

Sr. No. 2835

Exam. Code: 103206

Subject Code : 1410

B.A./B.Sc. 6th Sem.

(2517)

Paper - Biotechnology

(Environmental Biotechnology & Plant Biotechnology)

Time allowed: 3 hrs.

Max. Marks: 75

Note: Q.1 is compulsory. The remaining 8 questions are from four units and candidates are required to attempt 1 question from each unit.

Q. 1 All following questions carry equal marks:

- I. What is photovoltaic system? What are its types?
- II. How cellulose is degraded? Give example.
- III. What you understand by term "Xenobiotics" and its significance?
- IV. Enlist the desirable qualities a fibre should have.
- V. "Somatic embryo" - what does this mean? Explain.
- VI. Why shoot tips bend towards unilateral source of light?
- VII. What is a suspension culture and its significance?
- VIII. Which explants is most suitable for producing triploids and why?
- IX. Define "Fusogen"? Give an example.
- X. What is "Crown Gall"?

1.5x10=15

UNIT-I

- Q.2 a. What is the significance of COD and BOD?
- b. Explain the Gasohol experiment with illustration.
- Q.3 Explain in detail the energy resources and their impact on our environment. What role biotechnology plays in sustainable development?

Unit-II

- Q.4 a. What is "Organic Farming"? How it is related with human health?
- b. Explain microbial nitrogen fixation.

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- Q.5 Highlight the contributions of microorganisms in soil enrichment. How they help in degradation of pesticides and toxic chemicals?

Unit-III

- Q.6 a. What are somatic embryos and their types? How they are produced?
b. Write a note on embryo rescue with suitable example.
- Q.7 Explain micropropagation and its various steps. What is its significance?

Unit-IV

- Q.8 a. Explain somaclonal variations and their applications.
b. How are variants selected using cell suspension culture?
- Q.9 With suitable illustration explain mechanism of protoplast isolation and fusion. Explain significance of this technique in detail.

4x15=60

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