

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

Term-End Examination 01814

June, 2012

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

Time : 3 hours

Maximum Marks : 100

Note : Attempt any five questions.

All the questions carry equal marks.

1. Define the following terms : 10x2=20
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|----------------------|--------------------|
| (a) Bacon | (b) Kosher |
| (c) Scalding | (d) Luncheon meats |
| (e) Trans fatty acid | (f) Glycoproteins |
| (g) Venison | (h) Red meat |
| (i) Lard | (j) French toast |
2. (a) Write full form for the following : 10x1=10
- | | |
|--------------|-------------|
| (i) ICP - MS | (ii) TBHQ |
| (iii) BOD | (iv) BOPP |
| (v) CPCB | (vi) LLDPE |
| (vii) IFOAM | (viii) MUFA |
| (ix) ADI | (x) PET |

(b) Write *True* or *False* for the following : **10x1=10**

- (i) Butter is an oil-in - water emulsion
- (ii) Groundnut oil is rich in Omega - 3 fatty acid.
- (iii) Sunflower oil is rich in Omega -6 fatty acids
- (iv) Cherry is a stone fruit.
- (v) Mustard is used as cattle feed
- (vi) Processing of fruit to jams and jellies is a tertiary processing
- (vii) Parboiling of rice is done to improve its keeping quality
- (viii) The cereal grain is one seeded fruit called caryopsis
- (ix) Tofu is prepared from buffalo milk
- (x) Hydrolysis of sucrose into glucose and Fructose is also known as mutarotation.

3. Fill in the blanks in the following : **20x1=20**

- (a) Honey contain about _____ % total sugars.
- (b) Best quality coffee beans are obtained from _____ species.
- (c) Cocoa beans contain _____ % fat
- (d) Antioxidants are present in highest amount in _____ tea.
- (e) When used tropically on wounds honey produce _____ on dilution with body fluid.

- (f) A compact food _____ is made from oats, wheat, barley, corn nuts, berries, honey and milk
- (g) In a cereal grain the anti-oxidants are concentrated in _____ portion.
- (h) Meat of deer is called _____
- (i) The process of plunging the pig or poultry carcasses into very hot water is called _____.
- (j) The molecules which have binding affinity for water are called _____ molecules.
- (k) Extent of unsaturation in a fat or oil is indicated by _____ value
- (l) Percent equilibrium relative humidity divided by hundred is called _____.
- (m) To determine the presence of butyric acid in a fat _____ value is determined.
- (n) Cyclamate is used as _____ in a food.
- (o) Annatto is the natural colourant obtained from _____ plant seed.
- (p) Betalians are found in _____.
- (q) The water soluble _____ vitamin is not associated with w - enzyme activity
- (r) The common name for vitamin B_2 is _____.
- (s) Wine is a _____ alcohol beverages.
- (t) Health food for enhancing the _____ is brahmi.

4. (a) Define aquaculture and name the species farmed and common aquaculture practices. Also explain role of mechanical filters, biological filters and oxygen generator in intensive aquaculture practices. **1+4+2**
- (b) How Freshness of Fish is judged ? **3**
- (c) Explain the aseptic packaging systems and active packaging technique. **10**
5. (a) Define water activity and give its importance in food spoilage. **5**
- (b) What is mutarotation of sugar solution. Give the value of specific rotation for α - isomer, β - isomer and equilibrium mixture of both. **2+3**
- (c) What is the role of sucrose in ice - cream in addition to imparting sweetness and why sucrose is replaced by invert sugars in the ice - cream ? **2+3**
- (d) Name different types of browning which occurs in food and explain how cut fruits and heated milk become brown ? **1+2+2**
6. (a) Explain the principle of determination of proteins by Kjeldahl method with function of each reagent - used **5+5**
- (b) Define sensory evaluation and explain for which purposes it is used in the food industry ? **2+8**

7. (a) List all the pretreatments, primary 5+5
treatments and secondary treatments used
to treat the waste water and explain
activated sludge process.
- (b) Name the foods which require MAP in the 2
modern food retailing.
- (c) Give the essential labelling requirements on 4
a food package under Indian Law.
- (d) Explain the benefits for going in for bar 4
coding on the food package.
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