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V Semester B.Sc. Degree Examination, March/April - 2024

**BIOTECHNOLOGY**

Plant and Animal Biotechnology

(NEP Scheme Freshers 2023-2024 Onwards)

Paper : VI



Time : 2½ Hours

Maximum Marks : 60

**Instructions to Candidates:**

1. All parts are compulsory.
2. Draw neat labelled diagram.

**PART - A****I. Write short notes on any FOUR of the following.****(4×2=8)**

1. Organogenesis.
2. Bud culture.
3. Ti plasmid.
4. Pluripotency.
5. Cell viability.
6. Trans differentiation.

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

7. What is suspension culture? Mention its advantages. **(3+2)**
8. Define gene transfer method. Explain Biolistic method and its application. **(2+3)**
9. Explain in vitro propagation. Add a note on its application. **(3+2)**
10. Define animal cell culture media. Write briefly about natural media. **(2+3)**
11. Define Transfection. Mention Retroviral mediated gene transfer method. **(2+3)**
12. Explain the techniques involved in organ culture and mention its uses. **(2+3)**

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

**PART - C****III. Answer any FOUR of the following.****(4×8=32)**

13. What is secondary metabolite?

Write notes on :

a. Capsaicin.

b. Saffron.

**(2+3+3)**

14. Describe briefly:

a. Embryo culture.

b. Meristem culture.

**(4+4)**

15. Explain transgenic plants with reference to Herbicide resistance plants and Disease resistance plants.

**(2+3+3)**

16. What is stem cell. Write in details its type and uses.

**(2+3+3)**

17. Describe transgenic animals. Mention any two methods of transfection.

**(2+3+3)**

18. What are genome edited animals. Explain with suitable examples.

**(5+3)**

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