
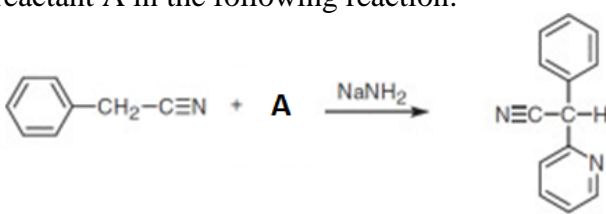
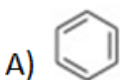
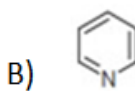
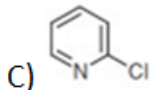
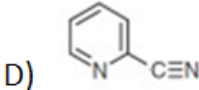
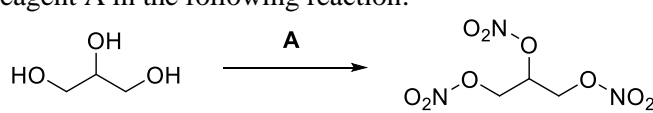
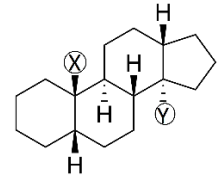


Name:			
Enrolment No:			
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES End Semester Examination, December 2022 Set-1			
Course: Medicinal Chemistry II Theory Program: B.Pharm Course Code: BP501T		Semester : V Duration : 03 Hours Max. Marks: 75	
Instructions: Read questions carefully. Attempt all questions from Group A (20 marks); Attempt any two questions from Group B (20 marks). Attempt any seven questions from Group C (35 marks).			
SECTION A Type the answers in test box (20Qx1M=20 Marks)			
S. No.		Marks	COs
Q1	Which of the following is an osmotic diuretic agent? A) Acetazolamide B) Isosorbide C) Amiloride D) Furosemide	1	CO1
Q2	Which of the following is a nucleoside-based anticancer drug? A) Cytarabine B) Fludarabine C) Azathioprine D) 5-Fluorouracil	1	CO1
Q3	Which of the following is used for the treatment of hypertension and angina? A) Diuretic agent B) Calcium channel blocker (CCB) C) β -adrenergic blocker D) Both β -adrenergic blocker and CCB	1	CO1
Q4	Meclizine is a H ₁ antihistamine that contains which one of the following in its chemical structure? A) Piperidine B) Histidine C) Piperazine D) Phenothiazine	1	CO1
Q5	Calcium Channel Blockers block the inward movement of Ca ²⁺ ions by binding to which of the following type of calcium channel? A) T-type B) L-type C) N-type D) All of the above	1	CO1
Q6	Which of the following drug contains imidazolidine-2,4-dione? A) Phenytoin B) Methotrexate C) Amiodarone D) Heparin	1	CO1
Q7	Identify the reactant A in the following reaction:     	1	CO4

Q8	Which of the following drug inhibits Vitamin K epoxide reductase complex 1? A) Menadione B) Warfarin C) Clofibrate D) Gemfibrogil	1	CO1
Q9	Which of the following is a Phosphonate-containing ACE inhibitor? A) Lisinopril B) Enalapril C) Fosinopril D) Captopril	1	CO1
Q10	Identify the reagent A in the following reaction:  A) Nitric acid B) Nitric acid & Sulphuric acid C) Nitrous acid D) Nitrous acid & Sulphuric acid	1	CO4
Q11	Cyclopentanoperhydrophenanthrene ring is present in: A) Pentobarbital B) Hydrocortisone C) Tetracycline D) Diethylstilbestrol	1	CO1
Q12	What are the configurations of groups X and Y in the given structure?  A) α and α , respectively B) β and β , respectively C) β and α , respectively D) α and β , respectively	1	CO2
Q13	The following anticancer drugs suppress the microtubule dynamics and lead to metaphase arrest EXCEPT? A) Colchicine B) Vinblastine C) Paclitaxel D) Bleomycin	1	CO1
Q14	Which of the following drugs can cause Torsades De Pointes? A) Quinidine B) Esmolol C) Lignocaine D) Flecainide	1	CO3
Q15	The chemical structure of local anesthetic Dibucaine contains: A) Quinazoline B) Indole C) Quinoline D) Benzimidazole	1	CO1
Q16	Which position of guanine is alkylated by Melphalan? A) Position 1 B) Position 3 C) Position 7 D) Position 9	1	CO1
Q17	The reaction of <i>p</i> -Nitrobenzoic acid with ethanol gives an intermediate, which upon reduction gives: A) Procaine B) Lignocaine C) Piperocaine D) Benzocaine	1	CO4

Q18	Which of the following is a bile acid sequestrant? A) Lovastatin B) Colestipol C) Clofibrate D) Nicotinic acid	1	CO1
Q19	Which of the following drug belongs to biguanide class of antidiabetic drug? A) Nateglinide B) Rosiglitazone C) Voglibose D) Metformin	1	CO1
Q20	The molecule PABA is the precursor for the synthesis of: A) Procaine B) Lignocaine C) Bupivacaine D) Cocaine	1	CO4

SECTION B (20 Marks)
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(2Qx10M=20 Marks)

Attempt 2 Question out of 3

Q1	Describe the chemical structure, mechanism of action and important uses of the following drugs: (a) Methotrexate (b) Azathioprine (c) Captopril (d) Lovastatin	2.5 x 4	CO4
Q2	Explain the structure-activity relationships of H1 antihistamines. Describe the synthesis of any two of the following drugs: (a) Disopyramide (b) Methyldopa (c) Acetazolamide	4 + (2 x 3)	CO3, CO4
Q3	<p>(a) Consider the reaction with the following scheme:</p> <p>(i) Name the reagents A, B and C in the above reaction? (2 marks) (ii) Write the chemical structures of intermediates I and II. (2 marks) (iii) Write the chemical structure and common name of the final product. (2 marks)</p> <p>(b) Discuss on the mechanism of action and uses of any two of the following: (i) Sildenafil (ii) Disopyramide (iii) Simvastatin (iv) Nandrolone</p>	(6+4)	CO1, CO5

SECTION-C (35 Marks)
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(7Qx5M=30 Marks)

Attempt 7 Question out of 9

Q1	Define and classify the local anesthetics with suitable examples. Draw the chemical structure of at least one local anesthetics.	3+2	CO1
Q2	Write the structure, synthesis, storage and biodistribution of histamine.	5	CO1
Q3	Define and classify the antihypertensive agents with suitable examples. Draw the chemical structure of at least one vasodilator.	3+2	CO1

Q4	Describe the sites of actions of diuretics. Write the chemical structure and MOA of Timolol.	2+3	CO4
Q5	Describe the synthesis and mechanism of action of Cimetidine.	5	CO4
Q6	Write the chemical structures and mechanism of actions of Camptothecin and Vincristine.	2x2.5	CO1
Q7	Describe the MOA of ACE inhibitors. Write the chemical structure of any two: (i) Quinapril, (ii) Clonidine, (iii) Triamterene.	2+3	CO1
Q8	Write the chemical structures of thyroid hormones T3 and T4. Illustrate the mechanism of action of Methimazole.	3+2	CO1
Q9	Illustrate the nomenclature of steroids. Write the chemical structure and uses of Betamethsone.	2+3	CO1