

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2026
(Second Semester)

Branch – BIOCHEMISTRY

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	Choose the working principle of dark- field microscopy i) Absorption of light ii) Scattering of light iii) Fluorescence iv) Refraction	K1	CO1
	2	Name the organism which obtain their energy from chemicals i) Prototrophs ii) Chemotrophs iii) Organotrophs iv) Autotrophs	K1	CO1
2	3	Which of the following is NOT associated with bacteria? i) They are prokaryotes ii) Cell wall composed of peptidoglycan iii) presence of membrane-enclosed intracellular structures iv) Flagella for motility	K1	CO2
	4	Select the bacteria that live in high salt environments and require salt for their survival i) Acidophiles ii) Alkaliphiles iii) Halophiles iv) Meningophiles	K1	CO2
3	5	Which of the following is an intestinal disease caused by bacteria such as E.coli? i) Cholera ii) Dysentery iii) Jaundice iv) Hepatitis	K1	CO3
	6	Find the mode of transmission of Rabies i) Air ii) Water iii) Animal bite iv) Food	K1	CO3
4	7	Name the fully formed infectious particles i) Virion ii) Virusoid iii) Viroid iv) Capsid	K1	CO4
	8	Which of the following techniques is used in mutant identification? i) Ligation ii) Replica plating iii) Isolation iv) Restriction digestion	K1	CO4
5	9	Select the main fermentable source in penicillin production i) Glucose ii) Lactose iii) Sulphate iv) Sugars	K1	CO5
	10	Find the symbiotic Nitrogen fixer i) Azotobacter ii) Beijerinckia iii) Clostridium iv) Rhizobium	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.	Elaborate on Fluorescent Microscopy.	K5	CO1
		(OR)		
	11.b.	Write notes on gram staining		
2	12.a.	Outline on Whittaker's 5 kingdom classification.	K5	CO2
		(OR)		
	12.b.	Elucidate the Economic importance of Fungi.		
3	13.a.	Comment on the pathogenesis and symptoms of Chicken pox.	K2	CO3
		(OR)		
	13.b.	Mention the Symptoms, prevention of cholera.		
4	14.a.	Describe Replica Plate Technique. Add a note on its significance.	K4	CO4
		(OR)		
	14.b.	Summarize on cultivation of virus.		
5	15.a.	Write a short note on Nitrogen cycle.	K2	CO5
		(OR)		
	15.b.	Write an Essay on the Waste water treatment using Microbes.		

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	Describe the methods of sterilization techniques.	K4	CO1
2	17	Explain the chemistry of bacterial cell wall.	K5	CO2
3	18	Summarize on the symptoms, pathogenesis and treatment of Tuberculosis.	K5	CO3
4	19	Describe the life cycle of T4 Phage.	K4	CO4
5	20	Elaborate on the Commercial Production of Penicillin.	K5	CO5

Z-Z-Z END