22BOU311N/22BOU311

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025
(Third Semester)

Branch - **BOTANY**

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	Shape of p orbital is a) spherical b) dumb-bell c) clover leafed d) elliptical	K1	CO1
	2	In terms of electron transfer ----- is called reduction a) electron removal b) electron gain c) both a and b d) none of these	K2	CO1
2	3	Among the following choose the one which is not aromatic a) benzene b) 4naphthalene c) anthracene d) cyclohexane	K1	CO2
	4	Starch is made up of a) Cellulose b) glucose c) fructose d) sucrose	K2	CO2
3	5	Mole fraction of a component of 5 moles in a 20 mole mixture is a) 5/20 b) 20/5 c) 5 x 20 d) 5 +20	K1	CO3
	6	In paper chromatography, the stationary phase is a) paper b) solvent c) water held in pores of paper d) solid	K2	CO3
4	7	In negative catalysis, the catalyst ___ the activation energy of th esystem a) decreases b) does not alter c) increases d) none of these	K1	CO4
	8	Acid catalysed ester hydrolysis reaction is an example for a) first order reaction b) pseudo unimolecular reaction c) both a and b d) second order reaction	K2	CO4
5	9	Acid rain is due to oxides of a) N and S b) N and O c) S and O d) freons	K1	CO5
	10	Dissolved oxygen in water is ___ to temperature a) Directly proportional b) inversely proportional c) equal d) not related	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.	Discuss i. Pauli's exclusion principle ii. Aufbau principle	K3	CO1
		(OR)		
	11.b.	Give a brief account on oxidizing and reducing agents		
2	12.a.	Explain the isolation and uses of geraniol	K4	CO2
		(OR)		
	12.b.	Write any four reactions of benzene		
3	13.a.	Explain distillation under reduced pressure	K5	CO3
		(OR)		
	13.b.	Discuss column chromatography		
4	14.a.	Write the characteristics of an enzyme catalysed reaction	K3	CO4
		(OR)		
	14.b.	Discuss consecutive reactions		
5	15.a.	Explain the sources and effects of soil pollution	K4	CO5
		(OR)		
	15.b.	Discuss i. global warming ii. BOD		

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	Discuss the shapes of simple molecules using VSEPR theory	K5	CO1
2	17	Explain in detail the preparation, properties and uses of nicotine	K4	CO2
3	18	Illustrate crystallization and sublimation techniques	K5	CO3
4	19	Derive the expression for the rate constant of a first order reaction	K4	CO4
5	20	Write a detailed note on water pollution	K4	CO5

Z-Z-Z END