(6 pages)

Reg. No. : .....

Code No. : 5908 **Sub. Code : PZOM 32**

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2020.

Third Semester

Zoology - Core

BIOTECHNOLOGY

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Restriction enzymes are also called ————————

(a) molecular knives

(b) molecular scalpels

(c) molecular scissors

(d) all of these

2. The first step of Polymers chain reaction is

_____

(a) denaturation (b) annealing

(c) primer extension (d) none of these

3. Which of the following is a bacteriophage?

(a) Pox virus (b) Retro virus

(c) TMV (d) M13

4. Which of the following is an example of cloning vector?

(a) Plasmid

(b) Ribosomal RNA

(c) Human growth hormone

(d) Bacteriophage

5. What does the IVF stands for?

(a) Interesting Verification Factor

(b) In Vitro Fertilization

(c) Both (a) and (b)

(d) In Vivo Fertilization

6. Transgenic animals are those which are ————

(a) foreign RNA in all its cells

(b) foreign DNA in some of its cells

(c) Both (a) and (b)

(d) foreign DNA in all its cells

7. Technique of SCP is introduced by ————————.

(a) Gregor Mendal

(b) Louis Pasteur

(c) Professor Scrimshaw

(d) Lan Wilmot

8. Which of the following is not a product of fermentation?

(a) oxygen (b) carbon dioxide

(c) ethanol (d) lactate

9. Which was the first hormone to be produced by genetic engineering?

(a) human growth hormone

(b) tissue plasminogen activator

(c) insulin

(d) adrenalin

10. What is the disadvantges of drug design?

(a) The cost is high

(b) The cost is low

(c) It cannot be produced invivo

(d) It is time consuming technolgy

PART B — (5 × 5 = 25 marks)

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

11. (a) What are linkers and adaptors?

Or

(b) Write a note on Northern blotting with suitable illustrations.

12. (a) PBR 322- the most common plasmid vector- Discuss.

Or

(b) Comment on *Agrobacterium tumefaciens.*

13. (a) List out the precautions for successful cryopreservation.

Or

(b) Dolly – the transgenic clone-Discuss.

14. (a) Give an account on biofertilizers.

Or

(b) Explain the significance of microorganisms in the production of single cell protein.

15. (a) Diagrammatically represent how insulin is produced by bacterial cells?

Or

(b) Write the advantages and disadvantages for the production of pharmaceuticals by genetically engineered cells.

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 technique for Polymerase Chain Reaction (PCR).

Or

(b) Write an essay on complement DNA synthesis of oligonucleotides.

17. (a) Describe the bacteriophage (λ) cycels.

Or

(b) What is particle bombarment? Explain.

18. (a) What is an in vivo gene therapy? Explain.

Or

(b) Write an essay on different techniques involved in embryo transfer.

19. (a) What is bioremediation? Explain the different approach to clean up an oil spillage site.

Or

(b) What is a fermenter? What are the requisite conditions for designing a fermeter?

20. (a) Write about any two micro analytic diagnostic methods.

Or

(b) How steroids are produced by microbial transformation technique?

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