

[51/A8]

SEAT No. _____

No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY EXAMINATION-2018-19
CLASS-TYBSC; SUBJECT BIOTECHNOLOGY
COURSE -US05CBIT03; PAPER--PLANT BIOTECHNOLOGY
DATE:26/10/2018; FRIDAY

TIME--10.00AM-1.00PM

MARKS--70

- Q1 Multiple choice questions. Attempt all questions. [10]**
- Fiber mediated DNA delivery uses---**
A. Lead carbide fiber B. Boron carbide fiber
C. Silicon carbide fiber D. Aluminium carbide fiber
 - Which of the following enzyme detoxifies herbicide glufosinate?**
A. Glutamine synthase B. Glutathione S-transferase
C. Phosphinothricin acetyl transferase D. Nitrilase
 - CpTi gene in transgenic plants provide resistance to----**
A. insects B. viruses C. bacteria D. fungus
 - Replacing or removing tumor inducing genes from Ti plasmid is called**
A. Dislocation B. Displacement
C. Disarming D. Disjunction
 - Which one of the following plant hormones stimulates the synthesis of alpha-amylase?**
A. Auxin B. Absciscic acid C. Ethylene D. Gibberellin
 - Biolistic technique is used in-----**
A. Tissue culture process B. Gene transfer process
C. Hybridization process D. Germplasm conservation process
 - Which is used as cryoprotectant?**
A. Liquid N₂ B. Dry CO₂
C. Glycerol D. Acetone
 - Procedure between the formation of plantlets in culture and establishment of plantlet in the field is called**
A. Regeneration B. Transformation
C. Somatic transfer D. Hardening
 - Flavouring and colouring properties of saffron lies in its----**
A. leaves B. stigma C. petals D. roots
 - In plant tissue culture technique elicitors are used for-----**
A. Secondary metabolites B. Somaclonal variations
C. Hardening process D. Regeneration process
- Q2. Short questions. Attempt any TEN questions. [20]**
- Enlist all the techniques of gene transfer.
 - Explain the use of any one scorable marker.
 - Define clean gene technology and edible vaccine.
 - List out the objectives of micropropagation.
 - What are opines? explain.
 - Define and give the significance of artificial seeds.
 - What are bioactive compounds? Give two examples of it.
 - How GA helps in seed germination?
 - Draw the labeled structure of Ri plasmid.
 - What is the significance of using glycerol in germplasm conservation?
 - Enlist all the genes present on T-DNA.
 - How calcium phosphate is used for gene transfer?

(1)

(PTO)

- Q3a. How virulence region of Ti plasmid helps in transferring T-DNA to plant cell? [06]
Q3b. Explain the working of biolistic method of gene transfer. [04]

OR

- Q3a. Enlist the limitations in using Ti plasmid as a vector and explain how to overcome it? [06]
Q3b. Define and explain what are markers? Give the use of two selectable markers. [04]

- Q4. Discuss in detail how different strategies were used in raising glyphosate resistant plants. [10]

OR

- Q4a. Describe the structure of bt toxin and mechanism by which toxin kills the insects [06]
Q4b. Write a note on 'golden rice'. [04]

- Q5a. Give the steps used for cryopreservation. [04]
Q5b. Enlist the functions of auxin and ABA. [06]

OR

- Q5a. Write a note on factors affecting the cryopreservation of germplasm. [06]
Q5b. Elaborate the steps involved in micropropagation [04]

- Q6. What are somaclonal variations? Explain the methods of their isolation and significance. [10]

OR

- Q6. Define secondary metabolites. Write a descriptive note on hairy root culture with its significance. [10]

— X —
(2)