

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BSc DEGREE EXAMINATION MAY 2024
(Second Semester)**

Branch - BIOTECHNOLOGY

FUNDAMENTALS OF 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	Discovery of Penicillin was by _____. a) Joseph Lister b) Louis Pasteur c) Alexander Flemming d) Paul Erlich	K1	CO1
	2	The Abbe condenser is used in ----- microscopy. a) Phase contrast b) Electron c) Fluorescent d) Dark field	K2	CO1
2	3	The study of fungus is called -----. a) Mycology b) Virology c) Oncology d) Phycology	K1	CO2
	4	An organelle involved in pathogenicity is _____. a) Flagella b) Cilia c) Pili d) Capsule	K2	CO2
3	5	The media used for isolating and cultivating Rhizobium is _____. a) M'cconkey agar b) YEMA medium c) Nutrient agar d) Blood agar	K2	CO3
	6	The generation time for <i>E.coli</i> is _____. a) 10 min b) 15 to 20 min c) 20 to 25 min d) 40 min	K1	CO3
4	7	Which of the following gene deduces the evolutionary relationship between the taxonomic groups? a) 16S rRNA b) 23S rRNA c) 5S rRNA d) 18S rRNA	K2	CO4
	8	Higher levels of Antibiotics can be obtained by _____. a) Rickettsiae b) Cyanobacteria c) Actinomycetes d) Chlamydiae	K2	CO4
5	9	Which of the following nutrient cycle is propelled by sunlight a) Nitrogen b) Phosphorus c) Sulfur d) Carbon	K1	CO5
	10	Which of the following is not a biofertilizer? a) Mycorrhiza b) <i>Rhizobium</i> c) Nostoc d) <i>Agrobacterium</i>	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.	Write short notes on Dark-field microscopy.	K2	CO1
	(OR)			
	11.b.	Explain the moist-heat sterilization.		
2	12.a.	Enumerate about flagella of prokaryotes with diagram.	K3	CO2
	(OR)			
	12.b.	Differentiate Yeast and molds.		
3	13.a.	Outline the steps involved in Spread plate technique.	K3	CO3
	(OR)			
	13.b.	List out the factors controlling microbial growth.		
4	14.a.	Outline the 3 types of microbial taxonomic systems.	K4	CO4
	(OR)			
	14.b.	Explain about Tube dilution method in microbiology.		
5	15.a.	What are all the advantages of using biopesticides.	K4	CO5
	(OR)			
	15.b.	Outline the types of biofertilizer used in agriculture.		

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	Compare the bacteria, based on cell wall.	K4	CO1
2	17	How can you classify the viruses?	K4	CO2
3	18	Explain the methods in preserving microbes.	K4	CO3
4	19	Discuss in detail about the Anti tumor antibiotics. How do antibiotics work for cancer?	K4	CO4
5	20	With a neat diagrammatic representation, explain Nitrogen cycle.	K4	CO5

Z-Z-Z END