

00355

**POST GRADUATE DIPLOMA IN FOOD SAFETY  
AND QUALITY MANAGEMENT (PGDFSQM)****Term-End Examination****December, 2018****MVP-001 : FOOD FUNDAMENTALS AND  
CHEMISTRY***Time : 3 hours**Maximum Marks : 100*

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- Note :** (i) *Attempt any five questions.*  
(ii) *All questions carry equal marks.*
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1. (a) Name the nutrients that are required by the human body and describe their functions in detail. 15  
(b) What is Food Chain ? List the important segments of food industry. 5
2. (a) Explain primary, secondary and tertiary processing of Cereals with examples. 15  
(b) What are the important post harvest technologies used to minimize loss of fruits and vegetables ? 5
3. (a) Describe various groups of meat products with examples for each. 15  
(b) Write the different methods of preservation of eggs. 5

4. (a) Draw the Lewis structure of water and correlate it with the unique properties of water. 10
- (b) What is meant by food spoilage? What is the role of water activity on shelf life of food products? 5
- (c) Differentiate between caramelization and Maillard reaction. 5
5. (a) Differentiate between fat soluble and water soluble vitamins. Give two examples for each type. 5
- (b) Differentiate between macrominerals and microminerals. Give two examples for each of these. 5
- (c) Define and give one example each for simple, conjugated and derived proteins. 5
- (d) Give an account of heavy metals found in food and their effect on the human body. 5
6. (a) What is a sampling plan? Write its importance and factors affecting sampling plan. 7
- (b) Write the precautions that should be taken while preparing a sample for analysis. 7
- (c) Explain in brief the different techniques used for moisture determination in food products. 6

7. (a) Describe the components and principle of Atomic Absorption Spectroscopy (AAS) 8
- (b) Explain the detectors used for Gas Chromatography. 8
- (c) What do you understand by Hyphenated techniques? List any two examples of this technique. 4
8. Write short notes on any two of the following : 10x2=20
- (a) Different methods of Freezing.
- (b) Modified Atmosphere Packaging.
- (c) Treatment of Liquid Wastes.
- (d) Edible Packaging.
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