

Total number of printed pages-3

53 (FPT 702) PRED

2019

FOOD PROCESS EQUIPMENT DESIGN

Paper : FPT 702

Full Marks : 100

Time : Three hours

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

Answer any five questions.

- (a) Discuss about the different types of ferrous metals used in the designing of food processing equipment. 10

(b) Write about the different types of stresses that has to be considered for the proper fabrication and construction of food equipment. 10
- (a) Explain about the different cleaning processes/operations and aspects of food equipment. 10

Contd.

- (b) Write a short note on the Pneumatic Conveyor Systems for food transport applications. 10
3. (a) Give the design aspects of Vibratory Conveyors and explain it with suitable diagrams. 10
- (b) Explain about the design and working of Screw Conveyors with suitable schematics. 10
4. (a) Define Grading. Write about the factors that determine the efficiency of grading operation. 2+3=5
- (b) What are all the criteria involved in the Sorting of foods? 4
- (c) Explain the following sorting operations:
 (i) Weight sorters 5+6=11
 (ii) Color sorters.
5. (a) Define "screening of foods". 2
- (b) Write short notes on Belt Screens and Trommels. 4+4=8
- (c) Explain briefly about Plate type heat exchangers and Graphite heat exchangers. 5+5=10

6. (a) Discuss about following types of shell and tube heat exchangers:

- (i) Fixed tube sheet exchanger
 (ii) Internal floating head exchanger. 5+5=10

- (b) Write short notes on the following parts of shell and tube heat exchanger:

- (i) Channel and Channel cover
 (ii) Expansion provision. 4+6=10

7. (a) Discuss about the different types of alloys used in the designing of pressure vessels. 8

- (b) Write briefly about the different types of nozzles used in the designing of pressure vessels. 12

