

Please check whether you have got the right question paper

- N.B :**
1. Answer all five questions.
  2. All questions carry equal marks.
  3. Draw neat and labelled diagrams wherever necessary.

1. Explain the use of enzymes in the textile and detergent industry. 12
- OR**
1. Write briefly on :
    - (a) Lycopene 06
    - (b) Olive oil production. 06
  2. What is chloroplast transformation ? Describe the technique and elucidate the advantages and disadvantages of this technique. 12
- OR**
2. (a) What are cybrids ? Explain their application. 06
  - (b) Explain the various schemes/methods of producing herbicide resistant plants. 06
  3. What is tissue engineering ? Explain its application in 3D printing. 12
- OR**
3. Describe animal stem cells and its cloning techniques. 12
  4. Describe the molecular details of any two checkpoints during cell division. 12
- OR**
4. (a) Explain Antisense therapy for viral diseases. 06
  - (b) Write a note on the causes of infertility 06
  5. Write short notes on **any three** :— 12
    - (a) Vegetable processing
    - (b) LAB bacteriocins
    - (c) Edible vaccines
    - (d) Embryo culture
    - (e) Cryopreservation of animal cell cultures
    - (f) Cystic Fibrosis gene therapy.