

KERALA AGRICULTURAL UNIVERSITY

B.Sc (Hons.) Ag. 2013 Admission

IVth Semester Final Examination- July/August-2015

Time: 2 hours

Marks: 50

Cat. No: Biot.2201

Title: Principles of Plant biotechnology, Bio safety rules and Intellectual property rights (2+1)

I Fill up the blanks

(10 x 1=10)

1. _____ is the most commonly used carbon source in plant tissue culture medium ✓
2. _____ is chemical used for encapsulating embryo to produce synthetic seeds ✓
3. _____ is tissue culture technique to produce triploid plants ✓
4. _____ is the enzyme necessary for synthesizing DNA from RNA
5. _____ is a molecular method for amplifying a known region in a DNA molecule
6. _____ is the commonly used bacteria for indirect gene transfer ✓
7. _____ are restriction enzymes identifying the same palindrome
8. _____ are the genetic variations spontaneously originating in plants produced through tissue culture ✓
9. _____ refers to the ability of a plant cell to divide and generate into a whole plant ✓
10. _____ is the specific enzyme for DNA synthesis during PCR ✓

II Write short notes on any FIVE

(5 x 2=10)

1. Mapping QTL ✓ 8
2. Somatic embryogenesis ✓ 9
3. Cybrids and their uses ✓
4. Cosmids
5. Geographical indications ✓ 10
6. RAPD and its applications ✓ 12
7. TRIPS and its significance ✓

III Write short notes on any FIVE

(5 x 4=20)

1. Describe the different stages of micropropagation ✓ 8
2. Biotechnology related IPR issues
3. Transgenic plants and their applications ✓
4. Marker assisted selection and its application in crop improvement ✓ 9
5. Protoplast isolation, culture and fusion ✓
6. DNA fingerprinting and its applications ✓ 10
7. Gene cloning-steps involved ✓ 11

IV Write essay on ANY ONE

(1 x 10=10)

- ✓ 1. Discuss bio-safety rules and rules related to GM crops research ,development ,field trials and commercial cultivation
2. Discuss the various constituents and their specific role in plant tissue culture medium
