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**MVP-001**

**POST GRADUATE DIPLOMA IN FOOD  
SAFETY AND QUALITY  
MANAGEMENT (PGDFSQM)**

**Term-End Examination**

**June, 2022**

**MVP-001 : FOOD FUNDAMENTALS  
AND CHEMISTRY**

*Time : 3 Hours*

*Maximum Marks : 100*

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**Note :** (i) Answer any **five** questions.

(ii) All questions carry equal marks.

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1. (a) Give one-word answer for the following :

1×10=10

- (i) The phenomenon responsible for the staling of bread.
- (ii) Natural emulsifier present in milk.
- (iii) The pH at which proteins have no net charge.
- (iv) Breaking of fat into smaller size so as to prevent its separation from milk.

**P. T. O.**

- (v) The ratio of moisture content of the product and the relative humidity of the air surrounding it.
  - (vi) Example of non-starchy polysaccharide.
  - (vii) The amino acid deficient in pulses.
  - (viii) Example of an ethylene absorber used in sachets in packs.
  - (ix) Example of a cryogenic liquid used for freezing foods.
  - (x) Algae used as a source of protein.
- (b) Define the following : 1×10=10
- (i) Parboiling
  - (ii) BOD
  - (iii) Nutraceutical
  - (iv) Whisky
  - (v) Evaporation
  - (vi) Essential amino acid
  - (vii) Kharif crop
  - (viii) Rigor mortis
  - (ix) Smoke point
  - (x) Khurchan

2. (a) Differentiate between the following :

$$2\frac{1}{2} \times 2 = 5$$

(i) Food fortification and Food enrichment

(ii) Hard and Soft water

(b) Briefly describe the various detectors used in gas chromatography. 5

(c) What do you understand by sampling plan ?  
What are the factors that affect choice of sampling plan ? 4+6

3. Write short notes on the following : 5×4=20

(a) Major causes for post-harvest losses of fruits and vegetables

(b) Inversion of sucrose

(c) Functional properties of egg

(d) Functional foods

4. (a) Explain the principle of Kjeldahl method of protein determination. Highlight the function of each reagent used. 10

- (b) What are GMOs ? Enumerate their benefits and the risks. What are the regulations associated with their use ?

2+6+2

5. (a) Enumerate the steps involved to prevent contamination of poultry and maintenance of its quality. 10
- (b) Give a detailed flow diagram for pasteurization of milk. 10
6. (a) Describe various methods of freezing food. 10
- (b) What are the health benefits of honey ? 5
- (c) What is MAP ? 5
7. (a) What are operating characteristic curves ? 5
- (b) Enumerate the steps involved in processing of black tea. How is it different from green and white tea ? 7+3
- (c) Write the full form of the following : 5
- (i) GRAS

(ii) HDPE

(iii) ETP

(iv) AAS

(v) IMF

8. (a) Name the anti-nutritional compounds present in pulses. 5
- (b) Classify proteins on the basis of functions performed. 5
- (c) Describe the various functions of food. Enlist the major food components. 5+5