

N.B:

1. Attempt **all** questions.
2. **All questions** carry **equal** marks.
3. Draw **neat labeled diagrams** wherever necessary.
4. Use of **log tables** and **non-programmable calculators** is **allowed**.
5. For **Q 2, Q 3 and Q 4** attempt A and B **OR** C and D.

Q 1 Do as directed (Any fifteen)**15**

1. Who is the Father of Biotechnology?
2. Name the traditional biotechnology fermented food product from South India
3. What is a Genetically engineered Eve?
4. What is the full form of DBT?
5. Write any one use of DNA fingerprinting in forensic science?
6. Industrial biotechnology is also called as _____.
(Red, Blue, White, Green)
7. Write any one definition of biotechnology.
8. In Bt cotton, Bt stands for _____. (*Bacillus thuringiensis*, *Bacillus thiogeneous*, *Bacillus species*, *Bacillus subtilis*).
9. _____ enzyme catalyse the degradation of pectin in cell-wall resulting in softening of the tomato fruit.
(Amylase, Polygalacturonase, protease, uronase).
10. In FSB-resistant brinjal FSB stands for _____. (false and safe, Foot and shoot borer, fine and small, first safe)
11. Golden rice was produced to combat _____ deficiency.
(vitamin C, vitamin A, vitamin D, Vitamin E).
12. Define molecular farming.
13. Give an example of a microbial secondary metabolite.
14. Name any fungus that produces enzymes.
15. State True or False. Insulin can be an example of a recombinant product.
16. Name any one primary screening method.
17. _____ is an aerating device in a fermentor.
(Baffles, Impellers, Sparger, inoculum port).
18. Name any one process parameter of fermentation.
19. Name any one industrially used fermentation medium/raw material.
20. Define the term fermentation.

Q 2 A Write a note on traditional Biotechnology. 08

Q 2 B Why biotechnology is called an Interdisciplinary area? Explain. 07

OR

Q 2 C Explain in detail about the public Perception towards biotechnology? 08

Q 2 D Enlist Biotechnology institutes in India. 07

Q 3 A Explain in detail the production of insect resistant Bt Cotton. 08

Q 3 B Give an account of production of Flavr Savr tomato. 07

OR

Q 3 C Explain the gene constructs for Bt Brinjal. 08

Q 3 D Write a note on edible vaccine. 07

Q 4 A Discuss primary screening of antibiotic producers from soil sample. 08

Q 4 B Comment on basic requirements of fermentation media. 07

OR

Q 4 C Diagrammatically explain the working of a fermenter/stirred tank reactor. 08

Q 4 D Give an account of fermentative production of ethanol. 07

Q 5 Write short note on any three of the following 15

a Medical biotechnology

b Achievements of biotechnology

c Advantages of edible vaccine.

d Aeration and agitation in a stirred tank reactor.

e Secondary screening of antibiotic producers from soil.