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MVP-001

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

Term-End Examination

June, 2015

MVP-001 : FOOD FUNDAMENTALS AND CHEMISTRY

Time : 3 hours *Maximum Marks : 100*

Note : *Attempt **any five** questions. **All** questions carry **equal** marks.*

1. Fill in the blanks in the following : **10x2=20**

(a) Water soluble and steam volatile Fatty acids in an oil or Fat are expressed as _____ value and consists mainly _____ acids.

(b) Chemically simple lipids are also called _____ which contains Fatty acid esters of _____.

(c) Steroids are _____lipids while lipids containing carbohydrates are called _____ lipids.

(d) The compact and folded proteins belong to _____ protein, whereas _____ proteins have a thread like structure.

(e) The carbohydrates with single sugar unit are called _____ whereas those with more than 9 sugar units are called _____ .

(f) Sorption isotherm is obtained by placing _____ food in the increasing humidity at a given temperature whereas desorption isotherm is obtained by placing the _____ food in the atmosphere of same relative humidity.

(g) Water can absorb a lot of heat before it begins to get hot due to its high _____ whereas its dielectric constant is higher due to _____ in the molecule.

(h) The molecule which has a binding affinity for water said to be _____ in nature while _____ property is used in the freeze drying of food.

(i) Alfalfa is a _____ food whereas cocoa is a _____ food.

(j) All other portions except muscles of beef, mutton and lamb etc. are known as _____ while a slice of meat cut perpendicular to the muscles is called _____.

2. Differentiate between the following : **10x2=20**

(a) Denaturation and precipitation of proteins.

(b) Mutarotation and inversion of sugar solution.

(c) Enrichment and fortification of food.

(d) Syneresis and retrogradation.

(e) Trained panel and semi-trained panel for sensory evaluation.

(f) Maillard browning and caramelization.

(g) Soy protein concentrates and soy protein isolates.

(h) Class I and Class II preservatives.

(i) The Cis and Trans configuration of Fatty acids.

(j) Durables and perishables.

3. Write short notes on **any five** of the following : **5x4=20**

(a) Functions of food.

(b) Post harvest processing of cereals.

(c) Processed meat products.

(d) Nutraceuticals

(e) Kjeldahl method of proteins estimation.

(f) Fat constants

(g) Hyphenated techniques of analysis.

4. What are enzymes ? Give their classification and uses in the food industry. **2+3+15=20**

5. (a) Describe four basic methods of food processing. **5**

(b) What is Minimal processing ? Why there is a growing interest in the concept of minimal processing food and what are the concerns associated with it ? **5**

(c) Explain some modern packaging concepts. **5**

(d) Discuss three methods of packaging which can reduce its harmful effect of environment. **5**

6. Define BOD and COD. Describe different treatments used for waste water handling. **6+14=20**

7. Define the following (**any ten**) : **10x2=20**

(a) Phyto-chemicals

(b) Food security

(c) Toned milk

(d) Lairage

(e) Tofu

(f) Cylamates

(g) Oleoresin

(h) Oedema

(i) Emulsion

(j) Essential aminoacids

(k) Food additives

(l) Caseins