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No. of Printed Pages : 2

GS-362

VI Semester B.Sc. Examination, May/June 2019

BIOTECHNOLOGY-VII

Plant Biotechnology

(CBCS) (2016-17 and Onwards) (2013-14 and Onwards)

(Fresh+Repeaters)

Time : 3 Hours

Max. Marks : 70

Instructions to Candidates : Draw neat labelled diagrams wherever necessary.

SECTION - A

5x2=10

I. Write short notes on the following :

1. 2, 4 - D
2. CPW
3. Trade Secrets
4. Encapsulation
5. Embryoid

SECTION - B

4x5=20

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

6. Write the aseptic techniques used in Plant Tissue Culture.
7. Explain the mechanism and applications of gametoclonal variation.
8. What is ovary culture ? Discuss its protocol.
9. Describe in detail, the procedure of protoplast isolation.
10. Comment on Copyright and Trademark.

P.T.O.

**SECTION - C**

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

3x10=30

11. What is tetrad ? Give an account of haploid culture with its applications.
12. What are elicitors ? Explain the industrial applications of secondary metabolites.
13. Define transgenic plants. Discuss Agrobacterium mediated gene transfer.
14. Write a note on 'Somatic hybridization' and its applications in detail.
15. Discuss the role of Tissue Culture in *Agriculture* and *Forestry* with suitable examples.

SECTION - D

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

16. Ethylene

10x1=10

17. Synthetic media

18. T-DNA

19. Expand PGR

20. Hardening

21. Fusogen

22. Triploidy

23. Kanamycin Resistant gene

24. Embryo rescue

25. Heterokaryon

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VI Semester B.Sc. Examination, May/June - 2019

BIOTECHNOLOGY

Industrial Biotechnology (Paper-VIII)

(F+R) (CBCS-2016-17 & Onwards/2013-14 & Onwards)

Time : 3 Hours

Max. Marks : 70

Instructions : Draw neat labelled diagram wherever necessary.

SECTION - A

I. Write short notes on the following :

5x2=10

1. Liquid Nitrogen preservation
2. Limitations of submerged fermentation
3. Semi synthetic penicillins
4. Continuous flow reactor
5. Yoghurt

SECTION - B

II. Answer any four of the following :

4x5=20

6. Improvement of strains by recombinant DNA technology.
7. Write a note on heat sterilization techniques.
8. Explain single cell Oil.
9. Give an account of synthetic media.
10. Describe enzyme immobilization.

P.T.O.

**SECTION - C**

III. Answer any three of the following :

3x10=30

11. Explain in detail the steps involved in production of Xanthan gum. Add a note on its applications.
12. Give an account of down stream processing with reference to :
 - (a) Solvent recovery
 - (b) Cell disruption
13. Discuss in detail about microbial enzymes and add a note on its applications in leather and detergent industries.
14. Explain the different types of spargers and impellers. Add a note on its advantages.
15. Describe in detail the production of Glutamic acid and Vitamin B₁₂.

SECTION - D

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

10x1=10

16. What is trophophase ?
17. Define strain.
18. Write any two raw materials used in solid state fermentation.
19. What are antifoam agents ?
20. Define crystallisation.
21. What is lagering ?
22. Name the strains involved in Idli fermentation.
23. What is benzyl penicillin ?
24. Expand PHB.
25. What is Molasses ?