

(FOR THE CANDIDATES ADMITTED

22UZY508

DURING THE ACADEMIC YEAR 2022

ONLY)

REG.NO.

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : NOVEMBER 2024

BSC ZOOLOGY

MAXIMUM MARKS: 50

SEMESTER-IV

TIME : 3 HOURS

PART – III

22UZY508– BIOTECHNOLOGY

SECTION – A

(10 X 1 = 10 MARK

ANSWER THE FOLLOWING QUESTIONS.

(K1)

1. In medicine, biotechnology is used for the production of _____
 - a) Antibiotics b) Vaccines c) Hormones d) All of the above
2. Tell the techniques used to analyze protein expression?
 - a) Southern blotting b) Northern blotting c) Western blotting d) PCR
3. Which method is commonly used for creating transgenic mice?
 - a) Electroporation b) Microinjection c) Viral transduction d) Biolistics
4. Find the type of bioreactor commonly used for the culture of animal cells?
 - a) Stirred tank bioreactor b) Fixed bed bioreactor c) Bubble column bioreactor d) All of the above
5. What does TRIPS stand for?
 - a) Trade Regulations for International Patent Standards b) Trade Related Aspects of Intellectual Property Rights c) Transgenic Regulations for Intellectual Property Standards d) Technology Regulation in Intellectual Property Systems

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

(K2)

6. Why are transposons also called "jumping genes"?
7. Brief is genomic library?
8. What is biolistics?
9. Define Nanobiotechnology:
10. Abbreviate IPR.

CONTD 2)

SECTION – B**(5 X 3 = 15 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)**

11. a) Interpret the structure of pBR 322 plasmid
(OR)
b) What are the steps involved in constructing recombinant DNA?
12. a) Elaborate a note on the working mechanism of Southern blotting technique
(OR)
b) Comment on DNA fingerprinting, and how is it performed?
13. a) Enumerate the main applications of transgenic animals?
(OR)
b) Describe the microinjection method for generating transgenic mice.
14. a) Demonstrate the different types of culture media used in tissue culture.
(OR)
b) Discuss the scope of nano biotechnology in modern research.
15. a) Narrate the main objectives of biosafety regulations in biotechnology?
(OR)
b) Illustrate the role of IPR in biotechnology.

SECTION – C**(5 X 5 = 25 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4 (Or) K5)**

16. a) How are cosmids different from plasmids and bacteriophages? (K5)
(OR)
b) Explain the concept of recombinant vaccines. Discuss the process of developing recombinant vaccines, their advantages over traditional vaccines. (K5)
17. a) Elucidate the process of Polymerase Chain Reaction (PCR) and its significance in genetic research. (K4) (OR)
b) Describe how a genomic library is constructed and its applications in research. (K4)
18. a) Formulate the process and significance of hybridoma technology in the production of monoclonal antibodies.. (K5) (OR)
b) Appraise the characteristics and importance of primary and secondary cell lines in biological research. (K5)
19. a) Discuss the different types of animal tissue culture techniques(K4)
(OR)
b) Determine the design and function of bioreactors used for the culture of animal cells. (K4)
20. a) Discuss the ethical considerations involved in keeping transgenic animals. (K4)
(OR)
b) Discuss in detail Bioethics . (K4)