

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

Term-End Examination

December, 2019

MVP-001 : FOOD FUNDAMENTALS AND CHEMISTRY

Time : 3 hours

Maximum Marks : 100

Note : (i) All questions carry equal marks.

(ii) Attempt any 5 questions.

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1. (a) Define : 10x1=10
- (i) Offal
 - (ii) Surimi
 - (iii) Antioxidant
 - (iv) Vapour pressure
 - (v) Stunning
 - (vi) Chromatography
 - (vii) Humectant
 - (viii) Bacteriocin
 - (ix) Composting
 - (x) Distillation
- (b) Fill in the blanks : 10x1=10
- (i) Pyridoxine is also known as _____.
 - (ii) Firming agent used in pickles is _____.
 - (iii) β -carotene gives rise to _____ molecules of vitamin A.
 - (iv) _____ is an ethylene absorber.
 - (v) Microorganism used in alcohol making is _____.
 - (vi) Example of a distilled alcoholic beverage is _____.
 - (vii) _____ is used to characterize phase transition in foods eg: crystallization, melting etc.
 - (viii) High fructose corn syrup can be obtained from corn syrup by action of enzyme _____.
 - (ix) Oxygen absorber used in packaging films is _____.
 - (x) Example of a complex lipid is _____.
2. (a) Differentiate between : 5x2=10
- (i) Macro minerals and Micro minerals
 - (ii) Food preservation and food processing
 - (iii) Air freezing and plate freezing
 - (iv) Latent heat of vapourization and latent heat of sublimation
 - (v) Class I and Class II preservative
- (b) Discuss the various methods used to determine physical and chemical properties of oils and fats. 10

3. (a) Draw a schematic representation of a sensory evaluation room. 5
- (b) How do vitamins get affected by various food processing techniques ? 5
- (c) What are the requirements of a good label on a food package ? 10
4. (a) Give the importance of : 2x5=10
 - (i) Sampling
 - (ii) Food Fortification
- (b) Give one word answer : 10x1=10
 - (i) Algae used as health food
 - (ii) Paneer obtained from soy
 - (iii) Major Carbohydrate in honey
 - (iv) Proteolytic enzyme used in cheese preparation
 - (v) Method used for determination of reducing sugar
 - (vi) Foods having 20-40% moisture content
 - (vii) People who are unable to digest lactose
 - (viii) By product of cheese making
 - (ix) Gas produced during anaerobic decomposition of waste
 - (x) Example of a non-starch polysaccharide
5. (a) What do you understand by protein concentrate/isolate/hydrolyzate ? How are they used in food industry ? 10
- (b) Explain the auto oxidation reactions of lipids that lead to rancidity. 10
6. (a) Give classification of proteins based on their shape and biological function. 10
- (b) What are edible films ? What are the materials used for preparing them ? 10
7. (a) How do normal phase and reverse phase chromatography differ ? 5
- (b) What are the various post harvest processing operations for cereals ? 5
- (c) Explain the terms in 5-6 lines : 5x2=10
 - (i) Hydrogenation
 - (ii) Trans fatty acids
 - (iii) Caramelization
 - (iv) Food additives
 - (v) Oligosaccharide