

**Manipal College of Pharmaceutical Sciences  
MAHE, Manipal**

**5<sup>th</sup> Semester B-Pharm – End semester Makeup Examination, January 2023**

**Course Code. PCH-BP501T Course Title. Medicinal Chemistry-II**

Date: 16-01-2023

Duration: 3hr

Max. Marks: 75

**Instructions: Answer ALL questions.**

<b>1. MCQs (20 × 1 marks = 20 marks)</b>		
<b>1</b>	Which of the following H1 antihistamine is second generation drug a) Cimetidine b) Cetirizine c) Triprolidine d) Omeprazole.	1Marks
<b>2</b>	In cimetidine why the terminal cyanoguanidine group is considered non-basic a) Resonance stabilization b) Methyl substitution on Guanidine group c) Due to the presence of sulphur in the side chain d) Due to –CN substitution on guanidine group	1Marks
<b>3</b>	Which of the following drug has thiaziazole ring system a) Furosemide b) Acetazolamide c) Chlorothiazide d) Ethacrynic acid	1Marks
<b>4</b>	Which of the following drug has a sulfhydryl- reactive group a) Furosemide b) Methazolamide c) Ethacrynic acid d) Chlorothiazide	1Marks
<b>5</b>	Why phenyl ring at fourth position of 1,4-dihydropyridine antianginals should preferably have ortho or meta substituents? a) Required for binding to the receptor b) To increase metabolic stability c) To maintain non-coplanarity d) To improve selectivity	1Marks
<b>7.</b>	Which among the following is HMG-Co-enzyme-A Inhibitor a) Lovastatin b) Pioglitazone c) Clofibrate d) Metformin	1Marks
<b>8.</b>	Which among the following antidiabetic drug a second generation sulphonyl urea a) Pioglitazone b) Metformin c) Glipizide d) Tolbutamide	1Marks

9.	Which among the following drug is made up of a 1,4-dihydropyridine ring a) Dysopyramide b) Phenytoin c) Amlodipine d) Verapamil	1Marks
10.	Which of the following antidiabetic drug is a thiazolidine-2,4-dione a) Tolbutamide b) Rosiglitazone c) Metformin d) Glipizide	1Marks
11	Most useful alkylating agent a) Mephalan b) Cyclophosphamide c)Thiotepa d)Lomustine	1Marks
12	5 Flurouracil inhibits a) Thymidylate synthase b) DHFR c) Adenine deaminase d) Catalase	1Marks
12	3 )Which of the following local anesthetic is restricted for spinal anesthesia a) Procaine b) Lignocaine c) Cocaine d) Dibucaine	1Marks
13	Give an example for antithyroid drug a) Propyl thiouracil b) Tadalafil c) Sildenafil d) Mifepristone	1Marks
14	Which of the following drug has got tetrazole nucleus a) Clonidine b) Hydralazine c) Timolol d) Losartan	1Marks
15	Pregn-4-ene-3,20-dione is A) Dexamethazone B) progesterone C) prednisolone D) aldosterone	1Marks
16	Which drug is the extract of periwinkle plant a) Vincristine b) Taxol c) Etoposide d) Lomustine	1Marks
17.	Which of the following drug comes under the category of indanediones anticoagulant. a) Phenindione b) Chlorindione c) Anisindione d) Menadione	1Marks

18	Prilocaine is an example of a) Benzoic acid derivative b) Amino benzoic acid derivative c) Anilide derivative d) Amide derivative	1Marks
19	Which is a natural CHF agent a) Etoposide b) Vincristine c) Taxol d) Digitoxin	1Marks
20.	Which of the following is an anticoagulant a) Warfarin b) Lovastatin c) Clofibrate d) Acetyl salicylic acid	1Marks

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**I. MCQs (20 × 1 marks = 20 marks)**

**II. Long Answers (2 × 10 marks = 20 marks)**

<b>1A.</b>	Classify antihistamines giving one structure from each class	5 Marks
<b>1B.</b>	Discuss the general SAR features of H1 antihistamines	5 Marks
<b>2A</b>	Classify antihypertensive drugs giving the structure of one agent from each class and explain the mechanism of action of ACE inhibitors	5 Marks
<b>2B</b>	Classify antimetabolites giving the structure of one agent from each class and discuss the mechanism of action of Doxorubicin	5 Marks

**III. Short Answers (7 × 5 marks = 35 marks)**

<b>1.</b>	Discuss the SAR of 1, 4 dihydropyridines and outline the synthesis of Nifedipine	5 Marks
<b>2</b>	Explaining cardiac electrophysiology classify antiarrhythmic agents giving one structure from each class	5 Marks
<b>3</b>	a) Outline the synthesis of furosemide b) Outline the method of synthesis of Benzocaine	2.5 +2.5
<b>4</b>	Explain how statins act as HMG-CoA reductase inhibitors and give the structure of any two and give their uses	5
<b>5</b>	Write the structure and uses of Dibucaine, Mepivacaine, Methyldopa, Clonidine.	5 Marks
<b>6.</b>	Discuss the nomenclature and stereochemistry of steroid hormones	5 Marks
<b>7.</b>	Discuss the SAR of anilide type of local anaesthetics and outline the method of synthesis of warfarin	5 Marks

“End of question paper”