

**D 31372**

**(Pages : 2)**

**Name.....**

**Reg. No.....**

**THIRD SEMESTER M.Sc. DEGREE EXAMINATION, DECEMBER 2012**

**(CUCSS)**

**Biotechnology**

**GB 3C 3—PLANT BIOTECHNOLOGY**

**(2010 Admissions)**

Time : Three Hours

Maximum : 36 Weightage

**Section A**

*Answer **all** questions.*

1. What do you mean by germ plasm ?
2. Comment on Canola, a genetically modified food.
3. What is multiple gene transfer ?
4. What is co-integrate ?
5. Write the significance of synseed.
6. Differentiate between Zygotic embryo and somatic embryo.
7. What is microinjection ?
8. Write the influence of Gibberellins in a culture medium.
9. What do you mean by hormone-habitation ?
10. What is male sterility ?

**(10 x 1 = 10 weightage)**

**Section B**

*Answer any **seven** questions.*

11. Comment on the use of bioreactors for the production of secondary metabolites.
12. Describe the different methods for protoplast fusion.
13. Explain the pathways of androgenesis.
14. Comment on haploid production.
15. Discuss the transformation of monocots.
16. Describe the *in vitro* methods of germ plasm conservation.
17. Explain the strategies of aseptic manipulation.
18. Explain the direct genetransfer methods.

**Turn over**

19. Briefly explain the steps of micropropagation.
20. Describe the applications of hairy root culture.

(7 x 2 = 14 weightage)

### Section C

*Answer any two questions.*

21. Describe the mechanism of agrobacterium mediated gene transfer.
22. Explain the role of mutation in plant breeding and tissue culture.
23. Describe the production techniques for triploids. Explain the applications of triploid production.

(2 x 6 = 12 marks)