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**P.G. DIPLOMA IN FOOD SCIENCE AND
TECHNOLOGY (PGDFT)**

Term-End Examination

June, 2015

**MFT-003 : FOOD PROCESSING AND
ENGINEERING**

Time : 2 hours

Maximum Marks : 70

Note : *Attempt any five questions. Question no. 1 is compulsory. All questions carry equal marks.*

1. Define the following (**any seven**) : **7x2=14**
- (a) Thermal diffusivity
 - (b) Porosity
 - (c) Convective heat transfer
 - (d) CA storage
 - (e) Homogenization
 - (f) Centrifugal filtration
 - (g) Extrusion
 - (h) Plate freezing
 - (i) High pressure processing
2. (a) What are Newtonian and Non-newtonian fluids ? Explain with examples. **4**
- (b) Classify the types of flow on the basis of Reynold's number. **3**
- (c) What are heat exchangers ? Explain the construction and working of plate heat exchangers. **2+5=7**

3. (a) What is freezing ? Discuss any two techniques used for freezing of foods. $2+5=7$
 (b) What is the difference between sedimentation and filtration ? Describe any two equipments used for filtration. $3+4=7$
4. Explain the following advanced processing techniques (**any four**) : $3.5 \times 4 = 14$
 (a) Membrane technology
 (b) Pulsed electric field
 (c) Ohmic heating
 (d) Ultrasonic processing
 (e) Hurdle technology
5. (a) What is the difference between pasteurization, sterilization and evaporation ? 6
 (b) Write the factors affecting expression of oils. 4
 (c) Comment on commercial sterility concept. 4
6. (a) Differentiate sorting and grading. Explain various methods of sorting of foods. $2+5=7$
 (b) What are the points to be considered for site selection of a food processing plant ? $3+4=7$
 Give the general guidelines for layout of a fruit and vegetable processing plant.
7. Write short notes on the following (**any four**) : $3.5 \times 4 = 14$
 (a) Fumigation methods to control insects and rodents.
 (b) Size reduction of solid and fibrous foods.
 (c) Dry cleaning methods of food.
 (d) Plant sanitation.
 (e) Working of centrifugal pump.
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