



(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 154602**

Roll No.

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## B. Tech.

(SEM. VI) THEORY EXAMINATION, 2014-15  
**FOOD BIOTECHNOLOGY**

Time : 3 Hours]

[Total Marks : 100

**Note :** Attempt all questions. All questions carry equal marks.

1. Attempt any two parts of the **10×2=20**  
following :
  - (a) Discuss the historical developments that took place in the field of food biotechnology.
  - (b) What do you mean by metabolically injured microorganisms? What are the factors which lead to metabolic injury?
  - (c) Explain radappertization, radicidation and radurization of food.
  
2. Attempt any two parts of the **10×2=20**  
following :
  - (a) Explain the importance of following unit operations in food processing industry.
    - (i) Grading
    - (ii) Distillation.

- (b) Explain the role and significance of microorganisms in sea foods.
- (c) Write a note on how irradiation as a method of food preservation, affects the nutrient quality of food.
3. Attempt any two parts of the **10×2=20** following :
- (a) What are the single cell proteins? With the help of a flow chart, explain the production of Single cell proteins. Also elaborate the advantages and drawback of single cell proteins.
- (b) What is the starter culture used for the production of beer? Explain the terms brewing, malting, mashing, and hops.
- (c) Explain cheese making process in detail. What are the factors that affect the quality and type of the cheese?
4. Attempt any two parts of the **10×2=20** following :
- (a) Give a detailed account of intrinsic and extrinsic parameters of food that affect the growth of microorganisms on it?
- (b) Describe any four methods for detection and enumeration of microorganisms in food.
- (c) Describe the principle behind using irradiation as a method of food preservation. How is food processed for irradiation?

5. Attempt any two parts of the **10×2=20**  
following :
- (a) What is the importance of air sampling in a food industry ? Describe the methods used for sampling of air.
  - (b) Explain the importance of food preservation. Citing appropriate examples, discuss various techniques and practices that have been used to preserve foods.
  - (c) Explain the following terms and their importance in a food processing industry.
    - (i) Deep frying
    - (ii) Reverse osmosis
    - (iii) Freeze drying
    - (iv) Blanching.
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