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22NDU208N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025
(Second Semester)

Branch – **NUTRITION, FOOD SERVICE MANAGEMENT & DIETETICS**

CHEMISTRY - II

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	What is the primary purpose of chromatography? a) Separating components of a mixture b) Generating electricity c) Measuring temperature d) Creating chemical reactions	K1	CO1
	2	The organic liquids which are steam volatile and immiscible with water can be separated by a) distillation b) steam distillation c) fractional distillation d) evaporation	K2	CO1
2	3	Which of the following is a common raw material used in the production of soap? a) Sodium chloride b) Sodium bicarbonate c) Sodium hydroxide d) Sodium carbonate	K1	CO2
	4	Pick out the common type of detergent used in laundry detergents? a) Cationic detergents b) Anionic detergents c) Non-ionic detergents d) Amphoteric detergents	K2	CO2
3	5	What does the Huckel rule predict for aromatic compounds? a) The number of pi electrons should be 4n b) The number of pi electrons should be 4n + 2 c) The number of sigma electrons should be even d) The number of pi electrons should be odd	K1	CO3
	6	Identify the alkaloids a) Citral b) Menthol c) Geraniol d) Nicotine	K2	CO3
4	7	For first-order reactions the rate constant, k, has the unit(s) a) l mol^{-1} b) $time^{-1}$ c) $(mol/l)^{-1}$ $time^{-1}$ d) time mol l^{-1}	K1	CO4
	8	Enzymes are a) finely divided metals b) transition metal ions c) auto-catalysts d) proteins	K2	CO4
5	9	Those pollutants which are readily degradable by natural process are called a) Biodegradable pollutant b) Non-biodegradable pollutant c) Primary pollutant d) Secondary pollutant	K1	CO5
	10	Which of the following are the primary causes of water pollution? a) Plants b) Human activities c) Animals d) None of these	K1	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.	Appling sublimation technique how do you separate a mixture of naphthalene and sodium chloride	K3	CO1
		(OR)		
	11.b.	Identify the applications of paper chromatography		
2	12.a.	Classify the detergents with suitable example	K2	CO2
		(OR)		
	12.b.	Explain the cold process of manufacturing soaps		
3	13.a.	Develop the extraction method and uses of piperine	K3	CO3
		(OR)		
	13.b.	Build two green synthesis		
4	14.a.	Show the derivation for first order reaction rate constant	K2	CO4
		(OR)		
	14.b.	Outline the following with suitable example i) Catalytic reactions (3.5 Marks) ii) Enzyme catalysis (3.5 Marks)		
5	15.a.	Explain the following terms i) Water pollution (2 Marks) ii) DO (2 Marks) iii) BOD (1.5 Marks) iv) COD (1.5 Marks)	K5	CO5
		(OR)		
	15.b.	Evaluate the sources and various factors affecting of Soil pollution.		

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	Construct the principle and application of purification techniques in Steam distillation and distillation under reduced pressure method.	K3	CO1
2	17	Summarize types of soap with their chemical composition and specific uses	K2	CO2
3	18	Build the Preparation, Properties and uses of benzom.	K3	CO3
4	19	(i) Bring out the difference between order and molecularity (5 Marks) (ii) Illustrate the mechanism of enzyme catalysis (5 Marks)	K2	CO4
5	20	Show effects of i) Acid rain (5 Marks) ii) Global warming (5 Marks)	K1	CO5

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