

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2024
(Third Semester)

Branch - **MICROBIOLOGY**

CHEMISTRY FOR MICROBIOLOGY

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	Which concentration term expresses the number of moles of solute per kilogram of solvent? a) Molarity b) Molality c) Normality d) Mole fraction	K1	CO1
	2	Which method is used to separate a mixture of liquids with very similar boiling points? a) Distillation b) Fractional distillation c) Steam distillation d) Counter-current distribution	K2	CO1
2	3	Which of the following is a tranquilizer? a) Paracetamol b) Diazepam c) Ibuprofen d) Ampicillin	K1	CO2
	4	Which of the following is not a conformation of n-butane? a) Anti b) Synclinal c) Chair d) Gauche	K2	CO2
3	5	Which fertilizer is widely used as a nitrogen source? a) Urea b) Potassium chloride c) Triple super phosphate d) Bone meal	K1	CO3
	6	Which of the following is an inorganic insecticide? a) Nicotine b) Lead arsenate c) Rotenone d) Allethrin	K2	CO3
4	7	Which of the following is a natural essential oil? a) Acetone b) Eucalyptus oil c) Phenol d) Ethylene glycol	K1	CO4
	8	Teflon is chemically known as: a) Polyethylene b) Polytetrafluoroethylene c) Polyvinyl chloride d) Polyurethane	K2	CO4
5	9	Which enzyme is used during the bating process in leather manufacturing? a) Protease b) Amylase c) Cellulase d) Lipase	K1	CO5
	10	Starch adhesives are commonly used in: a) Leather tanning b) Paper bonding c) Shoe manufacturing d) Furniture coating	K2	CO5

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.	Describe the principle of fractional distillation and its application in the purification of organic liquids.	K2	CO1
	(OR)			
	11.b.	What role does green chemistry play in reducing environmental impact?		

Cont...

Cont...

2	12.a.	Write a note on the uses and limitations of sulpha drugs.	K1	CO2
	(OR)			
	12.b.	Describe the functions, sources, and deficiency diseases of vitamin A, D, E, and K.		
3	13.a.	Differentiate between natural and artificial fertilizers with examples.	K2	CO3
	(OR)			
	13.b.	What are natural plant insecticides? Mention two examples.		
4	14.a.	Discuss the process of perfume formulation with key ingredients.	K3	CO4
	(OR)			
	14.b.	Differentiate between addition and condensation polymerization.		
5	15.a.	Explain the role of enzymes in the leather industry.	K4	CO5
	(OR)			
	15.b.	Discuss the preparation, properties, and applications of rubber-based adhesives.		

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 the key principles of green chemistry.	K4	CO1
2	17	Draw and explain the conformations of n-butane.	K4	CO2
3	18	Explain the manufacture of ammonium nitrate and urea with the relevant chemical reactions.	K4	CO3
4	19	Explain the classification of detergents with examples.	K4	CO4
5	20	Describe the processes of tanning and finishing in detail.	K4	CO5

Z-Z-Z

END