

**M. SC. (BIOTECHNOLOGY) SEM-III (2012  
COURSE)(CHOICE BASED CREDIT SYSTEM) : SUMMER -  
2018**

**SUBJECT: PLANT BIOTECHNOLOGY**

Day : **Wednesday**  
Date : **04/04/2018**

Time : **10.00 am to 01.00 pm**  
Max. Marks : 60

**S-2018-1087**

**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) Objectives of plant breeding.
  - b) Definition of extinct plant species with suitable examples.
  - c) Significance of plant diversity.
  - d) Need of Bioprospecting
  - e) Applications of marker assisted plant breeding.
- Q. 2** Answer the following questions: (10)
- a) Discuss conservation strategies of plant diversity.
  - b) Explain the methods of plant breeding in self-pollinated crops.
- Q. 3** Explain the following: (10)
- a) Inbreeding depression and heterosis.
  - b) Production of hybrid varieties.
- Q. 4** Write short notes on **ANY TWO** of the following: (10)
- a) Biodiversity hotspots of India
  - b) Back cross plant breeding methods
  - c) Characterization of biodiversity

**SECTION - II**

- Q. 5** Answer the following questions: (10)
- a) *In vitro* approaches for crop improvement.
  - b) Advantages and limitations of micropropagation.
- Q. 6** Answer the following questions: (10)
- a) Elaborate the technique of Cryopreservation.
  - b) Write a note on milestones in plant genetic engineering.
- Q. 7** Write short notes on the following: (10)
- a) Commercial production of secondary metabolites.
  - b) Bio-pesticides and Bio-fertilizers.
- Q. 8** Give diagrammatic or flow chart representation of the following: (10)
- a) Techniques of salt tolerant variant selection.
  - b) Production of transgenic plants resistant to herbicides.

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