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Name.....

Reg. No.....

FOURTH SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2019

(CUCSS—PG)

Botany

BO 04 ET 13 5—PLANT TISSUE CULTURE

(2010 Admissions)

Time : Three Hours

Maximum : 36 Weightage

Part A

I. Answer all fourteen questions. Each answer should be brief. Each question carries 1 weightage.

- 1 What is PCR based indexing ?
- 2 Point out significance of haploid plants.
- 3 What are PEMs ?
- 4 List any *two* advantages of clonal propagation.
- 5 What is somatic embryogenesis ?
- 6 What do you mean by induced fusion ?
- 7 What is the advantage of photoautotrophic micropropagation ?
- 8 What is androgenesis ?
- 9 Why the haploid plants are sterile ?
- 10 Write any *two* advantages of green houses.
- 11 Give examples of antioxidants added in tissue culture media.
- 12 Why certification of tissue culture plants necessary ?
- 13 What are the possible mechanisms that cause somaclonal variation ?
- 14 What is synseed ?

(14 × 1 = 14 weightage)

Turn over

Part B

- II. Answer any *seven* questions. Each answer not exceeding 100 words. Each question carries 2 weightage.
- 15 Compare MS medium with SH medium
 - 16 What are secondary metabolites? What is their scope in tissue culture ?
 - 17 What are the advantages of YAM inoculation in tissue culture plants ?
 - 18 What is endosperm culture? Discuss its role in tissue culture.
 - 19 Clonal propagation through tissue culture is still an expensive affair. Why ?
 - 20 Explain the major sources of contamination in a tissue culture lab. Suggest remedial measures.
 - 21 Explain the commercial tissue culturing of Banana and Orchids.
 - 22 Comment on marketing of tissue culture plants.
 - 23 Compare and contrast somatic embryo with zygotic embryo.
 - 24 How does green house differ from poly house ?

(7 × 2 = 14 weightage)

Part C

- III. Answer any *two* questions. Each answer not exceeding 300 words. Each question carries 4 weightage.
- 25 What is somatic embryogenesis? How do somaclonal variations advantageous in tissue culture ?
 - 26 Write an essay on methods, advantages and applications of cell immobilization.
 - 27 What is the role of culture media in tissue culture? Compare various culture media highlighting their advantages and limitations.
 - 28 Discuss the current commercial significance of plant tissue culture in India.

(2 × 4 = 8 weightage)