

(6 pages)

Reg. No. : .....

Code No. : 11574 E Sub. Code : JMZO 52

B.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2018.

Fifth Semester

Zoology — Main

ANIMAL BIOTECHNOLOGY

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. The injection of foreign DNA directly into cells, using a micropipette is called as
  - (a) Electroporation
  - (b) Transformation
  - (c) Transduction
  - (d) Microinjection

2. The introduction of foreign DNA into bacterial cell through a genetically modified virus or bacterial phage is called as
  - (a) Transformation
  - (b) Transfection
  - (c) Transduction
  - (d) Liposome fusion
3. Cosmid was first constructed by
  - (a) Alec Issac
  - (b) Collins and Hohn
  - (c) Steward
  - (d) Zobel
4. The in-vitro amplification of DNA by polymerization reaction is called
  - (a) Polymerase Chain Reaction
  - (b) Decomposition
  - (c) Fermentation
  - (d) Trypsinization
5. The methodology of animal tissue culture was first established by
  - (a) Messing *et al.*,
  - (b) Ross Granville and Harrison
  - (c) Melsimon *et al.*,
  - (d) David *et al.*,

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6. The following vessel is used to culture microbes  
 (a) Biochips (b) Biosensor  
 (c) Bioreactor (d) None of the above
7. The process of arresting the free movement of enzymes is called  
 (a) Enzyme Extraction  
 (b) Enzyme Biosynthesis  
 (c) Enzyme Engineering  
 (d) Enzyme Immobilization
8. The treatment of genetic diseases by injecting suitable DNAs is called  
 (a) Gene splicing (b) Gene probe  
 (c) Gene therapy (d) Germ line therapy
9. Super bug was developed by  
 (a) Lindermann  
 (b) Anand Mohan Chakravarty  
 (c) Lederberg  
 (d) Thomas Koch
10. Biochip is a computer chip consisting of protein instead of  
 (a) Silicon (b) Silver  
 (c) Copper (d) Platinum

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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) Brief explain the scope and importance of biotechnology.  
 Or  
 (b) How will you introduce a recombinant DNA into host cells?
12. (a) Give an account of pBR 322 plasmid.  
 Or  
 (b) Write short notes on Yeast artificial chromosome.
13. (a) What are the requirements needed for Animal cell culture laboratory?  
 Or  
 (b) Comment on the methods of Cryopreservation.
14. (a) Elucidate the enzyme immobilization and their applications.  
 Or  
 (b) Write down the biosafety guidelines in India.

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15. (a) List out the important steps involved in DNA Finger printing.

Or

- (b) Write a brief note on biogas production.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Describe the principle, technique and applications of Southern blotting techniques.

Or

- (b) Write an elaborate account on liposome mediated gene transfer.

17. (a) Discuss the characteristic features of Bacteriophage vector M13.

Or

- (b) Analyse the characteristics and applications of Cauliflower Mosaic virus.

18. (a) Elaborate the important steps for primary cell cultures.

Or

- (b) Explain in detail about techniques and advantages of organ culture.

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19. (a) Discuss the applications of transgenic animals.

Or

- (b) Give a detailed account on Intellectual Property Rights.

20. (a) Write an essay on methods of primary sewage water treatment.

Or

- (b) Define Bioremediation. Explain the role of genetically engineered organisms in bioremediation.

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