MSc DEGREE END SEMESTER EXAMINATION - OCTOBER 2024
SEMESTER 3 : ZOOLOGY
COURSE : **21P3ZOOT11 : MICROBIOLOGY AND BIOTECHNOLOGY**
(For Regular 2023 Admission and Improvement 2022/2021 Admissions)

Duration : Three Hours   Max. Weights: 30

PART A
Answer any 8 questions   **Weight: 1**

1. Point out the steps in a PCR programme.   (R)
2. What is FISH?   (R)
3. What is microinjection?   (R, CO 7)
4. Write the functional classification of protein therapeutics.   (U, CO 8)
5. What are bioenergy crops? Give examples.   (R, CO 8)
6. What is artificial twinning?   (R, CO 7)
7. Comment on confocal microscopy.   (U)
8. Classify microorganisms based on their carbon source.   (A, CO 2)
9. What are satellites?   (R)
10. What are the various factors that affect bacterial degradation of pesticides in soil?   (R, CO 8)

(1 x 8 = 8)

PART B
Answer any 6 questions   **Weights: 2**

11. Comment on the advantages and disadvantages of the use of biological weapons.   (An)
12. Explain nosocomial infections.   (An)
13. Write in detail about different types of biosensors.   (R)
14. Write a short account on bioremediation.   (U, CO 8)
15. Describe the various routes of transmission of disease pathogens citing suitable examples.   (U)
16. Explain the process of Blue white screening.   (U)
17. Describe the phenetic system microbial classification.   (U)
18. Differentiate between chemical degradation and dideoxy method of DNA sequencing.   (An)

(2 x 6 = 12)

PART C
Answer any 2 questions   **Weights: 5**

19. Explain stem cell technology. Add notes on its applications in medicine.   (U)
20. Compare the genomic and cDNA library. Brief on library construction.   (An)
21. What are the various transfection methods?   (U, CO 7)
22. Give an overview of microbiology of milk and dairy products.   (U)

(5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 2	Discuss the advanced concepts of microbial metabolism, nutrition, growth, interactions and ecology	U	8	1
CO 7	Differentiate the various tools and techniques in Animal Biotechnology	An	3, 6, 21	7
CO 8	Extend the advanced concepts of the applications of biotechnology in healthcare, industry, agriculture and environmental biotechnology	U	4, 5, 10, 14	5

Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;