

SEAT No. _____

[34]

No. of Printed Pages : 4

SARDAR PATEL UNIVERSITY

B.SC. (semester-6) EXAMINATION

BOTANY-US06CBOT24 (PLANT BIOTECHNOLOGY)

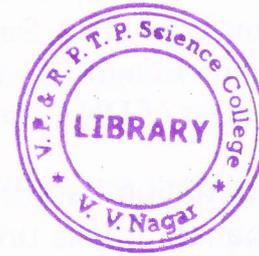
19-07-2021, MONDAY, TIME: 10 A.M .TO 12 P.M.

Qu1-1 Multiple choice questions:

(10)

1. Which of the following plant cells shows totipotency?

- (a) Cork cells
- (b) Meristem
- (c) Sieve tube
- (d) Xylem vessels



2. Which of the following chemicals are most widely used for protoplast fusion?

- (a) Mannitol
- (b) Polyethylene glycol
- (c) Sorbitol
- (d) Mannol

3. Which of the following mediums is composed of chemically defined compounds?

- (a) Natural media
- (b) Artificial media
- (c) Synthetic media
- (d) None of the above

4. Restriction enzymes were discovered by

- a. Smith and Nathans
- b. Alexander Fleming
- c. Berg
- d. None

5. Bacteria protect themselves from viruses by fragmenting viral DNA with

- a. Ligase
- b. Endonuclease
- c. Exonuclease
- d. Gyrase

6. Southern blotting is

- a. Attachment of probes to DNA fragments
- b. Transfer of DNA fragments from electrophoretic gel to a nitrocellulose sheet
- c. Comparison of DNA fragments to two sources
- d. Transfer of DNA fragments to electrophoretic gel from cellulose membrane

7. Transformation carried out using a particle gun is known as biolistic transformation. It falls under which category of transformation?

- a) Physical
- b) Chemical
- c) Electroporation
- d) Natural

8. Electroporation is also used for taking up the DNA by the cells. It constitutes of _____

- a) inserting the DNA into the cells via an electric shock
- b) increased efficiency than both natural and chemical methods
- c) causing the least amount of damage in comparison to other methods
- d) decreased efficiency than both natural and chemical methods

9. Which is a genetically modified crop?

- a. Bt-cotton
- b. Bt-brinjal
- c. Golden rice
- d. All

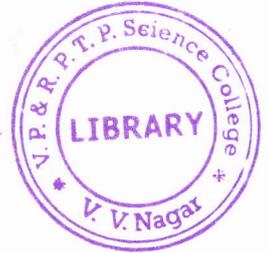
10. The expression of a Transgene in the target tissue is identified by a

- a. Transgene
- b. Promoter
- c. Enhancer
- d. Reporter



Que-2 Fill in the blanks or true –false (08)

1. Excision and insertion of a gene is called _____.
2. The Golden Rice variety is rich in _____.
3. Klenow fragment is derived from poly I. True or False
4. The DNA fragments have sticky ends due to _____.
5. PCR technique was invented by _____.
6. The first transgenic plant to be produced is _____.
7. The pair of hormones required for a callus to differentiate are _____.
8. Haploid plants can be obtained from anther culture. True or False



Que-3 Answer in short (any ten) (20)

1. What is the importance of plant tissue culture?
2. What are the four steps of plant tissue culture?
3. What are the examples of secondary metabolites?
4. What are cloning vectors give an example?
5. What are the types of cloning vectors?
6. What is Endonuclease and Exonuclease?
7. What is indirect gene transfer?
8. What do you mean by gene transfer?
9. How does Agro bacterium transform plant cells?
10. What is the useful application of biotechnology?
11. What is Moon dust carnation?
12. What is golden rice?

Que-4 Answer in detail of any four (32)

1. Protoplast isolation, culture and fusion
2. Cryopreservation
3. PCR

4. chromosome walking
5. Micro projectile bombardment
6. Reporter genes
7. Role of transgenic in bioremediation (Superbug)
8. Flavr Savr tomato

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(4)

