

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2024
(First Semester)

Branch - NUTRITION, FOOD SERVICE MANGEMNET & DIETETICS

CHEMISTRY- I

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry **EQUAL** marks

$$(10 \times 1 = 10)$$

Module No.	Question No.	Question	K Level	CO
1	1	Pick out the primary standard from the following a) KMnO_4 b) NaOH c) Sodium thio sulphate d) $\text{K}_2\text{Cr}_2\text{O}_7$	K1	CO1
	2	Which of the following is used as an indicator in the titration of a strong acid and a strong base? a) Phenolphthalein b) Methyl orange c) Thymol blue d) Starch	K2	CO1
2	3	Identify oxidation number of 'Mn' in KMnO_4 a) + 2 b) + 5 c) + 6 d) + 7	K1	CO2
	4	A co-ordinate bond is formed by a) complete transfer of electrons b) sharing of electrons contributed by both the atoms c) sharing of electrons contributed by one atom only d) mutual sharing of electrons	K2	CO2
3	5	The nature of an enzyme is a) Lipids b) Carbohydrates c) Fats d) Proteins	K1	CO3
	6	Isoelectric point is the pH at which a protein or an amino acid has a) Dipolar ion b) Cation c) Anion d) Dication	K2	CO3
4	7	Identify the antibiotic a) Penicillin b) Paracetamol c) Ether d) Aspirin	K1	CO4
	8	An organic compound exhibit colour due to the presence of a) Chromophore b) Auxochrome c) Salt forming group d) None of these	K2	CO4
5	9	The concept equivalent weight is used to calculate a) Molarity b) Normality c) Molality d) Mole fraction	K1	CO5
	10	It is only the absorbed light radiations that are effective in producing a chemical reaction." This is the statement of a) Lambert law b) Lambert-Beer law c) Grothus-Draper law d) Stark-Einstein law	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.	Explain the first aid procedure for accidents involving acids, alkali, cyanide and bromine.	K1	CO1
	(OR)			
	11.b.	Find the difference between. i) Mean and median ii) Absolute and relative error iii) Accuracy and precision		
2	12.a.	List the characteristics of ionic and covalent bonded compounds.	K1	CO2
	(OR)			
	12.b.	Recall Lowry-Bronsted and Lewis theory of acids and bases.		
3	13.a.	How do pyridine reacts with the following reagents? (2+2.5+2.5 Marks) i) H ₂ /Ni ii) NaNH ₂ at 100°C iii) Br ₂ at 300°C	K1	CO3
	(OR)			
	13.b.	Recall the various classification of amino acids.		
4	14.a.	Explain the following terms with an example: Antipyretics, antibiotics and antiseptic	K2	CO4
	(OR)			
	14.b.	Outline the preparation and uses of sulphapyridine and sulphadiazine.		
5	15.a.	Construct the buffer action of an acidic buffer and a basic buffer.	K3	CO5
	(OR)			
	15.b.	Identify the differences between physical adsorption and chemical adsorption.		

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	How errors are classified? Mention any four methods for the minimization of errors.	K1	CO1
2	17	What is hydrogen bond? Classify them with an example. Show the consequence of hydrogen bonding	K1	CO1
3	18	Show briefly primary and secondary structure of proteins.	K1	CO3
4	19	Classify dyes based on chemical structure and applications.	K2	CO4
5	20	Develop the concept of following light process with an example. i) Phosphorescence (3.5 Marks) ii) Fluorescence (3.5 Marks) iii) Chemiluminescence (3 Marks)	K3	CO5

Z-Z-Z ENDS