

**TELANGANA UNIVERSITY**  
**S.S.R. DEGREE COLLEGE, NIZAMABAD (C.C:5029)**  
**V SEMESTER INTERNAL ASSESSMENT II EXAMINATIONS**  
**BIOTECHNOLOGY QUESTION BANK**

---

1. The virus mediated gene transfer using genetically modified bacteriophages is called [b]
  - a) transfection
  - b) transduction
  - c) transformation
  - d) conjugation
  
2. The ability of cells to take up DNA fragments from surrounding is called [c]
  - a) transfection
  - b) transduction
  - c) transformation
  - d) conjugation
  
3. Which of the following bacterium is considered as 'natural genetic engineer' [a]
  - e) *Agrobacterium tumefaciens*
  - f) *Agrobacterium rodiiobactor*
  - g) *Pseudomonas putida*
  - h) *Thermusaquaticus*
  
4. The removal or replacement of tumor causing genes from Ti plasmid is termed as [b]
  - a. gene replacement
  - b. disarming
  - c. insertional inactivation
  - d. gene displacement

5. Which of the following statements are true for *Agrobacterium* mediated gene transfer [a]
- Vir* genes are essential for gene transfer
  - T-DNA borders are essential for gene transfer
  - both a and b
  - none of these

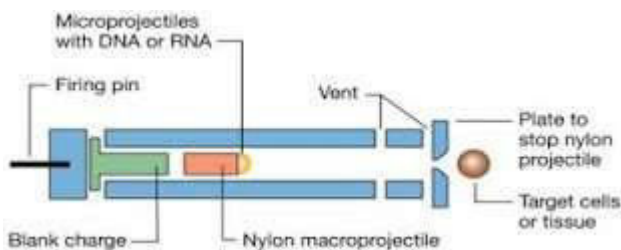
6. Ti plasmid vectors include [c]
- binary vectors and co-integrate vectors
  - co-integrate vectors and multiple vectors
  - multiple vectors and binary vectors
  - Ti plasmid based vector

7. Which of the following chemical enhances *vir*<sub>g</sub> expression
- cyanidin
  - glutennin
  - acetosyringone) dextran

8. Chemicals used for gene transfer methods include
- polyethyleneglycol
  - CaCl<sub>2</sub>
  - dextran
  - all of the above

9. Introduction of DNA into cells by exposing to high voltage electric pulse is
- electrofusion
  - electrofusion
  - electrolysis
  - electroporation

10. The transformation method that uses tungsten or gold particle coated with DNA accelerated at high velocity is called



- acceleration method
- high velocity method

- c) particle delivery method
- d) DNA particle delivery method

11. The method widely used for transforming *in vitro* animal cell cultures that uses lipid vesicles or liposomes

- e) lipofection
- f) liposome mediated transformation
- g) lipofection
- h) lipid mediated DNA transfer

12. DNA solution injected directly into the cell using micromanipulators is called

- a) macroinjection
- b) micromanipulator mediated DNA delivery
- c) microfection
- d) microinjection

13. Fibre mediated DNA delivery uses

- a) silicon carbide fibres that will create pores in the membrane
- b) aluminium carbide fibres that will create pores in the membrane
- c) boron carbide fibres that will create pores in the membrane
- d) lead carbide fibres that will create pores in the membrane

14. The injection of DNA into developing in vitro using a hypodermic syringe is called

- a) macroinjection
- b) micromanipulator mediated DNA delivery
- c) microfection
- d) microinjection

Enroll Now -  
Understand the Basics of rDNA Technology in 2 hours

Answers

1-b	2-C	3-a	4-b	s-a
6-C	7--<	8-C	g-d	zo-d
11-C	12-C	*3-d	*4-a	*5-a

1. Which agriculturally important bacterial gene is isolated from *Rhizobium*? a) Nif gene  
 b) E-gene  
 c) F-gene  
 d) T-DNA

Answer: a

2. Delay in the ripening of tomato is due to \_\_\_\_\_

- a) virulent gene  
 b) antisense PG  
 c) antibiotic resistance gene  
 d) mutation

Answer: b

3. The transgenic tomato variety with an improved shelf life is \_\_\_\_\_ a) Lyco 100

- b) PHB tomato  
 c) Bt tomato  
 d) Flavr savr

Answer: d

4. The transgenic plant 'Flavr savr' tomato carries an artificial gene for \_\_\_\_\_ a) delaying ripening process

- b) added flavours  
 c) both delaying ripening process and added flavours  
 d) insect resistance

Answer: c

5. Two bacteria found to be very useful in genetic engineering experiments are \_\_\_\_\_ a) *Nitrosomonas* and *Klebsiella*

- b) *Nitrobacter* and *Azotobacter*  
 c) *Escherichia* and *Agrobacterium*  
 d) *Rhizobium* and *Diplococcus*

Answer: c

6. Transgenic plants carry desirable traits like \_\_\_\_\_

- a) harmful genes  
 b) herbicide resistance  
 c) lactose intolerance  
 d) complementary genes

Answer: b

7. Strains of *Bacillus thuringiensis* are being used for designing \_\_\_\_\_ a) biomineralization

- b) biofertilizers  
 c) biometallurgical techniques

d) bioinsecticidal plants

Answer: d

8. Natural genetic engineer is \_\_\_\_\_

a) *Pseudomonas putida*

b) *Escherichia coli*

c) *Agrobacterium tumefaciens*

d) *Bacillus subtilis*

Answer: c

9. Flavr savr variety of tomato is the improved variety developed through \_\_\_\_\_ a) hybridization between old varieties

b) mutation variety

c) incorporation of a transgene

d) hybridization between a modern variety and a wild variety

Answer: c

10. Insect pest resistance Bt-cotton plant was developed using \_\_\_\_\_ a) transgenic technology

b) somaclonal variation

c) micropropagation

d) somatic hybridization

Answer: a

11. A desirable change in the genotype of an organism is obtained by \_\_\_\_\_ a) m-RNA formation

b) DNA replication

c) protein synthesis

d) rDNA technology

Answer: d

1. Which of the following is not responsible for crop losses?

a) Fungi

b) Bacteria

c) Virus

d) Earthworm

[View Answer](#)

Answer: d

2. Which of the following term is used for organisms which are attacked by pathogens?

a) Crop

b) Variety

c) Host

d) Susceptible host

[View Answer](#)

Answer: d

3. How is the resistance of the host plant towards a pathogen determined?

a) By looking at the leaves

b) By researching the seed



- c) By studying the genetic constitution of the plant
- d) By cutting the stem

[View Answer](#)

Answer: c.

advertisement

4. How does the development of disease-resistant plants enhance food production?
- a) Reduce the dependence on fertilizers
  - b) Reduce the dependence of fungicides
  - c) Reduce the dependence of water
  - d) Reduce the dependence of air

[View Answer](#)

Answer: b

5. Which of the following is not a sequential step of breeding disease resistance crop?
- a) Harvesting crops
  - b) Screening germplasm
  - c) The hybridisation of selected parents
  - d) Selection and evaluation of hybrids

[View Answer](#)

Answer: a

6. Which of the following is a variety of wheat crop?
- a) Pusa Swarnim
  - b) Pusa Shubhra
  - c) Himgiri
  - d) Pusa Komal

[View Answer](#)

Answer: a

7. Which of the following crops is resistant to the chilly mosaic virus?
- a) Cowpea
  - b) Cauliflower
  - c) Chilli
  - d) Brassica

[View Answer](#)

Answer: c.

8. Availability of a limited number of disease resistance genes constrains conventional breeding practices.
- a) True
  - b) False

[View Answer](#)

Answer: a

9. What is a mutation?
- a) Change in DNA
  - b) Change in the entire genetic makeup of the organism
  - c) Change in RNA
  - d) Change in base sequence within genes

[View Answer](#)

Answer: d

10. Which of the following is used to induce mutations in plants?

- a) Radiations
- b) Water
- c) Virus
- d) Leaves

[View Answer](#)

Answer: a

11. In mung bean, resistance to chilly mosaic virus and powdery mildew were induced by mutations.

- a) True
- b) False

[View Answer](#)

Answer: b

12. Resistance to the yellow mosaic virus in bhindi (*Abelmoschus esculentus*) resulted in a new variety called

- a) Pusa Sadabahar
- b) Parbhani Kranti
- c) Himgiri
- d) Pusa Shubhra

[View Answer](#)

Answer: b

. Genetic variation observed in callus obtained from tissue culture is called

- 1. morphogenesis
- 2. rhizogenesis
- 3. callogenesis
- 3. somaclonal variation

104. The name “Golden rice” is given to a rice variety because

- 1. it contains traces of gold
- 2. it is obtained from areas where gold mining is done
- 3. the seeds are golden yellow in colour because of the presence of  $\beta$  – carotene
- 4. it is made of gold

105. Golden rice is

- 1. hybrid rice developed by traditional plant breeding
- 2. a rice variety obtained by plant tissue culture
- 3. a rice variety obtained by recombinant DNA technology
- 4. None of the above

. In somatic cell gene therapy, the functional genes can be introduced into

- 1. sperm
- 2. egg
- 3. any body cells
- 4. germinal cells

85. The genes introduced through somatic cell gene therapy are

- 1. heritable
- 2. non-heritable
- 3. partially heritable
- 4. none of these

Short Answers

- 1. What are transgenic plants?
- 2. What is Electroporation?
- 3. What is agro infection?





4. What are Herbicide resistant plants?
5. What is flavor saver tomato?

