Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **17FP2003** | **Duration :** | **3hrs** |
| **Sub. Name :** | **FOOD CHEMISTRY** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Outline the characteristics of Zone I of moisture sorption isotherm | CO4 | 5 |
| b. | What is the significance of sorption isotherm? Discuss in detail on the method of developing the same for a food. | CO4 | 15 |
| (OR) | | | | |
| 2. | a. | Define dispersed system and tabulate the various types of dispersed system with examples. | CO1 | 5 |
| b. | Discuss in detail on the instabilities of an emulsion. | CO5 | 15 |
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| 3. | a. | Analyse briefly on the gelation of Low molecular weight pectin | CO2 | 5 |
| b. | What is the principle of Lane and Eynon’s method of total sugar estimation? Outline the method of analysis of estimation of total sugars using the same. Also calculate the amount of reducing and non-reducing sugars in the given Jaggery sample (5 g). Data given – 10 mL of Fehling’s solution = 60 mg of glucose. Titre reading for reducing sugars = 20 mL and that for total sugars = 17 mL, if 25 mL of the sample is taken for hydrolysis and made up to 250 mL. | CO3 | 15 |
| (OR) | | | | |
| 4. | a. | Enumerate briefly on the cyclodextrins. | CO1 | 5 |
| b. | With a neat flow diagram, explain the steps involved in the production of HFCS. | CO1 | 15 |
|  |  |  |  |  |
| 5. | a. | Give an example each for the following – (i) Oil rich in lauric acid (ii) Oil rich in arachidonic acid (iii) Oil rich in linolenic acid (iv) Oil rich in capric acid. | CO1 | 5 |
| b. | What is Saponification value? Mention its significance? An analyst was given a sample of oil for determining the saponification value. He took 4 g of the sample. The titre readings are as follows – Blank – 46 ml, Sample – 30 mL. Calculate the saponification value, giving in detail the procedure to be followed. | CO1, CO3 | 15 |
| (OR) | | | | |
| 6. | a. | With a neat flow diagram, discuss the processing steps involved in edible oil refining, highlighting the importance of each step. | CO2 | 16 |
| b. | Give 2 examples for the following:   1. Natural antioxidants. 2. Synthetic antioxidants. | CO1 | 4 |
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| 7. | a. | Demonstrate the following – (i)α – helical structure (ii) β–pleated sheets | CO1,CO4 | 12 |
| b. | Discuss briefly on the factors that affect protein denaturation | CO4 | 8 |
| (OR) | | | | |
| 8. | a. | Enumerate the classes of enzymes with 2 examples to each. | CO1 | 8 |
| b. | Give reasons for the following applications:   1. Protease in dairy 2. Pectinases during tomato puree drying 3. α-amylase in bakery 4. Protease in meat | CO5 | 4+4+4 |
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|  | | **Compulsory**: |  |  |
| 9. | a. | State briefly on the occurrence, chemistry and RDA of the following vitamins   1. Thiamine 2. Ascorbic acid | CO1, CO6 | 5 + 5 |
| b. | Enlist the sources, applications and functional properties for the following pigments   1. Chlorophyll 2. Carotenoids | CO1,CO6 | 5 + 5 |