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**B.Tech. (Food Tech) (2014 Onwards) (Sem.-7)**  
**FOOD PLANT DESIGN AND PROJECT ENGINEERING**  
**Subject Code : BTFT-701**  
**Paper ID : [74748]**

**Max. Marks : 60**

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

- How Food plant design is influenced by economic and technical parameters?
- Differentiate between parametric and structural optimization.
- What is considered in evaluating food plant location alternatives?
- What studies of food product are required for the design of food plant?
- What is sensitivity analysis?
- Differentiate between single and multiple-use CIP system.
- What is use of breakeven analysis in food plant design?
- How plant profitability is evaluated?
- What are the components of annual manufacturing cost?
- Differentiate between gross profit and net profit.

### SECTION-B

2. What is food process design? Discuss its various components in brief.
3. Enlist commonly used systematic synthesis methods. Describe any one in brief.
4. Discuss the types and applications of pilot plant.
5. What is utility operating cost? Discuss its various components.
6. Describe the process technology of a tomato paste plant with the help of a process flow sheet.

### SECTION-C

7. Discuss in detail the design and economics of a vegetable freezing plant using suitable process flow sheet.
8. Describe hygienic design principles of food processing equipment and auxiliary systems in contact with foods.
9. Describe the various components of food processing system final project report.