

**M. SC. (BIOTECHNOLOGY) SEM-III (2012 COURSE)(CHOICE  
BASED CREDIT SYSTEM) : WINTER - 2017  
SUBJECT: PLANT BIOTECHNOLOGY**

Day : **Thursday**  
Date : **09/11/2017**

Time : **10.00 AM TO 01.00 PM**  
Max. Marks : **60**

**W-2017-0972**

**N. B. :**

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Answer **ANY TWO** from questions 2, 3, 4 and 6, 7, 8.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.
- 4) Draw neat and labelled diagram **WHEREVER** necessary.

**SECTION - I**

- Q. 1** Answer the following questions in brief: **(10)**
- a) Importance of plant diversity.
  - b) Principles of marker assisted plant breeding.
  - c) Definition of threatened plant species with examples.
  - d) Significance of hybrid plants.
  - e) Science of plant breeding.
- Q. 2** Answer the following questions: **(10)**
- a) What are the conservation strategies of plant diversity?
  - b) Describe methods of breeding in cross pollinated crops.
- Q. 3** Explain the following: **(10)**
- a) Bioprospecting of plant diversity for product development.
  - b) Objectives of modern plant breeding.
- Q. 4** Write short notes on **ANY TWO** of the following: **(10)**
- a) Strategies of plant breeding.
  - b) Characterization of plant diversity through biochemical methods.
  - c) Biodiversity hot spots in India.

**SECTION - II**

- Q. 5** Answer the following questions: **(10)**
- a) Describe initial thrust and the present status of plant genetic engineering.
  - b) What are secondary metabolites? Describe methodologies for their production.
- Q. 6** Answer the following questions: **(10)**
- a) Enlist seed industries and micropropagation industries in India.
  - b) Describe Ti and Ri plasmid based vectors and their applications.
- Q. 7** Write short notes on the following: **(10)**
- a) Conservation of germplasm
  - b) Bio-fuels
- Q. 8** Give diagrammatic or flow chart representation of the following: **(10)**
- a) Production of gametoclonal variants.
  - b) Micropropagation of Banana via axillary shoot proliferation.

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