



KT-5268

Seat No. _____

B. Sc. (Sem. V) Examination

November / December - 2014

Biotechnology : Paper - CC-I-9

(Principles of Biotechnology Applied to plants)

Time : 3 Hours]

[Total Marks : 70

1. Multiple choice question 10

- (1) _____ is scorable marker gene.
- (a) CAT (b) Luciferase
(c) Glucuronidase (d) all of above
- (2) IBA is sterilized by
- (a) Filtration (b) Autoclaving
(c) U.V. radiation (d) Hot air oven
- (3) Coconut milk is _____ media.
- (a) Defined (b) Chemical
(c) Artificial (d) Natural
- (4) Somatic embryogenesis is used for
- (a) haploid Culture (b) Callus culture
(c) Synthetic seed (d) All of above
- (5) Enzyme is not used for tissue disaggregation is
- (a) Collagenase (b) Cellulase
(c) Lipase (d) both (a) and (c)
- (6) Cells of Callus are
- (a) Diploid (b) Haploid
(c) Both (a) and (b) (d) None of these

- (7) BAP is
(a) Cytokinin (b) Auxin
(c) Giberellin (d) None of these
- (8) Product of bar gene is acting on
(a) Glyphosate (b) Phosphinthricin
(c) Both of these (d) None of these
- (9) Which of the following is secondary metabolite?
(a) Alkaloids (b) Saponins
(c) Lectins (d) All of above
- (10) Plant tissue culture is based on
(a) Totipotency (b) Unipotency
(c) Multipotency (d) Pluripotency

2. Answer the Following (Any five) 10

- (1) Who is the father of plant tissue culture? And who was the first to do anther culture?
- (2) Which hormones are responsible for callusing?
- (3) Full form of IAA and 2-4-D.
- (4) What are the reasons for browning of explants?
- (5) Define totipotency and micropropagation.
- (6) List out methods of direct gene transfer.
- (7) What are the reasons for haploidization?

3 Answer the Following (Any Five) 30

- (1) Write about Preparation and selection of explants.
- (2) Describe Laboratory design of plant tissue culture.
- (3) Write short note on Synthetic seed.
- (4) How can we do preservation of Germplasm?

- (5) Discuss the Production of disease resistance.
- (6) Write note on BT Cotton.
- (7) Write about protoplast culture.

4. Answer the Following. (Any Two) 20

- (1) Discuss Ti plasmid and Agrobacterium Mediated gene transfer.
 - (2) Write detail note on culture media used for plant tissue culture.
 - (3) Write about Stress and herbicide resistant plants.
 - (4) Write detail about haploid culture.
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