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Reg. No.

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V Semester B.Sc. Degree Examination, March/April - 2023

**BIOTECHNOLOGY**

Environmental Biotechnology and Immunotechnology

(CBCS Scheme Freshers 2020-2021)

Paper : V



Time : 3 Hours

Maximum Marks : 70

**Instructions to Candidates:**

1. All sections are compulsory.
2. Draw neat labelled diagrams wherever necessary.

**SECTION - A****I** Write short notes on the following.

(5×2=10)

1. Conventional fuels
2. Methanogenic bacteria
3. Haptens.
4. Monoclonal antibodies
5. Auto immune diseases

**SECTION - B****II** Answer any Four of the following.

(4×5=20)

6. Explain bioremediation of industrial effluents.
7. Define VAM. Add a note on its significance.
8. What is Hybridoma technology? Explain production and application of monoclonal antibodies.
9. Define RNA vaccines. Explain its advantages and disadvantages.
10. Give an account of MHC and its role in immunity.

[P.T.O.]



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**SECTION - C**

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

**(3×10=30)**

11. Explain algal and fungal biofertilizers with its uses.
12. Describe Biogas production with schematic diagram.
13. Explain the following :
  - a) Innate immunity
  - b) Acquired immunity
14. Write notes on
  - a) ELISA
  - b) ODD
15. Define Hypersensitivity. Explain Type I and Type - III Hypersensitivity.

**SECTION - D**

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

**(10×1=10)**

16. Define GALT.
  17. Expand RIA.
  18. What is gasohol?
  19. What is macrophage?
  20. Define epitope.
  21. What is sclerosis?
  22. Name a non symbiotic bacteria.
  23. Give an example of non - renewable energy.
  24. Give a lignin degrading enzyme.
  25. What is haemagglutination?
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V Semester B.Sc. Degree Examination, March/April - 2023

**BIOTECHNOLOGY****Plant and Animal Biotechnology**  
**(CBCS Scheme Freshers 2020-2021)****Paper : VI****Time : 3 Hours****Maximum Marks : 70****Instructions to Candidates:**

1. All sections are compulsory.
2. Draw neat labelled diagrams wherever necessary.

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

1. Totipotency.
2. Hardening.
3. PDGF.
4. Hela cell lines.
5. Fusogens.

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

6. Write short note on micropropagation.
7. Explain the procedure and applications of Anther culture.
8. What are secondary metabolites? Explain the production of capsaicin.
9. Write a brief note on the importance of serum in media.
10. What is cryopreservation? Explain the stages of cryopreservation.

**SECTION - C****III. Answer any three of the following.****(3×10=30)**

11. Describe the procedure, factors influencing and applications of somaclonal variations.
12. Describe transformed and continuous cell lines.

**[P.T.O.]**



13. Write notes on :
- a) Preparation and applications of synthetic seeds.
  - b) Applications of micropropagation in forestry.
14. Describe isolation, culture and regeneration of plants from protoplast and add its applications.
15. Explain the process of creation of Dolly a sheep and add applications of transgenic sheep.

#### SECTION - D

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

(10×1=10)

- 16. What is gynogenesis?
  - 17. Define calliclone.
  - 18. Expand HEPA.
  - 19. Define redifferentiation.
  - 20. Erythropoietin.
  - 21. Use of Roller bottle in Animal Tissue culture.
  - 22. Expand HBSS.
  - 23. What is Transgene?
  - 24. What are edible vaccines?
  - 25. What are embryonic stem cells?
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