

FOOD BIOTECHNOLOGY

Part-I

(40 Marks for Part-I)

Use a separate answer script for each part

Time: 3hrs

Full Marks: 100

Group-A

Answer any one question

1. (a) Briefly discuss on application of different biotechnological processes to improve the processed foods.
- (b) What are the advantages of prebiotics and probiotics? 4+6 = 10
2. (a) How quality of a food product may improved by genetical methods?
- (b) Write the advantages of fermented foods. 5+5 =10

Group-B

Answer any two questions

15×2 = 30

3. (a) Briefly describe the biotechnological methods for protein modifications.
- (b) Write the applications of biotechnologically modified proteins in processed foods. 7+8=15
4. (a) Write the applications of biotechnologically modified carbohydrates in processed foods.
- (b) Briefly describe the biotechnological methods for carbohydrate modifications. 7+8=15
5. (a) Write on different strategies for the enzymatic modification of lipids.
- (b) What are the factors affecting the enzymatic modification of lipids?
- © Write the applications of modified lipid in processed foods. 5+5+5 = 15

[Turn over

B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING FOURTH YEAR SECOND SEMESTER – 2018

Subject: FOOD BIOTECHNOLOGY

Time: Three Hours

Full Marks: 100

Use Separate Answer Scripts for Part I and Part II

Part II (Marks-60)

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| 1. Answer any two from (a), (b) and (c) | 10+10=20 |
| a) Describe the process of rDNA technology. | 10 |
| b) Describe the advantages and disadvantages of cloning. | 5+5=10 |
| c) Illustrate the techniques of animal cloning. | 10 |
| 2. Answer any two from (a), (b) and (c) | 20+20=40 |
| (a) DNA replication process is semiconservative –explain. Differentiate between mRNA, tRNA and rRNA. Explain the process of DNA translation. | 5+5+10=20 |
| (b) Fermented food has therapeutic value and easy digestibility- explain. Describe the method of production of a fruit based and a dairy based fermented food. | 5+7.5+7.5=20 |
| (c) Explain the safety factors of SCP. Describe the advantages and disadvantages of SCP production using any two substrates. Analyze the economic value of SCP. | 5+(5+5)+5=20 |