

No. of Printed Pages : 03

Roll No.

062

**Ph. D. Course Work
EXAMINATION, Dec. 2017**

(Main Only)

(BT)

BT-903

ADVANCES IN PLANT BIOTECHNOLOGY

Time : 3 Hours]

[Maximum Marks : 80

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

(2-65/15) M-062

P.T.O.

Unit I

1. What do you understand by GMP ? Discuss its relevance and status of GMP regulation at national and international level.
2. What are designer crops ? Discuss their relevance *wrt* current environmental problems and production technology. Cite necessary examples.
3. Write notes on the following :
 - (a) Types of the vector used in plant transformation
 - (b) Metabolic engineering of carotenoid-biosynthetic pathway in plant.

Unit II

4. Discuss how the function of genes and their product be elucidated through functional genomics. Give specific example to support the answer.

5. How the metabolic regulation of gene expression is controlled and analyzed by taking examples plants of your choice ?
6. Discuss the role of molecular marker in crop improvement through gene tagging and gene expression analysis. Give specific examples.

Unit III

7. Plant biotechnology has the great potential for the development of expression technology for the diverse genes in plants. Discuss specific examples with merits and demerits of each types.
8. Write notes on the following :
 - (a) Development and transfer of antisense-RNA construct
 - (b) Metabolic engineering for the inhibition of lignin-biosynthetic pathway genes in higher plant.