

- (c) Explain the advantages of application of microwave energy to freeze drying and major reasons for its failure.

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Printed Pages : 4



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EBT-602

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

PAPER ID : 154602

Roll No.

B. Tech. (Biotechnology) (VI Sem.)
SPL. THEORY EXAMINATION, 2014-15
FOOD BIOTECHNOLOGY

Time : 3 Hours]

[Total Marks : 100

Note: Attempt all questions.

1. Attempt any two parts of the following: 10×2=20
 - (a) What are the various unit operations in food industry? Explain in detail various unit operations involved in heat exchanging.
 - (b) Differentiate between intrinsic and extrinsic parameters. Explain how pH affects microbial growth?

- (c) Briefly write a historical overview of food biotechnology.
2. Attempt any two parts of the following: $10 \times 2 = 20$
- (a) Explain the various types of distilled spirits. Explain the wine making process with the help of flow chart.
- (b) What are single cell proteins? How are they produced? Discuss with one example.
- (c) What are starter cultures? With the help of flowchart explain the production of cheese.
3. Attempt any two parts of the following : $10 \times 2 = 20$
- (a) Describe the various methods for microbiological examination of food products.
- (b) Describe the preservation technologies for milk and dairy products.
- (c) Justify the requirement of food preservatives. How foods are spoiled without preservation? How long a food can be preserved?
4. Attempt any two parts of the following: $10 \times 2 = 20$
- (a) What are the various radiations that can be used for food preservation? Compare Redappertization, Radicidation and Radurization.
- (b) Explain principles underlying the destruction of microorganisms by irradiation.
- (c) Write short notes on :
- (i) Processing of foods before irradiation.
- (ii) Why electron beams are better option than gamma radiations for irradiation?
5. Attempt any two parts of the following: $10 \times 2 = 20$
- (a) How high temperatures can be used to preserve foods? Discuss the mechanism in brief.
- (b) Explain the preservation of foods by low temperatures and the effects of freezing on foods.