

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	Select the advantages of chemical sterilization from below. (i) Leaves no residue (ii) Suitable for heat sensitive items (iii) Rapid action (iv) No toxicity	K1	CO1
	2	Identify the phase of Growth curve which shows maximum rate of growth of microorganisms (i) Log Phase (ii) Lag Phase (iii) Stationary Phase (iv) Decline Phase	K2	CO1
2	3	Name the component which is present only in the Gram negative bacterial cell walls (i) Peptidoglycan (ii) Lipopolysaccharides (iii) Lipoteichoic acid (iv) Teichoic acid	K1	CO2
	4	Find the region that related to halophiles occurrence from the following (i) Acid Environment (ii) Salt Environment (iii) Fresh water lakes (iv) Temperate areas	K2	CO2
3	5	Name the causative organism for Rabies. (i) Variola virus (ii) Influenza virus (iii) Polio virus (iv) Lyssavirus	K1	CO3
	6	Choose the major component of Endotoxin (i) Proteins (ii) Lipopolysaccharides (iii) Peptidoglycan (iv) Glycoprotein	K2	CO3
4	7	Select the type of mutant in which a single base pair is changed (i) Frame shift mutant (ii) Deletion mutant (iii) Point mutant (iv) Duplication mutant	K1	CO4
	8	Show the genetic material of SV 40 (i) Linear single stranded DNA (ii) Circular single stranded DNA (iii) Linear double stranded DNA (iv) Circular double stranded DNA	K2	CO4
5	9	Label the Downstream process from the following (i) Media Preparation (ii) Media Sterilization (iii) Purification of the Products (iv) Development of Inoculum	K1	CO5
	10	Match the one that is associated with Azolla (i) <i>Anabaena</i> (ii) <i>Rhizobium</i> (iii) <i>Azotobacter</i> (iv) <i>Mycorrhiza</i>	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.	Illustrate the principle and uses of Phase contrast microscope.	K2	CO1
		(OR)		
	11.b.	Outline the stages of microbial Growth curve.		
2	12.a.	Summarize the economic importances of Algae.	K2	CO2
		(OR)		
	12.b.	Explain the structural features of Cyanobacteria.		
3	13.a.	Identify the Symptoms of TB and plan the prevention procedures.	K3	CO3
		(OR)		
	13.b.	Organize the role of Exotoxins & Endotoxins in microbial diseases.		
4	14.a.	Examine the Plaque Assay technique for Viruses.	K4	CO4
		(OR)		
	14.b.	List out the Physical and Chemical Mutagenesis with examples.		
5	15.a.	Analyze the reactions of Nitrogen cycle.	K4	CO5
		(OR)		
	15.b.	Distinguish the role of microbes in Waste water treatment process.		

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	Summarize the Physical and Chemical methods of Sterilization.	K2	CO1
2	17	Interpret the morphological characters of Bacteria.	K2	CO2
3	18	Develop the Aetiology & Symptoms of Rabies.	K3	CO3
4	19	Examine the Lytic & Lysogenic life cycle of Bacteriophage.	K4	CO4
5	20	Evaluate the technique of industrial production of Penicillin.	K5	CO5

Z-Z-Z

END