

(6 pages)

Reg. No. :

Code No. : 20587 E Sub. Code : CMZO 62

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2024

Sixth Semester

Zoology – Core

ANIMAL BIOTECHNOLOGY

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. Choose a thermophilic bacterium from which Tag DNA polymerase isolated
(a) Bacillus subtilis
(b) Bacillus pumilus
(c) Thermus aquaticus
(d) E.coli

2. What is the process of introducing foreign DNA into a bacterial cell through bacteriophage?
(a) transformation (b) transduction
(c) sexduction (d) all the above
3. What is the use of PCR technique?
(a) amplification (b) repair
(c) transfer (d) knock out
4. What is Restriction fragments length polymorphism?
(a) Genetic markers (b) Vector
(c) Plasmid (d) Phage
5. Choose the world's first cloned mammal
(a) Fish (b) Dolly
(c) Raddish (d) Pomato
6. What is the name of culturing of organs on a wire mesh?
(a) whole embryo culture
(b) grid culture
(c) agar culture
(d) none

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7. Choose the material which is used as a polymer for enzyme immobilization
(a) Calcium alginate
(b) Cellulose
(c) Acetate
(d) Arginate
8. What is the name given to RNA molecules that catalyses the specific biochemical reactions?
(a) Abzymes (b) Synzymes
(c) Ribozymes (d) None of the above
9. WISH is the cell lines raised from the epithelial cells of _____.
(a) amnion of Man (b) allontois
(c) larynx (d) connective tissue
10. Name the process of production of biogas by fermentation effected of anaerobic bacteria
(a) methanogenesis (b) gobar gas
(c) parthenogenesis (d) phylogenetics

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PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Enumerate the gene transfer through liposome method.
Or
(b) State the applications of DNA ligase enzyme.
12. (a) Explain the Western blotting technique.
Or
(b) Explain the DNA probe.
13. (a) Enumerate advantages of Organ culture.
Or
(b) Write short note on the maintenance of cell lines.
14. (a) Enumerate the industrial application of microbial enzymes.
Or
(b) Explain the commercial production of Insulin.
15. (a) Write short note on microarray.
Or
(b) Explain the applications of Biochip.

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PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).
Each answer should not exceed 600 words.

16. (a) Discuss the different types of restriction enzyme.

Or

- (b) Discuss the introduction of recombinant DNA into host through electrophoration.

17. (a) Discuss the DNA library.

Or

- (b) Discuss the basic principle, and applications of PCR.

18. (a) Explain the steps involved in mammalian cell culture.

Or

- (b) Elaborate the production of monoclonal antibody.

19. (a) Discuss the applications of immobilized enzyme.

Or

- (b) Enumerate the different types of biosensors and its uses.

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20. (a) Elaborate the stages of Human genome project.

Or

- (b) Discuss in detail about the gene therapy.

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