



Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)

Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B

Coimbatore - 641 043, Tamil Nadu, India

**Bachelor's Degree Examination – January 2021
V Semester**

**Class : III UG
Major : Food Science and Nutrition**

**Time : 3 Hours
Max. Marks: 100**

18BFNC14 Food Biotechnology

Part A

10X1=10

Choose the Correct Answer

- Approaches which can be used for exonucleolytic activity in double stranded DNA molecules are.
a. 1 b. 2 c. 3 d. 4
- Enzyme commonly used for carrying out ligation reaction is
a. Transferase b. Reverse transcriptase
c. ligase d. DNase
- Name of the bacteria which is known as natural genetic engineer of plants is
a. Escherichia coli b. Agro bacterium tumefaciens
c. Pseudomonas aeruginosa d. Aspergillus niger
- The first transgenic plant to be produced
a. Rice b. Maize
c. Cotton d. Tobacco
- The following is not a product of fermentation.
a. Oxygen b. Carbon dioxide
c. Ethanol d. Lactate
- Downstream process is
a. Product recovery b. Screening
c. Media formulation d. Sterilization of media
- The most spoilage bacteria grows at
a. Acidic pH b. Neutral pH
c. Alkaline pH d. All the above
- Which of the following produces citric acid?
a. Aspergillus b. Pseudomonas
c. Saccharomyces d. Clostridium
- Enzyme which was first isolated and purified in the form of crystals.
a. Urease b. Pepsin
c. Amylase d. Ribonuclease
- Golden rice variety is rich in
a. Vitamin C b. Beta carotene & ferritin
c. Biotin d. Lysine

Part B

5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

- 11.a. Brief the review of the enzymes used in genetic engineering.
(or)
11.b. What are cloning vectors? Explain its characteristics.
- 12.a. Differentiate between genetic engineering and tissue culture.
(or)
12.b. Distinguish between Cloning Vs PCR.
- 13.a. Describe Continuous Culture and Batch Culture.
(or)
13.b. List the types of Biosensors and give its applications in food biotechnology.
- 14.a. Enumerate the benefits of microbial metabolites in food Industry.
(or)
14.b. Explain SCP with suitable examples.
- 15.a. Write down the enzymes used in Food Industry.
(or)
15.b. Explain the methods used for Enzyme immobilization.

Part C

5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

- 16.a. Enunciate the difference between Endonucleases and Exonucleases.
(or)
16.b. Elaborate cloning vectors usage in Genetic Engineering.
- 17.a. Explain the concepts of Gene Cloning, in detail.
(or)
17.b. Highlight the various applications of Genetic Engineering process in GMO foods.
- 18.a. Illustrate and Explain the schematic representation of process and highlights its scope of bioreactors.
(or)
18.b. Enumerate the downstream processing, in a detailed manner.
- 19.a. Narrate the Role of microbes in Food Industries with suitable examples.
(or)
19.b. Elucidate the synthesis of L-ascorbate, Glutamate and Xanthane Gum in Food Industry.
- 20.a. State the Production and Applications of Enzymes in Food Biotechnology.
(or)
20.b. Justify are GM foods safe? and Determine the safety assessment of GM crops.
