

Roll No.....

Total No. of Section : 03

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Code No. : 03/308(A)

Third Semester Examination, Dec. - 2017

M.Sc. BIOTECHNOLOGY

Paper - III

PLANT BIOTECHNOLOGY

Time : 3 Hrs.

Max.Marks : 80

Note :Section 'A', consists of 10 very short answer type questions, all of which are compulsory and should be attempted first. Section 'B' consists of four short answer type questions with internal options. Section 'C' consists of four long answer type questions with internal choice.

Section-'A'

Answer the following very short-answer-type questions in one or two sentences. (2x10=20)

- Q-1. Define de-differentiation of cells.
- Q-2. Write about the role of micro-elements in PTC.
- Q-3. What are meristem cells?
- Q-4. Define organogenesis.
- Q-5. Write about the role of T-DNA in transgenic formation.
- Q-6. What is germplasm?
- Q-7. What is the function of promoter?
- Q-8. What is vector?
- Q-9. What are the transgenic plants?
- Q-10. What are therapeutic proteins?

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Section-'B'

Answer the following short-answer-type questions with word limit 200-250. (5×4=20)

Q-1. Write about Clonal propagation in short.

OR

What is Re-differentiation in plants? Explain with suitable examples.

Q-2. Write the features of pollen culture technique.

OR

Write the features of Ri-plasmids.

Q-3. Discuss production of transgenic for insect resistance.

OR

Write about role of glyphosate in transgenic crop improvement.

Q-4. What is Biodegradable plastic? How it is better than regular plastic? Explain.

OR

How male sterility is beneficial in transgenic plants for their quality? Explain.

Section-'C'

Answer the following long-answer-type questions with word limit 400-450. (10×4=40)

Q-1. What is embryo rescue? In what way it is useful? Describe the process in detail with advantages.

OR

Describe different steps involved in the production of virus free plants.

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Q-2. What are double haploid? How they are produced by tissue culture? Describe the process with suitable examples.

OR

What are vectors? Describe Ti plasmids as vector? How they are useful in gene transfer process? Describe with suitable examples.

Q-3. What are the antifungal proteins? How they are useful in disease resistance? Describe development of disease resistant transgenic plants.

OR

Describe in detail how virus resistant plants are produced.

Q-4. Describe production of edible vaccine by transgenic technology.

OR

Describe male sterile plants? How they are produced by genetic engineering? Describe with suitable examples.

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