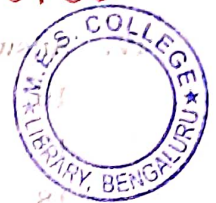




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V Semester B.Sc. Examination, December - 2019

(CBCS) (F+R)

BIOTECHNOLOGY - V

Genetic Engineering and Environmental Biotechnology

Time : 3 Hours

Max. Marks : 70

Instruction : Draw a neat labelled diagrams wherever **necessary**.

SECTION - A

I. Write short notes on the following :

5x2=10

1. RNase H
2. Colony hybridization
3. Pyrolysis
4. Petrocrops
5. Phytoremediation

SECTION - B

II. Answer **any four** of the following :

4x5=20

6. Write a note on plasmid and cosmid.
7. Explain mechanism of action of restriction enzymes.
8. Give an account on microbial hydrogen production.
9. Explain Sanger's method of nucleic acid sequencing.
10. How are GMO's environmentally significant ? Justify.

SECTION - C

III. Answer **any three** of the following :

3x10=30

11. Explain the steps involved in 'invitro construction of recombinant DNA'.
12. Discuss any three transformation techniques used to introduce rDNA into host organisms.
13. What is southern blotting ? With a neat labelled diagram write the procedure and applications of southern blotting.
14. Describe Bioremediation of soil and water contaminated with oil spills.
15. Write a note on :
 - (a) Biofertilizers
 - (b) Nitrogen fixation

P.T.O.



SECTION - D

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

10x1=10

16. Expand TEMED
17. Reverse transcriptase
18. In-situ bioremediation
19. Azatobacter
20. Palandromic sequence
21. Polynucleotide kinase
22. Name any one marker gene
23. Gasification
24. Expand VAM
25. Biofilm

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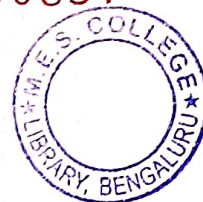
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V Semester B.Sc. Examination, December - 2019
(CBCS) (F+R)

BIOTECHNOLOGY - VI

Immunology and Animal Biotechnology



Time : 3 Hours

Max. Marks : 70

Instruction : Draw neat labelled diagrams wherever necessary.

SECTION - A

I. Write short notes on the following :

5x2=10

1. Innate Immunity
2. Adjuvant
3. Toxoid
4. EGF
5. Plasma clot

SECTION - B

II. Answer **any four** of the following :

4x5=20

6. What is an antigen ? Explain the factors that influence antigenicity.
7. Give an account on chemically defined media.
8. What are vaccines ? Write a note on any two types of vaccines with a suitable example.
9. List out the differences between normal cell line and transformed cell line.
10. Write a note on monoclonal antibody production.

SECTION - C

III. Answer **any three** of the following :

3x10=30

11. Give an account on primary lymphoid organs of immune response.
12. Describe in detail, the expression vectors used in animal cell culture with a suitable example.
13. What is hypersensitivity ? Explain any three types of hypersensitivity in detail.
14. Define Antigen-Antibody reaction. Explain any four interactions in detail.
15. Give an account on :
(a) HGPRT (b) Transgenic animal

P.T.O.

**SECTION - D**

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

10x1=10

16. Liposome
17. Cell line
18. B-lymphocyte
19. Expand ELISA
20. Antiserum
21. Atopy
22. Tuberculin
23. Confluency
24. Aminopterin
25. Cell receptor

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