

**FOR THE CANDIDATES ADMITTED  
DURING THE ACADEMIC YEAR 2020 ONLY**

REG.NO

**NGM COLLEGE (AUTONOMOUS) POLLACHI  
END-OF-SEMESTER EXAMINATIONS: DECEMBER-2022**

**B. Sc-ZOOLOGY****MAXIMUM MARKS: 70****V SEMESTER****TIME: 3 HOURS**

**PART III  
BIOTECHNOLOGY**

**SECTION – A (10 X 1 = 10 MARKS)**

**ANSWER THE FOLLOWING QUESTIONS****MULTIPLE CHOICE QUESTIONS****(K1)**

1. The plasmid vector that can exist and replicate in two different organism is called \_\_\_\_\_  
a) pUC19      b) pUN21      c) shuttle vector      d) cosmid
2. The PCR technique was designed by \_\_\_\_\_  
a) Kary Mullis      b) Kohlar      c) Milton      d) Gilbert
3. A piece of monolayer of epidermal cells grown on a synthetic polymer matrix is called artificial \_\_\_\_\_  
a) skin      b) cartilage      c) epidermis      d) fibroblast
4. Introduction of foreign DNA into eggs with the help of retroviral vector is called \_\_\_\_\_  
a) retroviral method      b) microinjection  
c) embryonic stem cell method      d) gene targeting
5. In India there are \_\_\_\_\_ patent facilitating centers  
a) 6      b) 5      c) 7      d) 3

**ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES****(K2)**

6. What is a cosmid?
7. Define genomic library.
8. Tell about biolistics.
9. Define a bioreactor.
10. Enlist any two biofertilizer.

**SECTION – B (5 X 4 = 20 MARKS)**

**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)**

11. a) Summarize the scope of Biotechnology.  
**(OR)**  
b) Discuss briefly about transposons.

12. a) What is DNA fingerprinting ? Mention its use in forensic science.  
**(OR)**  
b) Describe the strategy for the construction of genomic libraries.

13. a) Differentiate between primary and secondary cell lines.  
**(OR)**  
b) Experiment with microinjection method.

14. a) Write an essay on animal cell culture medium.  
**(OR)**  
b) Narrate the scope and application of nanotechnology.

15. a) Write about IPR.  
**(OR)**  
b) List the importance of biosafety and bioethics.

**SECTION – C** **(4 X 10 = 40 MARKS)**

**ANSWER ANY FOUR OUT OF SIX QUESTIONS.**

**(16TH QUESTION IS COMPULSORY AND ANSWER ANY THREE  
QUESTIONS FROM Q.NO: 17 TO 21 )**

**(K4) OR (K5)**

16. Compare and contrast the Southern & Northern blotting techniques.

17. Explain the structure plasmids pBR 322. Write about its advantages.

18. PCR is an inevitable tool in biotechnology. Explain its applications.

19. Write an essay on hybridoma technology.

20. Illustrate the advantages & disadvantages of animal cell culture.

21. Elucidate the importance *Bacillus thuringensis* as a biopesticide.