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V Semester B.Sc. Degree Examination, March - 2021

BIOTECHNOLOGY**Genetic Engineering and Environmental Biotechnology**
(CBCS Scheme)**Paper : V****Time : 3 Hours****Maximum Marks : 70****Instructions to Candidates**

- 1) All the Sections are compulsory.
- 2) Draw neat labelled diagrams wherever necessary.

SECTION - A**I. Write short notes on the following:****(5×2=10)**

1. PUC 19.
2. Reverse transcriptase.
3. Transcription terminators.
4. Bacterial biofertilizer.
5. Sludge treatment.

SECTION - B**II. Answer any Four of the following :****(4×5=20)**

6. Explain casmid vector in gene cloning.
7. Write a note on southern blotting.
8. Enumerate the impact of conventional fuels on environment.
9. What is bioremediation ? Explain briefly.
10. Give an account of biopesticides.

[P.T.O.]



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11556

SECTION - C

II. Answer any **Three** of the following.

(3×10=30)

11. What are gene libraries? Explain CDNA cloning technique.
12. Explain CaCl_2 mediated and microinjection methods of transformation techniques.
13. Explain in detail the steps involved in Agarosegel electrophoresis. Add a note on its application.
14. Describe the method of microbial conversion of sugar to alcohol and add a note on gasohol.
15. Explain the steps involved in municipal waste water treatment.

SECTION - D

IV. Answer the following in One word or a sentence each:

(10×1=10)

16. What is the function of DNA ligase?
 17. Name the organism from which ECORI is isolated.
 18. What is the function of Alkaline phosphatase?
 19. Write any one application of genomic DNA library.
 20. What is autoradiography?
 21. Who developed PCR technique?
 22. Name any one methogenic bacterium.
 23. Name a vectorless method of gene transfer.
 24. Name any one microorganism used in biodegradation of cellulose.
 25. What is insitu bioremediation?
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V Semester B.Sc. Degree Examination, March - 2021

BIOTECHNOLOGY

Immunology and Animal Biotechnology

(CBCS Scheme)

Paper : VI



Time : 3 Hours

Maximum Marks : 70

Instructions to Candidates:

- 1) All the Sections are compulsory.
- 2) Draw neat labelled diagrams wherever necessary.

SECTION - A**I. Write short notes on the following:****(5×2=10)**

1. Haptens.
2. Complement system.
3. Peptide vaccine.
4. Serum media.
5. Expression vectors.

SECTION - B**II. Answer any Four of the following :****(4×5=20)**

6. Write the role of macrophages in Immunity.
7. What is ELISA? Briefly describe sandwich ELISA with schematic diagram and functions.
8. Define vaccines. Write the advantages and disadvantages of attenuated vaccines and DNA vaccines.
9. What is Hybridoma Technology? Explain Monoclonal Antibody production.
10. Discuss about enzymatic and mechanical disaggregation of tissues in animal cell culture.

[P.T.O.]

**SECTION - C**

III. Answer any Three of the following. (3×10=30)

11. Define Immunity. Explain innate and acquired immunity and their types.
12. Describe in detail the structure of antibody and explain the features of different immunoglobulins.
13. What is Hypersensitivity ? Explain Type II and Type IV Hypersensitivity reactions.
14. Define growth factors. Explain the role of EGF, PGDF and NGF.
15. Explain the techniques used in production of Transgenic sheep. Add a note on applications of transgenic animals.

SECTION - D

IV. Answer the following in a sentence or a word each : (10×1=10)

16. What is variolation?
 17. Define MHC.
 18. What is paratope?
 19. Name a polio vaccine.
 20. What is plasma clot?
 21. Give the function of trypsin.
 22. Expand HGPRT.
 23. Role of x-GAL.
 24. Name a serum free media.
 25. Give an example of xeno organs.
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