

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
MSc DEGREE EXAMINATION DECEMBER 2023
(First Semester)
Branch - BOTANY
APPLIED 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	Fimbriae can be found in which of the following? a) Gram – Positive Bacteria b) Gram – Negative Bacteria c) Both (A) and (B) d) None of the above	K1	CO1
	2	_____ Microscopy is responsible for detailed imaging of subcellular organelles like nucleus and chromosome. a) Optical microscopy b) X-ray microscopy c) Electron microscopy d) Compound microscopy	K2	CO2
2	3	Nichrome loop wire is used in which of the following techniques? a) Pour-plate b) Streak-plate c) Spread-plate d) Roll-tube technique	K1	CO2
	4	Which device is used to pick a single bacterial cell from a mixed culture? a) microscope b) micropipette c) microprobe d) micromanipulator	K2	CO2
3	5	The species of bacteria, which possesses 250 genes for lipid biosynthesis is a) <i>M. genitalium</i> b) <i>M. tuberculosis</i> c) <i>E. coli</i> d) <i>H. influenza</i>	K1	CO3
	6	Caseinase is which type of enzyme? a) phospholipase b) lipase c) extracellular protease d) intracellular protease	K2	CO5
4	7	What is the name for the protein shell of a virus that encloses the genetic material? a) Virion b) Capsid c) Peplomers d) Capsomers	K1	CO4
	8	Which is the largest known virus? a) Megavirus chilensis b) Arbovirus c) Herpesvirus d) Mumps virus	K2	CO4
5	9	Which of the following carbohydrates are mainly present in whey? a) glucose b) lactose c) fructose d) sucrose	K1	CO5
	10	Which of the following product is used for the treatment of pernicious anemia? a) Insulin b) Streptokinase-streptodornase c) Cobalamin d) Sorbose	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 the Bergey's system of bacterial classification.	K2	CO1
	(OR)			
	11.b.	Illustrate the structure and functions of bacterial cell wall.		
2	12.a.	Construct the account of microbial culture techniques.	K3	CO2
	(OR)			
	12.b.	Experiment with microbial growth measurement.		
3	13.a.	Summarize the microbial genetics	K2	CO3
	(OR)			
	13.b.	Explain the endospore formation in bacillus.		
4	14.a.	Develop the viral classification based on structure.	K3	CO4
	(OR)			
	14.b.	Explain the variability in viruses.		
5	15.a.	Discuss the role of microbial enzymes in textile industries.	K6	CO5
	(OR)			
	15.b.	Elaborate the role of prebiotic and probiotics in health and food product formulation.		

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 principle & working of scanning electron microscope.	K2	CO1
2	17	Construct a schema of media preparation and culture techniques for bacteria.	K3	CO2
3	18	Summarize the microbial metabolism of photosynthetic bacteria.	K2	CO3
4	19	Develop an SOP for the assay of plant viruses.	K3	CO4
5	20	Estimate the role of microbial enzymes in leather industry.	K6	CO5