Total No. of printed pages = 6

FPT-403/BOFC/4th Sem/2017/N

BASICS OF FOOD CHEMISTRY

Full Marks – 70

Time – Three hours

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

PART – A

All the questions carry 1 mark each.

1. The most common monomers of carbohydrates is a molecule of ———.

2. Carbohydrates are organic compounds made up of ———.

3. What is sucrose made up of ?

4. The primary structure is primarily maintained by ———.

5. Disulphide bonds are formed between ———.

[Turn over

6. If n = 5, then the formula of carbohydrate is _____.

7. Amino acids are the building block of _____.

8. Linking of more than 10 amino acids makes a _____.

9. When three molecules of amino acids unite then it is known as _____.

10. Write the chemical formula of Glycerol.

11. Is maltose a reducing sugar ?

12. Give an example of disaccharide molecule.

13. Another name for simple sugar is _____.

14. Glucose has which functional group ?

15. Name one protein found in milk.

16. What is the number of glycosidic bond in disaccharides ?

17. Draw the structure of Glucose.

18. Molecules that are made of one molecule of glycerol and three fatty acids are called _____.

19. Draw the general structure of amino acid.

20. Write one important characteristics of bound water.

21. Give two examples of essential amino acid.

22 What is the chemical name of Vitamin C ?

23. A fat is _____ at ordinary room temperature.

24. _____ is the sweetest of all natural sugar types.

25. Give two examples of microminerals.

PART – B

Answer any *five* questions.

26. (a) Define Moisture content. Explain the relation between water activity and moisture content. 3

(b) Give two important characteristics of amino acids. 2

(c) What is emulsion? What are the basic requirements of an emulsifier to form stable emulsion? 4

27. (a) What are food additives? What are the main purposes of direct food additives that serve in our foods? 4

(b) Explain hydrolysis giving suitable examples. 2

(c) Distinguish between simple and complex carbohydrates. Write the important properties of carbohydrates. 3

28. (a) What are plant pigments? What are the different principle pigments responsible in plants? 4

(b) Define the following terms : 1×4=4

(i) Hydrogen bond

(ii) Starch

(iii) Rancidity

(iv) Peptide bond

(c) Write the molecular formula of Stearic acid. 1

29. (a) Show the formation of a dipeptide bond. 3

(b) Explain why food enzymes are important. 3

(c) Give three important characteristics of fatty acids. 3

30. Differentiate between : (any *three*) 3×3=9

(i) Saturated and Unsaturated fatty acid

(ii) Fat soluble and Water soluble vitamins

(iii) Homopolysaccharide and Heteropolysaccharide

(iv) Amylose and Amylopectin.

31. (a) What are the important classification of lipids? 3

(b) Explain in brief the tertiary level of protein structure. 3

(c) Define essential fatty acid giving suitable examples. 3

32. (a) Write brief notes on : (any *four*) 2×4=8

(i) Caramelization

(ii) Carotenoids

(iii) Saponification

(iv) Oligosaccharide

(v) Minerals in food.

(b) Explain why sucrose is not a reducing sugar ? 1