

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024
(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	A liquid which have very high boiling can be purified by a) Distillation b) Distillation under reduced pressure c) Steam distillation d) Fractional distillation	K1	CO1
	2	In thin-layer chromatography, the stationary phase is typically composed of: a) Paper b) Silica gel or alumina c) Liquid d) Gas	K2	CO1
2	3	The main cleaning action of soap is based on its ability to: a) Emulsify fats and oils b) Change color c) Increase viscosity d) Generate heat	K1	CO2
	4	The hard soap which contains a) Potassium salts of higher fatty acids b) Sodium salts of higher fatty acids c) Calcium salts of higher fatty acids d) Barium salts of higher fatty acids	K2	CO2
3	5	According to Huckle's rule, benzene is a) Aromatic b) Antiaromatic c) homoaromatic d) Non-aromatic	K1	CO3
	6	Which of the following is not terpenoids? a) Citral b) Menthol c) Geraniol d) Nicotine	K2	CO3
4	7	Pick out correct one: A zero order reaction is one whose rate is a) Independent of concentration. b) Dependent of concentration. c) Rate is doubled when concentration doubled d) all of the above	K1	CO4
	8	A catalyst a) may be in same phase with the reactants or in a different phase b) may accelerate a reaction c) affects a reaction without being consumed in the process d) all of the above	K2	CO4
5	9	Cause of eutrophication is a) Nutrient enrichment of water bodies b) Increase of oxygen in water bodies c) Increase in number of aquatic organisms d) All of these	K1	CO5
	10	Show a causes water pollution is a) Jet planes b) Smoke c) Herbicides d) Combustion of fossils	K2	CO5

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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.	Utilizing fractional distillation method, how will you purify organic compound	K3	CO1
	(OR)			
	11.b.	Construct the principle and applications of vacuum distillation		
2	12.a.	i) Outline the mechanism of cleaning action of soap (4 Marks) ii) What are toilet soaps? Describe the characteristics of toilet soap. (3 Marks)	K2	CO2
		(OR)		
	12.b.	Explain the production of anionic detergents using i) Wels ii) Alfol process (3.5+3.5 Marks)		
3	13.a.	i) Develop a method for extraction of coniine (5 Marks) ii) Identify the uses of coniine (2 Marks)	K3	CO3
		(OR)		
	13.b.	i) Build the various classification of terpenoids with suitable example (5 Marks) ii) Construct isoprene rule (2 Marks)		
4	14.a.	Explain the following with example: i) Negative catalyst (2 Marks) ii) Catalytic poison (2 Marks) iii) Autocatalysis (1.5 Marks) iv) Promoters (1.5 Marks)	K4	CO4
		(OR)		
	14.b.	Show the differences between following i) Order and molecularity (4 Marks) ii) First order and pseudo first order reactions (3 Marks)		
5	15.a.	Define air pollution? Name the gases which causes pollution of air. What are the major sources of each of these pollutants?	K5	CO5
		(OR)		
	15.b.	What are pesticide and insecticides? Assess the environmental effects of pesticide and insecticides		

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	Analyze the various applications of i) Paper chromatography (5 Marks) ii) Thin layer chromatography (5 Marks)	K4	CO1
2	17	Function the manufacturing process of soap using i) Cold ii) Hot process (5+5 Marks)	K4	CO2
3	18	i) Develop a method for preparing benzene (2 Marks) ii) Discuss its important reactions (8 Marks)	K5	CO3
4	19	i) Show the rate constant for first order reaction (5 Marks) ii) Elaborate lock-and-key model of enzyme catalysis (5 Marks)	K6	CO4
5	20	With schematic diagram, what are the various steps involved in primary, secondary and tertiary water treatment	K5	CO5