

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

B.Sc DEGREE EXAMINATION MAY 2026
(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 method is most suitable for purifying a substance that sublimates on heating? (a)Crystallization (b)Sublimation (c)Distillation (d) Filtration	K1	CO1
	2	The mole fraction of solute in a dilute aqueous solution is approximately equal to its: (a) Molarity (b) Molality (c) Normality (d) Mass percentage	K2	CO1
2	3	Which of the following is a narcotic analgesic? (a) Paracetamol (b) Morphine (c) Aspirin (d) Ibuprofen	K1	CO2
	4	Vitamin C deficiency leads to which disease? (a) Rickets (b) Scurvy (c) Beriberi (d) Night blindness	K2	CO2
3	5	The nitrogen content of urea is about (a) 25% (b) 36% (c) 46% (d) 52%	K1	CO3
	6	Triple super phosphate is manufactured by treating phosphate rock with (a) Sulphuric acid (b) Nitric acid (c) Phosphoric acid (d) Hydrochloric acid	K2	CO3
4	7	Teflon is a polymer of (a) Vinyl chloride (b) Ethylene (c) Tetrafluoroethylene (d) Styrene	K1	CO4
	8	Thermoplastics can be (a) Softened on heating(b) Hardened on heating (c) Decomposed on heating(d) Burned on heating	K2	CO4
5	9	The main purpose of the tanning process is to (a) Remove fat (b) Harden leather (c) Stabilize collagen fibres (d) Add colour	K1	CO5
	10	Animal glue belongs to the class of (a) Synthetic adhesives (b) Protein adhesives (c) Rubber adhesives (d) Silicate adhesives	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.	Explain normality, molarity, molality and ppm with their formula and units.	K2	CO1
	(OR)			
	11.b.	Differentiate between sublimation and fractional distillation		
2	12.a.	Analyze the differences in the mode of action of analgesics, antibiotics, and tranquillizers with one example for each.	K3	CO2
	(OR)			
	12.b.	Compare the functions and deficiency symptoms of fat-soluble and water-soluble vitamins		
3	13.a.	Explain the classification of fertilizers in detail	K3	CO3
	(OR)			
	13.b.	Explain the process of manufacturing urea or ammonium nitrate		
4	14.a.	Evaluate the role of essential oils in the perfume and flavoring industry	K4	CO4
	(OR)			
	14.b.	Compare thermoplastics and thermosetting plastics		
5	15.a.	Assess how preservation and disinfection of skins done in leather.	K4	CO5
	(OR)			
	15.b.	Analyze the role of enzymes in various stages of leather processing		

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 concept of green chemistry and its importance in sustainable chemical processes.	K4	CO1
2	17	Explain how the chair and boat conformations of cyclohexane differ in terms of stability and strain.	K4	CO2
3	18	Discuss the manufacture and significance of phosphate fertilizers,	K4	CO3
4	19	Discuss the process of preparation and formulation of natural fruit concentrates	K4	CO4
5	20	Explain the preparation, conditioning, and industrial applications of various adhesives	K4	CO5

Z-Z-Z END