



Name :

Roll No. :

Invigilator's Signature :

CS/B.Tech(FT)/SUPPLE/SEM-8/FT-801/2010

2010

FOOD PLANT LAYOUT & DESIGN

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Objective Type Questions)

1. Answer any *ten* question : 10 × 1 = 10
- i) What do you mean by plant layout ?
 - ii) Name the integrated food law proposed to be implemented in India.
 - iii) Recommend an equipment for transporting tomato paste.
 - iv) Find the point of dairy plant that causes major concern towards sanitary product development.
 - v) Through what approach one can ensure the uniformly thorough cleaning of a dairy plant ?
 - vi) Define 'quality' in terms of food product.

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[Turn over



- vii) What is 'BIS' ?
- viii) Which area of a fruit canning industry poses major concern to the sanitary measures ?
- ix) Name two heat transfer operations exercised in food industries.
- x) Write names of two international regulations to be followed for food plant design.
- xi) What type of sanitisation procedure is followed in a fruit canning industry.
- xii) Name the source of each of solid & liquid waste in a fruit processing industry.
- xiii) Mention the 'CCP' in a bakery industry.
- xiv) Define 'GMP' in a food industry.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

- 2. What do you mean by 'optimum economic design' ? Explain with example.
- 3. Mention the factors which are very important in selecting right equipment for food plant.
- 4. Concrete is not considered to be suitable for flooring the food processing plant. Why ? Recommend good flooring material and its sloping.



5. Discuss on the importance of proper design & installation of ventilation systems in different areas in a food plant mentioning some examples.
6. What do you mean by ISO? Mention the objectives of different categories of ISO.
7. Mention some typical CIP programme for a dairy plant.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

8.
 - a) What is HACCP ?
 - b) Mention the steps involved towards implementation of HACCP.
 - c) Write the advantages of HACCP in food industry.
 - d) Give some examples and explain the importance of proper design and installation of ventilation systems in different areas in a specific food plant. $2 + 3 + 3 + 7$
9.
 - a) Explain how quality as well as quantity of water can affect processing operations at different points of a vegetable processing plant.
 - b) 'Single-storey building is favoured for a bread manufacturing unit.' Justify the statement.
 - c) Write the sequential steps to be followed for process design of a food plant operation. $8 + 3 + 4$
10.
 - a) Write the basic principles of hygienic design of equipment to be used in a food processing plant.
 - b) Why is chlorination required in a canning industry ?
 - c) During designing of doors in a food plant, what are the factors to be taken under consideration ? $10 + 2 + 3$



11. a) Mention the sections in a flow line of a modern bread production unit.
- b) Discuss on the general hygienic design conditions in flour store & dough room. 5 + 10
12. a) How would you design sanitary pipelines in a dairy industry ?
- b) Write the objectives of 'Codex (CAC)'.
- c) Mention the key points to be followed during installation of equipment in a food plant. 5 + 3 + 7
13. a) Mention the major factors which have to be taken into intimate consideration for proposing a site of a bakery plant and explain the effect of two factors elaborately.
- b) Mention the methods of sanitization of the equipment surfaces in a dairy plant. 10 + 5
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