

[This question paper contains 2 printed pages.]

Your Roll No.....

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Sr. No. of Question Paper : 7994

Unique Paper Code : 2203030018

Name of the Paper : Food Plant Design Sanitation

Name of the Course : **B.Sc. (H) Food Technology, (NEP-UGCF)**

Semester : VIII, DSE

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt total **four** questions.
3. Question **1** is compulsory.
4. **All** questions carry equal marks.
5. Part of the questions to be attempted together.

1. Answer briefly, (**any five**) :

(3×5=15)

(i) Product Layout

(ii) Aerated Storage

(iii) Detergents

(iv) Cleaning in Place (CIP)

(v) Pest Control

(vi) Centrifugation

2. (a) Explain the role of cold chain management in the marketing of perishable foods in domestic and international markets.

(8)

P.T.O.

- (b) Discuss the engineering design of dehydrator equipment used in food processing operations. (7)
3. Differentiate between the following : (any three) (5×3=15)
- (a) GMP and GHP
 - (b) Physical and Biological methods of waste water treatment
 - (c) Batch centrifugation and Continuous centrifugation
 - (d) Safe food storage in coolers and freezers
4. (a) Wastewater sample has initial dissolved oxygen = 8.5 mg/L DO after 5 days it becomes 2.5 mg/L. Calculate the BOD of the wastewater. (5)
- (b) A refrigerated truck transports food at -2°C while ambient temperature is 32°C . Calculate the temperature difference across insulation and explain how this affects heat gain and refrigeration load. (4)
- (c) Discuss the design principles of warehouse storage systems including : (6)
- (i) Palletization
 - (ii) Stacking height
 - (iii) Aisle spacing
5. Write short notes (any three) : (3×5=15)
- (a) Refrigerated transportation of foods
 - (b) Safe food storage in retail outlets
 - (c) Design of Heat exchangers
 - (d) Activated sludge process