Exam.Code:091
Sub. Code: 33385

2076

B.E. (Bio-Technology) Seventh Semester

BIO-713: Plant Tissue Culture

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

1. Answer the following:
   a) Who gave the concept of Totipotency?
   b) What are the parameters of Steam sterilization?
   c) Explain the role of pH in Plant tissue culture media.
   d) Name two enzymes used In Enzymatic degradation in protoplast isolation.
   e) Define the role of a suspenser.
   f) Why are Restriction enzymes known as Molecular scissors.
   g) Highlight the role of T -DNA in rDNA technology.
   h) Define Vitrification.
   i) How is *Bt* Toxin gene important in plant transformation studies?
   j) What is the use of Ovary Culture? (1x10)

UNIT - I

2. Give an account of requirements and general techniques of Plant Tissue Culture. (10)
3. Define Somatic embryogenesis and explain its pathway and application. (10)
4. Explain the concept, procedure and uses of Synthetic seeds. (10)

UNIT - II

5. Describe the *in vitro* fertilization techniques and explain their application . (10)
6. Explain the various Direct gene transfer methods and highlight their potential in crop improvement. (10)
7. Discuss Germplasm storage and outline various techniques used for Long term storage. (10)

x-x-x