Roll No. .....

60564

B. Sc. Bio-Technology 6th Sem.

Examination – April, 2014

PLANT BIO TECHNOLOGY & ENVIRONMENTAL BIO-TECHNOLOGY

Paper : BT-604

Time : Three hours] *[Maximum Marks : 50*

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

Note : Attempt ***five*** questions in all. Question No. 1 which is ***compulsory*** and any ***four*** other question selecting ***one*** question form each Unit.

1. Compulsory question (any ***five***) :

(a) List the various steps involved in micro-propagation of an elite plant species. 2

(b) What are somaclonal variations ? 2

(c) What are cybrids ? 2

(d) What are the advantages and disadvantages of using bio-pesticides over the chemical pesticides ? 2

(e) What do you mean by ' bioremediation' ? 2

(f) What are the main differences between the two modes of *in vitro* plant regeneration ? 2

UNIT – I

2. What are haploid plants ? How can such plants be generated and what are their applications in crop improvement ? 2 + 3 + 2.5

3. Briefly explain the technique of 'embryo culture' along with its applications in crop improvement. 4 + 3.5

UNIT – II

4. What do you mean by 'somatic hybridization' ? How can somatic hybrids be produced ? What are their applications ? 2 + 3 + 2.5

5. Write short notes on any *two* : 7.5

(a) Production of triploid plants

(b) Single - cell suspension culture

(c) Isolation of Protoplasts and their applications

UNIT – III

6. How the municipal waste and industries effluents are treated for their disposal ? 7.5

7. Write short notes : 7.5

(a) Microbiological quality of food

(b) Enrichment of ores by microorganisms

UNIT – IV

8. What are 'biofertilizers' ? Mention some of them. What are the challenges in the practical implementation of biofertilizers ? 2 + 2 + 3.5

9. What do you mean by 'biological control of insects' ? Discuss the use of thuringiensis toxin as a bio-pesticide. 3 + 4.5