

Total number of printed pages-4

53 (FPT 801) PDPE

2017

**PLANT DESIGN AND PROJECT  
ENGINEERING**

Paper : FPT 801

Full Marks : 100

Time : Three hours

***The figures in the margin indicate  
full marks for the questions.***

*Answer any five questions.*

1. (i) What is the main objective of a food process or food plant design ? 2
- (ii) What are the general design considerations for a food plant design ? 5
- (iii) What is a feasibility survey ? Explain in detail. 10
- (iv) What are the different types of process diagrams ? 3

*Contd.*

2. (i) What is a plant location ? Discuss the general guidelines for choosing a plant location. 2+10=12
- (ii) What are the objectives of *any* effective plant layout ? 8
3. (i) How many types of plant layout are there ? Explain with diagram. What are their advantages and disadvantages ? 8
- (ii) Why the life cycle of most of the food products is very short ? 7
- (iii) What are the basic functions of a food processing plant ? 5
4. Draw a plant layout for liquid milk processing industry. Give proper route and labelling. 20

**Or**

Draw a plant layout for a bakery industry. Give proper directions and labelling.

5. (i) What is a Capital ? Write about the fixed capital in detail. 1+9
- (ii) What is Profitability Standard ? Write *any two* methods of calculating profitability standard. 1+9
6. (i) What is a Cash Flow ? What are the types of cash flow ? Explain with example. 1+5
- (ii) Write true **or** false. 1×5
- (a) Replacements is done if a property is worn out.
- (b) The net profit at the start-up time of an industry is always zero.
- (c) Physical depreciation is caused due to age of the equipment.
- (d) Life cycle of a product is hardly in the range of 5-6 years.
- (e) The building height of industry should be at least 2m above the height of the tallest equipment in the building.

(iii) What is depreciation ? Why does depreciation arise ? 1+4

(iv) What is the importance of alternate investment in food industry ? 4

7. Write short notes on : 5×4

(i) Time value of money

(ii) Fixed charges

(iii) Growth capital

(iv) Material handling.

