

B.Sc. (CBCS Pattern) Sem-VI
012A - DSE-II : Botany Paper-I : Plant Biotechnology-I

P. Pages : 2

Time : Three Hours



GUG/W/22/13331

Max. Marks : 50

1. Write on :
- a) Define plant tissue culture and write about the history of plant tissue culture. 5
- b) Write in detail about the composition of nutrient media. 5

OR

Write short note on.

- c) Role of hormones in plant tissue culture. 2½
- d) B5 media. 2½
- e) N6 media. 2½
- f) Micronutrients in plant Tissue culture. 2½
2. Write on :
- a) Write in detail about regeneration in plant tissue culture. 5
- b) Write note on somatic embryogenesis. 5

OR

Write short note on.

- c) Totipotency. 2½
- d) Dedifferentiation. 2½
- e) Organogenesis. 2½
- f) Differentiation. 2½
3. Write on :
- a) Define protoplast and write about different methods of isolation. 5
- b) What are secondary metabolites? Write advantages and limitations of their production in plant tissue culture. 5

OR

Write short note on.

- c) Virus free culture. 2½

- d) Advantages of micropropagation. 2½
- e) Protoplast fusion. 2½
- f) Production of secondary metabolites. 2½

4. Write on :

- a) Define androgenesis and write note on pollen culture. 5
- b) Write note on cryopreservation. 5

OR

Write short note on.

- c) Ovary culture. 2½
- d) Triploid production. 2½
- e) Application of anther culture. 2½
- f) Hardening. 2½

5. Write very short note on **any ten** of the following. (diagrams are not expected) 10

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|-----------------------|---------------------|
| a) Agor | b) BPA |
| c) IAA | d) Sodium Alginate. |
| e) Redifferentiation. | f) Caulogenesis. |
| g) Fusogen. | h) Elicitor. |
| i) Sorbitol. | j) Germplasm. |
| k) DMSO | l) Green house. |
