

(6 pages)

Reg. No. :

Code No. : 7181

Sub. Code :PBOM 43

M.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2019.

Fourth Semester

Botany — Core

APPLIED BIOTECHNOLOGY

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The production of secondary metabolites require the use of
 - (a) protoplast
 - (b) cell suspension
 - (c) meristem
 - (d) auxiliary buds

2. Part of plant used for culturing is called
 - (a) Scion
 - (b) Explant
 - (c) Stock
 - (d) Callus
3. Hairy root cultures are produced by using
 - (a) *Agrobacterium tumefaciens*
 - (b) *Agrobacterium rhizogens*
 - (c) *Agrobacterium vitis*
 - (d) *Agrobacterium rubi*
4. Which of the following is used as fusogen
 - (a) Polyethylene glycol
 - (b) CaMV
 - (c) Sendai virus
 - (d) Adeno virus
5. Which of the following is supplemented with vitamin A in order to improve its nutritional quality?
 - (a) Cotton
 - (b) Potato
 - (c) Tomato
 - (d) Golden Rice

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6. Name the technique which is used to enhance the life of a tomato.
- (a) Antisense technology
 - (b) In vitro gene transfer
 - (c) Ex vivo gene transfer
 - (d) Molecular farming
7. The process of extracting metals from ore bearing rocks is called
- (a) bioextraction
 - (b) microbial extraction
 - (c) biofiltration
 - (d) bioleaching
8. Which of the following microbe is widely used in the removal of industrial waste
- (a) *Trichoderma sp*
 - (b) *Aspergillus niger*
 - (c) *Pseudomonas putida*
 - (d) all of these
9. Which one of the following is an example of starch crops biomass feed stocks?
- (a) Sugar cane
 - (b) Wheat straw
 - (c) Corn stover
 - (d) Orchard prunings

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10. Inhuman B cells and T cells are matured in the
- (a) bone marrow and thymus respectively
 - (b) lymph nodes and spleen respectively
 - (c) bursa and thymus respectively
 - (d) none of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What are the scopes of Biotechnology?
- Or
- (b) How will you produce haploid plants?
12. (a) What are the significance of promoters?
- Or
- (b) Write notes on gene cloning.
13. (a) Comment on Golden rice.
- Or
- (b) Describe about Flavr Savr.

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14. (a) Enumerate bioremediation.

Or

- (b) Write notes on biosensors.

15. (a) List out the applications of vaccines.

Or

- (b) List out the applications of gene therapy.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Write an essay on application of plant tissue culture in agriculture.

Or

- (b) Describe about micropropagation technique.

17. (a) Write an essay on amplification of genes in PCR.

Or

- (b) Answer the following

- (i) Ti plasmids
- (ii) Ri plasmids

18. (a) Give an account on transgenic plants for molecular farming.

Or

- (b) Describe about transgenics resistant to herbicides.

19. (a) List out the application of fungal enzymes in industries.

Or

- (b) Describe about extraction and purification of fungal enzymes.

20. (a) Write an essay on production of vaccine and its uses.

Or

- (b) How will you produce monoclonal Antibodies
Add note on its applications. (4 + 4 = 8)

