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FPT-601/FEO-II/6th Sem/2014/N

## FOOD ENGINEERING OPERATIONS – II

Full Marks – 70

Pass Marks – 28

Time – Three hours

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

Answer any *five* questions.

Illustrate your answers with suitable sketches and examples wherever necessary.

Preferably, write the answer in sequential order.

1. (a) Describe a batch extractor with neat diagram. 7
- (b) Discuss the different factors that affect the rate of extraction. 7
2. Differentiate the following : 7×2=14
  - (a) Single screw extrusion and twin screw extrusion.
  - (b) Extraction and decoction.

[Turn over

3. (a) Define the term 'moisture content'. Discuss different types of moisture with suitable diagram. 7

(b) What do you mean by extrusion ? Describe the basic principles and types of extrusion. 7

4. Write short notes on : 4+5+5=14

(a) Blanching

(b) Pasteurization

(c) Baking.

5. (a) Describe different feeding methods in a multiple effect evaporator. 10

(b) What are the various applications of a evaporator in food processing ? 4

6. (a) How evaporation is different from distillation and drying ? 6

(b) Discuss the different freezing equipment with its application. 8

7. (a) What are microwaves and what are their frequency ranges ? 4
- (b) Compare the microwave heating with conventional heating citing some examples. 7
- (c) What are the benefits of using microwave heating systems in food processing ? 3