven questions. Each question carries 5 marks. (7×5=35 marks).

[2]

Part-A

(Multiple Choice Questions)

Note : Answer all the questions from MCQs. Each question carries 1 mark.

1. Choose the correct options : 20×1=20

- (i) Histamine is synthesized in the Golgi apparatus of mast cells and basophils by enzymatic decarboxylation of
- (a) Serine
(b) Histidine
(c) Lysine
(d) None of the above
- (ii) Starting material for the synthesis of Diphenhydramine is :
- (a) Diphenyl bromomethane
(b) Dimethyl amino ethanol
(c) Diphenyl methane
(d) None of the above

[3]

- (iii) Which of the following is a Alkylating agent?
- (a) 6-mercaptopurine
(b) Carboplatin
(c) Ifosphamide
(d) Cytarabine
- (iv) Starting material for the synthesis of Methotrexate is :
- (a) Pyrimidine-2, 4, 5, 6-tetraamine + 2, 3-dibromo propanal.
(b) Diphenyl bromomethane + 2, 3- dibromo propanal.
(c) Dimethyl amino ethanol + 2, 3- dibromo propanal
(d) None of the above
- (v) MOA of Taxanes :
- (a) Binds to stabilized microtubule (microtubule stabilizer)
(b) Inhibits microtubule assembly (microtubule destabilization)

[4]

- (c) Both (a) & (b)
- (d) None of the above
- (vi) Which of the following is a Calcium channel blocker :
- (a) Amlodipine
- (b) Mitotane
- (c) Ethacrynic acid
- (d) All of the above
- (vii) Which of the following is a Potassium sparing Diuretics :
- (a) Spironolactone
- (b) Triamterene
- (c) Amiloride
- (d) All of the above
- (viii) In SAR of ACE inhibitors : the N-ring must contain a carboxylic acid to mimic the of ACE substrates.
- (a) N-terminal carboxylate

[5]

- (b) C-terminal carboxylate
- (c) Both (a) & (b)
- (d) None of the above
- (ix) Which of the following is a β -adrenergic blocker :
- (a) Timolol
- (b) Melphalan
- (c) Propranolol
- (d) Both (a) & (c)
- (x) Verapamil comes under which class :
- (a) Phenyl-alkylamine
- (b) Benzothiazepine
- (c) Dihydropyridines
- (d) None of the above
- (xi) Which of the following is a Calcium channel blocker :
- (a) Diltiazem

[6]

- (b) Propranolol
- (c) Minoxidil
- (d) Indapamide

(xii) An arrhythmia may arise because of alteration in:

- (a) Automaticity
- (b) Conduction
- (c) Refractory period of the myocardial cells
- (d) All of the above

(xiii) Which of the following is a Cardiac glycoside :

- (a) Furosemide
- (b) Enalapril
- (c) Spironolactone
- (d) Digoxin

(xiv) Which of the following is a Bile acid sequestrants :

- (a) Clofibrate
- (b) Colestipol

[7]

- (c) Ethacrynic acid
- (d) All of the above

(xv) Which of the following is a Oral contraceptives :

- (a) Levonorgestrol
- (b) Cortisone
- (c) Cromolyn sodium
- (d) None of the above

(xvi) Which of the following drug comes under the category of Sulfonyl ureas :

- (a) Rosiglitazone
- (b) Nateglinide
- (c) Voglibose
- (d) Glipizide

(xvii) The clinically useful Local anaesthetics are weak bases with property.

- (a) Lipophilic
- (b) Hydrophilic
- (c) Amphiphilic

[8]

- (d) None of the above
- (xviii) In SAR of local anaesthetics the zwitterionic form the binding affinity with the receptor.
- (a) Increases
- (b) Decreases
- (c) Both (a) & (b)
- (d) None of the above
- (xix) Starting material for the synthesis of Procaine is :
- (a) p-nitro benzoic acid + thionyl chloride
- (b) Metoprolol & carvedilol
- (c) p-nitro benzoic acid + carvedilol
- (d) None of the above
- (xx) Which of the following is a Lidocaine/Anilide derivatives :
- (a) Lignocaine, Mepivacaine
- (b) Benzocaine, Butamben
- (c) Cocaine, Hexylcaine
- (d) None of the above

341551(41)

[9]

Part-B**(Long Answer Type Questions) 2×10=20**

Note : Answer any two questions. Each question carries 10 marks.

- Discuss the nomenclature, stereochemistry and metabolism of steroids.
- Classify diuretics agents with their chemical structure and give SAR of carbonic anhydrase inhibitors.
- Discuss the classification and SAR of local anaesthetics drugs.

Part-C**(Short Answer Type Questions) 7×5=35**

Note : Answer any seven questions. Each question carries 5 marks.

- Discuss histamine receptors and their distribution in human body.

341551(41)

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[10]

6. Give synthesis of Diphenhydramine HCl and Benzocaine.
7. Classify anticoagulants with their chemical structure and discuss the synthesis of Warfarin.
8. Classify Anti-arrhythmic Drugs.
9. Write synthesis of tolbutamide and furosemide.
10. Discuss the SAR of Sulfonyl ureas.
11. Explain briefly the mechanism of alkylating agents.
12. Classify antidiabetic agents with their chemical structure.
13. Write a note on Anti-hyperlipidemic agents.