Ref. No. : Ex/FTBE/PE/B/T/422A/2024

B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING FOURTH YEAR

SECOND SEMESTER – 2024

Subject : FOOD BIOTECHNOLOGY

Time: 3hr **Full Marks: 100**

(50 Marks for each Part)

Use separate answer script for each Part

Part I (Total Marks 50)

Instructions : Use Separate Answer scripts for each part

Answer any **five** questions from the following: 5x10=50

1. What are the basic principle to produce genetically modified organism? Mention some potential application area of genetic modification in food industry. 5+5=10 (CO1)

2. What do you mean by functional food? Give two examples of it. What are the advantages of using yeast cells and bacteria cells for SCP production? 1+2+7=10 (CO2)

3. What are the basic steps for production of Single cell protein? What are the application and limitation of SCP? 5+5=10 (CO1)

4. What is Quantum dot? How it is used to detect the presence of microorganism explain with an example. What are the Pros of Genetically modified food? 1+5+4=10 (CO2)

5. Describe how innovative technologies are applied for the development of fermented food especially in

i. Starter culture

ii. Better health and nutrition

iii. Application of non thermal processing

iv. Application of nanotechnology 2.5x4=10 (CO2)

6. Write a short note on (any one) : 10 (CO3)

i. Production of a fermented fruit product

ii. Production of a fermented dairy product.

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FOURTH YEAR SECOND SEMESTER EXAM 2024

FOOD BIOTECHNOLOGY

Full Marks: 100 **Time: 3 hrs**

Part-II (50 Marks)

(Use Separate Answer scripts for each Part)

Group-A

Answer any one question **1×5 = 5**

1. Briefly describe the advantages of fermented foods.
2. Shortly describe the quality and safety parameters of any fermented food products.

Group-B

Answer any three questions **3×15 = 45**

3. What are the advantages of modified carbohydrates over native carbohydrates? Briefly describe different carbohydrate modification processes. Write some applications of modified carbohydrates. 3+7+5 = 15
4. What is trans-esterification process? What are the advantages and applications of trans-esterified fats/ oils? Briefly describe the trans-esterification process. 3+7+5 = 15
5. What are the advantages and limitations of protein modifications? Write the applications of modified proteins in food processing. Briefly describe different protein modification processes. 5+5+5 = 15
6. Write applications of high fructose corn syrup. Describe high fructose corn syrup production process from starch, with a chart. What are the different grades of HFCS? What are the advantages of lactic acid fermentation? 3+6+2+4 = 15