



KERALA AGRICULTURAL UNIVERSITY

B.Sc. (Hons.) Ag.

Re-examination - July 2019

2015 and previous admission

Biot.2201

Principles of Plant Biotechnology, Bio-safety Rules and Intellectual Property Rights (2+1)

Marks: 50

Time: 2 hours

- I Fill in the blanks** (10x1=10)
- 1 An undifferentiated mass of cells established in plant tissue culture is called.....
  - 2 The explant preferred in micropropagation practices is.....
  - 3 Glassware used for tissue culture are sterilized by.....
  - 4 A vector commonly used for gene transfer in plants.....
  - 5 Oncogenes are present in the ..... portion of Ti plasmid.
  - 6 YAC is a.....
  - 7 A restriction enzyme which produces blunt ends.....
  - 8 In Agarose gel electrophoresis, DNA is visualized by using.....
  - 9 The process of making millions of copies of the DNA is called.....
  - 10 In DNA Nitrogen base binds to sugar through a .....bond.
- II Write Short notes on ANY FIVE of the following** (5x2=10)
- 1 Define callus and totipotency.
  - 2 Artificial seed.
- Distinguish between**
- 3 Type I and Type II endonuclease.
  - 4 SSR and ISSR
  - 5 Nucleoside and nucleotide
  - 6 Cybrid and Somatic hybrid
  - 7 Direct and Indirect organogenesis.
- III Answer ANY FIVE of the following** (5x4=20)
- 1 TDNA with neat diagram.
  - 2 rDNA technology.
  - 3 What are Restriction Enzymes and how do they work?
  - 4 Explain steps in Micropropagation.
  - 5 What is meant by genetic mapping?
  - 6 What are the biosafety issues related to biotechnology?
  - 7 Viability testing during protoplast isolation.
- IV Write an essay on ANY ONE of the following** (1x10=10)
- 1 Methods of gene transfer.
  - 2 Molecular markers.

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