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**POST GRADUATE DIPLOMA IN FOOD
SCIENCE AND TECHNOLOGY (PGDFT)**

Term-End Examination

June, 2017

MFT-007 : DAIRY TECHNOLOGY

Time : 3 hours

Maximum Marks : 70

Note : (i) Attempt any five questions.

(ii) All the questions carry equal marks.

1. Give very short answer for any seven of the following : 7x2=14
- (a) Define over - run in butter.
 - (b) How can you make the paneer soft ?
 - (c) Give two reasons for the pasteurization of cheese milk.
 - (d) Define starter culture.
 - (e) Why the consistency and texture of buffalo milk dahi is superior than cow milk dahi ?
 - (f) What do you understand by cool-ageing of ice-cream mix ?
 - (g) Define over-run in ice-cream.
 - (h) How can you correct the crumbly texture in ice-cream ?
 - (i) Why the shelf life of roller dried milk powder is better than spray dried powder ?
 - (j) Out of low heat and high heat milk powder, which has the higher solubility and why ?

2. (a) Choose the most appropriate word from the options given in the bracket for any five of the following : 5x1=5

- (i) Change in specific rotation of plane of Polarized light in lactose solution is called (inversion, reflection, mutarotation).
- (ii) Raffinose is a (Monosaccharide, Oligosaccharide, Polysaccharide).
- (iii) Sandiness in ice-cream is due to bigger crystals of (lactose, ice, sucrose).
- (iv) Non protein part of an enzyme is called (coenzyme, cofactor, Prosthetic group)
- (v) Polenske value of a Fat is the measure of (butyric and caproic acids, lauric and myristic acids, caprylic and capric acids).
- (vi) Melting point of Fat increases with an increase in (Saturated Fatty acids, unsaturated Fatty acids, Free Fatty acids).
- (vii) Milk is a poor source of (iron, Ascorbic acid, both).
- (viii) Two dairy product graded by AGMARK are (Khoa and Chhana, Ice cream and Cheese, Ghee and Butter)

(b) Write short note on any three of the following : 3x3=9

- (i) Milk procurement
- (ii) Dairy waste disposal
- (iii) Dairy cooperatives
- (iv) Source of finances for dairy business

3. (a) List the factors which decide the Effectiveness of a Sanitizer and explain different modes of Sanitizer application. 2+3=5
- (b) Explain HTST processing of liquid milk. 5
- (c) Give the method of preparation of Sodium caseinate. 4
4. (a) Define hardness of water and explain how it influences cleaning operation in a dairy plant. 1+3=4
- (b) What is whipped cream ? How this cream is prepared ? 4
- (c) Explain the importance of ripening and pasteurization of cream for butter manufacture. Give the method of working of butter. 6
5. (a) Describe physico-chemical and reconstitution properties of dried milk. 6
- (b) Give the Flow diagram for the manufacturing of yoghurt. 3
- (c) Describe in detail the method of manufacturing of processed cheese. 5
6. (a) What is the difference between coarse and Sandy texture in ice-cream ? How these can be prevented ? 2+3=5
- (b) Discuss various defects of cheese and paneer occurring during storage. 5
- (c) How can you prevent the Sandiness and age thickening in sweetened condensed milk ? 2+2=4

7. (a) Which milk is more suitable for making paneer and chhana and why ? 3
- (b) Define an entrepreneur and explain the qualities of an entrepreneur. 7
- (c) How can you prevent the milk losses in a dairy plant ? 4
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