



SM -- 407

VI Semester B.Sc. Examination, May/June 2018
(CBCS) (2016-17 and Onwards) (2013-14 and Onwards) (Fresh + Repeaters)
BIOTECHNOLOGY – VII
Plant Biotechnology

Time : 3 Hours

Max. Marks : 70

Instruction : Draw neat labelled diagrams wherever necessary.

SECTION – A

- I. Write short notes on the following : $(5 \times 2 = 10)$
- 1) G. Haberlandt.
 - 2) Hairy root culture.
 - 3) Somaclones.
 - 4) Acclimatization.
 - 5) Endosperm.

SECTION – B

- II. Write any four of the following : $(4 \times 5 = 20)$
- 6) List the applications of pollen culture.
 - 7) Write a note on the applications of Micropropagation.
 - 8) Discuss the importance of organ culture.
 - 9) Explain the types of protoplast culture.
 - 10) What is a patent ? Mention its limitations.

SECTION – C

- III. Answer any three of the following : $(3 \times 10 = 30)$
- 11) Discuss in detail the procedure for invitro embryo culture. Add a note on its significance.
 - 12) What are phytoalexins ? Discuss the industrial production of shikonin.

P.T.O.



- 13) Write in detail about invitro somatic embryogenesis.
- 14) Describe the microprojectile method of gene transfer with a diagram. Add a note on its disadvantages.
- 15) What are edible vaccines ? Discuss in detail its production with a suitable example.

SECTION – D

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

(10×1=10)

- 16) What is hypochlorite ?
 - 17) Name any two commonly used vitamins in tissue culture media.
 - 18) Expand BAP.
 - 19) What are somatic hybrids ?
 - 20) Expand TIP.
 - 21) What is fluorescein diacetate ?
 - 22) Define explant.
 - 23) Expand TRIPS.
 - 24) What is acetosyringone.
 - 25) Define dedifferentiation.
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BIOTECHNOLOGY
Industrial Biotechnology (Paper – VIII)

Time : 3 Hours

Max. Marks : 70

Instructions : Draw neat labelled diagrams wherever necessary.

SECTION – A

I. Write short notes on the following :

- 1) Baiting
- 2) Upstream processing
- 3) Product extraction
- 4) Biotransformation
- 5) Membrane reactor.

(5×2=10)

SECTION – B

II. Answer any four of the following :

(4×5=20)

- 6) What are microbial polysaccharides ? How are they produced ?
- 7) Describe the types of baffles used in fermenters.
- 8) Explain the uses of enzymes in leather processing industries.
- 9) Write a note on penicillin production.
- 10) Explain various methods involved in concentration of products in DSP.

SECTION – C

III. Answer any three of the following :

(3×10=30)

- 11) Explain various sterilization techniques.
- 12) Give an account of strain improvement.
- 13) Discuss the use of immobilised enzymes in upstream processing.

14) Describe industrial production of citric acid.

15) Write notes on :

a) Stirred tank

b) Airlift fermenter.

SECTION - D

IV. Answer the following in one word or a sentence each : (10x1=10)

16) What are polyesters ?

17) Expand SCP.

18) What is whey ?

19) Define coagulation.

20) Name a steroid produced by biotransformation.

21) What is a fermenter ?

22) How is foam controlled in a fermenter ?

23) Name a microbial polysaccharide.

24) What is malting of beer ?

25) Name/two enzymes used in food industry.

SECTION - E

(00=0+0+E)

Ques. 1. Explain the following terms with suitable examples. (6)

Q. 7.9