

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

**BSc DEGREE EXAMINATION MAY 2025
(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	Which scientist first discovered vaccine? a) Joseph Lister b) Louis Pasteur c) Edward Jenner d) Paul Erlich	K1	CO1
	2	The Counter stain used in Grams staining is a) Crystal violet b) Methylene blue c) Nigrosin d) Safranin	K1	
2	3	The study of algae is called ----- a) Mycology b) Virology c) Oncology d) Phycology	K2	CO2
	4	The word amphitrichous is associated with ----- a) Flagella b) Cilia c) Pili d) Capsule	K2	
3	5	The media which is used for isolating lactose fermenting colonies is a) M'Conkey 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	K2	
4	7	% Similarity (%S) of each strain to every other strain is calculated by which method? a) Intuitive Method b) Genetic Relatedness c) Numerical Taxonomy d) homology experiments	K3	CO4
	8	More amount of antibiotics can be obtained by ----- a) Rickettsiae b) Cyanobacteria c) Actinomycetes d) Chlamydiae	K3	
5	9	Which one of the following is not a biogeochemical cycle? a) Nitrogen b) water c) ozone d) Carbon	K4	CO5
	10	Which of the following is used as a biofertilizer for soybean crop? a) Mycorrhiza b) <i>Rhizobium</i> c) Nostoc d) <i>Agrobacterium</i>	K4	

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.	Summarize the discovery of Louis Pasteur.	K1	CO1
	(OR)			
	11.b.	Explain the protocol of capsular staining.		
2	12.a.	Explain about flagella of prokaryotes.	K2	CO2
	(OR)			
	12.b.	Classify the algae based on photosynthetic pigments.		
3	13.a.	Outline the steps involved in Spread plate technique.	K2	CO3
	(OR)			
	13.b.	Write a note on synchronous culture. Give example of synchronous growth.		
4	14.a.	Outline major characteristics of microbial taxonomy.	K3	CO4
	(OR)			
	14.b.	Classify antifungal compounds.		
5	15.a.	Bring out the details of oil spills.	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	Explain the chemical methods of sterilization.	K1	CO1
2	17	Describe about the cell wall and plasma membrane of a bacteria.	K2	CO2
3	18	Explain the methods used for preserving microbes.	K2	CO3
4	19	Discuss in detail about the anti-viral drugs.	K3	CO4
5	20	With a neat diagrammatic representation, explain carbon cycle.	K4	CO5

Z-Z-Z

END