

Total No. of printed pages = 4

FPT-403/BoFC/4th Sem/2016/N

BASICS OF FOOD CHEMISTRY

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer any *five* questions.

1. (a) Define sugar giving suitable example. What is the another name for simple sugar ? 3
- (b) What is the general formula of carbohydrate? Draw the ring form structure of Ribose and Glucose. 4
- (c) What is water activity ? Differentiate between water content and moisture content. 2+3=5
- (d) Write two important functions of lipids in food. 2

[Turn over

2. (a) Define the following terms : $4 \times 2 = 8$

(i) Amino acid

(ii) Glycogen

(iii) Rancidity

(iv) Micro-minerals.

(b) Show the removal of water from monosaccharide molecules resulting in the formation of disaccharide. 2

(c) What are Oligo-saccharides ? What are the products of hydrolysis of lactose ? 4

3. (a) Differentiate between : $3 \times 3 = 9$

(i) Homopolysaccharides and Heteropolysaccharides

(ii) Aldehyde and Ketone

(iii) Enzymatic and Non-enzymatic browning.

(b) Write two important functions of amino acid and mention which is the simplest amino acid ? 3

(c) What is reducing sugar ? Give examples. 2

4. (a) Mention the two important functions of protein. 2
- (b) Explain in brief the role of chemist in food industries. 4
- (c) What is protein ? How a protein molecule is formed ? 4
- (d) Explain caramelization and its consequences. 4
5. (a) What is Amide linkage ? Explain the various levels of protein structure. 6
- (b) What are essential fatty acids ? Give two examples of essential fatty acids. 4
- (c) Give the chemical names of vitamin A and C. 2
- (d) Write the important properties of carbohydrate. 2
6. (a) What is an emulsifier ? Give examples of food emulsifiers. 4
- (b) What are the different types of plant pigments ? Explain any one of them. 2+4=6

- (c) Differentiate between saturated and unsaturated fatty acid. 2
- (d) What are essential amino acids ? Give examples. 2
7. (a) Write short notes on any *three* : 4×3=12
- (i) Food enzymes
 - (ii) Fat soluble vitamins
 - (iii) Hydrogenation
 - (iv) Food additives
- (b) Which two monosaccharides combine to form sucrose ? 2