

M.Sc. (Sem.-II) Examination

409

Bio Technology (Inte.)

May-2017

Time : 3 Hours]

[Max. Marks : 70

BTI- 409 Plant Biotechnology

- Q-1 Answer the following (Any Two) 14
- Explain uses of Germplasm conservation technique and its advantages.
 - Write a detailed note on synthetic seeds
 - List four achievements in crops through biotechnology and discuss the success story of any one
 - Discuss production of phytochemicals and recombinant products from plants
- Q-2 Answer the following (Any Two) 14
- Discuss biotechnology behind development and advantages of 'Golden Rice'
 - Show technique and objectives behind temporal and tissue specific expression of Bt gene
 - Discuss concern and precautions associated with transgenic plants.
 - Describe genetic and molecular basis for organ differentiation
- Q-3 Answer the following (Any Two) 14
- Discuss molecular biology in plant transformation using *Agrobacterium*.
 - Explain the non-vector approaches for plant transformation
 - Describe somatic hybridization method for plant cell transformation.
 - Discuss technique for manipulation of DNA in plant organelles
- Q-4 Answer the following (Any Two) 14
- Discuss use of molecular markers in plant tissue culture.
 - Explain suspended culture method for plant cell and its advantages
 - Discuss somaclonal variation and its control in plant tissue culture
 - Discuss nutritional requirements for plant tissue culture technique
- Q-5 Answer the following 14
- Define hybridization.
 - What is transposition element?
 - List two plant hormones.
 - What is terminator technology used with Bt cotton?
 - Name two culture media used to cultivate plant tissue
 - Which company developed first Bt cotton variety?
 - Define de-differentiation of plant cells
 - How plant protoplasts are prepared?
 - Name plant hormones responsible for ripening of fruits
 - Name two secondary metabolites derived from plant cells
 - What restricts bacterial gene from expressing in plants?
 - Draw genetic map of *Ti*-plasmid
 - List four possibilities for improvement in plants through biotechnology
 - What are meristematic cells?