22ZOU311N/22ZOU311

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025
(Third Semester)

Branch - **ZOOLOGY**

CHEMISTRY - I

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Find the oxidation number of "Mn" in $KMnO_4$ a) +4 b) +5 c) +6 d) +7	K1	CO1
	2	Which one of the following is more acidic? a) Acetic acid b) Formic acid c) Chloroacetic acid d) Propionic acid	K2	CO1
2	3	Choose a correct terpenoid which is used as plasticizer. a) Geraniol b) Chitral c) Camphor d) Menthal	K1	CO2
	4	Which one of the following polymer is used in non-stick cookware? a) Teflon b) Polyethylene c) Terylene d) Polycarbonate	K2	CO2
3	5	Which one of the following substance is purified by sublimation method? a) Aniline b) Naphthalene c) Benzene d) Ethyl alcohol	K1	CO3
	6	What is the basic principle of paper chromatography? a) Adsorption b) Absorption c) Partition d) Ion-exchange	K2	CO3
4	7	Inversion of cane sugar is an example of _____ a) Zero order b) Pseudo 1st order c) First order d) second order	K1	CO4
	8	Enzymes act as ..... a) Organic catalyst b) Inorganic catalyst c) Inhibitor d) Promotor	K2	CO4
5	9	Which one of the following gas is responsible for ozone depletion? a) CO b) CO_2 c) CFC d) NO_2	K1	CO5
	10	What is the reason for Eutrophication in water bodies? a) Excess oxygen b) Excess nutrients c) Low level of oxygen d) Low nutrients	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	State and explain the following with an example i) Aufbauf principle ii) Pauli's exclusion rule	K3	CO1
		(OR)		
	11.b.	Distinguish between Arrhenius and Bronsted-Lowry theory of acids and bases.		
2	12.a.	Discuss the method of isolation and uses of piperine.	K3	CO2
		(OR)		
	12.b.	Write the preparation and uses of terylene and polycarbonate.		
3	13.a.	Define the following terms with an example i) Molarity ii) Normality iii) Mole fraction	K3	CO3
		(OR)		
	13.b.	Describe the principle and application of column chromatography.		
4	14.a.	Derive the rate constant for first order reactions.	K4	CO4
		(OR)		
	14.b.	Discuss the mechanism of enzyme catalyst reaction.		
5	15.a.	What are pollutants? Discuss the sources and effects of air pollutants.	K3	CO5
		(OR)		
	15.b.	Write note on the following. i) Acid Rain ii) Chemical oxygen demand		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain about the different types of orbitals and their shapes.	K5	CO1
2	17	Write the preparation, properties and uses of benzene.	K4	CO2
3	18	Explain steam distillation process with a neat diagram.	K5	CO3
4	19	Discuss the following terms with suitable examples. i) Auto catalyst ii) Promotors iii) Catalytic poison iv) Negative catalyst	K4	CO4
5	20	Describe the primary, secondary and tertiary water treatment process.	K3	CO5

Z-Z-Z END