



Name :

Roll No. :

Invigilator's Signature :

**CS/M.Sc.(GE)/SEM-3/MSGEN(PBT)-305A/2009-10
2009**

PLANT TISSUE CULTURE AND APPLICATION

Time Allotted : 2 Hours

Full Marks : 35

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *five* of the following :

5 × 1 = 5

- i) Myo-inositol is included in plant growth media to
 - a) enhance nutritional value
 - b) add colour
 - c) resist bacterial contamination
 - d) adsorb phenolic compounds.
- ii) High cytokinin concentration promotes
 - a) shoot formation
 - b) haploid plant formation
 - c) root formation
 - d) embryo formation.



iii) Microspore culture is a method to develop

- a) Triploid plants
- b) Virus free plants
- c) Haploid plants
- d) None of these.

iv) Protoplast is defined as

- a) a cell without cytoplasmic organelles
- b) an extracellular organelle
- c) a cell without plasma membrane
- d) a cell without cell wall.

v) Unlike the somatic cells of animals, plant cells can be grown in tissue culture and regenerate new plants because

- a) plant cells are totipotent and redifferentiate again
- b) each cell contains the entire genome
- c) plant cells are able to express genes that were not previously expressed
- d) none of these.

vi) Which one is alkaloid ?

- a) Taxol
- b) Colchicine
- c) Artemisinin
- d) Diosgenin.

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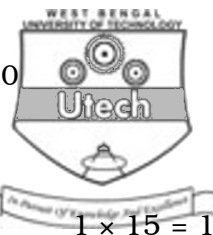
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GROUP – C

(Long Answer Type Questions)

Answer any *one* of the following.

1 × 15 = 15

7. Define micropropagation. Who first introduced this technique with which plant ? Discuss the different stages of micropropagation with their significances. 3 + 2 + 10
8. Discuss the chemical regulation of the process of organogenesis with special reference to mention the importance of this process. Mention two factors responsible for somatic embryogenesis. 13 + 2
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