TOTAL PAGES: 2

22ZOP207N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2025
(Second Semester)

Branch - **ZOOLOGY**

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 of the following is a major institute in India dedicated to microbiological research? a) All India Institute of Medical Sciences (AIIMS) b) National Institute of Virology (NIV) c) Indian Institute of Technology (IIT) d) Central Drug Research Institute (CDRI)	K1	CO1
	2	What shape are cocci bacteria typically? a) Rod-shaped b) Spiral-shaped c) Spherical-shaped d) Irregular-shaped	K2	
2	3	What is the main purpose of pasteurization in the dairy industry? a) To improve the taste b) To remove fat c) To kill harmful bacteria d) To thicken the milk	K1	CO2
	4	Which of the following is the most common bacterial pathogen associated with poultry contamination? a) *Escherichia coli* b) *Staphylococcus aureus* c) *Salmonella spp* d) *Listeria monocytogenes*	K2	
3	5	Which bacterial species is known for causing bacterial meningitis primarily in newborns? a) *Streptococcus pneumoniae* b) *Escherichia coli* c) *Neisseria meningitidis* d) *Haemophilus influenzae*	K1	CO3
	6	What is the incubation period for rabies in humans? a) 1-3 days b) 1-2 weeks c) 1-3 months d) 6-12 months	K2	
4	7	The process of vinegar production involves the oxidation of which compound? a) Glucose to ethanol b) Ethanol to acetic acid c) Acetic acid to carbon dioxide d) Ethanol to lactic acid	K1	CO4
	8	In the fermentation process, which factor is most critical for enzyme production? a) Ph b) Appearance of color c) Temperature stability d) odor	K2	
5	9	Which of the following is an example of a cyanobacterial biofertilizer? a) Azospirillum b) Anabaena c) Rhizobium d) Bacillus	K1	CO5
	10	What is a common method for enhancing biodegradation in wastewater treatment? a) Adding chlorine b) Increasing pH levels c) Aeration d) Using ultraviolet light	K2	

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.	Classify the morphology of Bacteria.	K4	CO1
		(OR)		
	11.b.	Discuss the scope of microbiology in India.		
2	12.a.	List out the causes of fish spoilage.	K5	CO2
		(OR)		
	12.b.	Assess the microbial contamination of poultry farm.		
3	13.a.	Analyze the primary mode of transmission for cholera and Investigate the role of vaccination in preventing cholera.	K5	CO3
		(OR)		
	13.b.	Identify the signs and symptoms of tetanus.		
4	14.a.	Explain the process of ethanol production.	K4	CO4
		(OR)		
	14.b.	Determine the application of microbial enzymes.		
5	15.a.	Evaluate the role of nif genes in Rhizobium.	K6	CO5
		(OR)		
	15.b.	Explain the process of domestic sewage treatment.		

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	Analyze the circular and linear bacterial chromosomes and their differences.	K5	CO1
2	17	Discuss the steps involved in the industrial processing of dairy products.	K6	CO2
3	18	Elaborate on the transmission of diphtheria and describe the symptoms and treatments.	K6	CO3
4	19	Determine the process of industrial production of penicillin and Evaluate the medical benefits of penicillin.	K5	CO4
5	20	Analyze the use of enzymes in waste water treatment.	K4	CO5

Z-Z-Z END