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

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

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| **Code :** | **14FP2002** | **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. | Define sorption isotherm and discriminate the zones of moisture sorption isotherm with a diagram. | CO3 | 10 |
| b. | Elaborate on the chemistry, structure and association of water molecules. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Describe the functional properties of emulsion and its types of instabilities. | CO3 | 10 |
| b. | Define dispersed system and illustrate the functional properties of gels with suitable examples. | CO2 | 10 |
|  |  |  |  |  |
| 3. | a. | Tabulate the classification of monosaccharides with examples. | CO1 | 5 |
| b. | Discriminate the chemistry of starch and its hydrolytic products. | CO2 | 15 |
| (OR) | | | | |
| 4. |  | With a help of neat flow diagram, discuss in detail on the production of   1. HFCS 2. Maltodextrin | CO3  CO3 | 10  10 |
| 5. | a. | Define saponification value and write the significance of saponification value. | CO1 | 5 |
| b. | A lab analyst performed saponification experiment for an oil. The readings are – Blank titre value – 50ml, Sample titre value – 42ml. Calculate the saponification value, if 4.5 g of the sample was taken. 1ml of 0.5N HCl = 28.05mg of KOH.  Give the detailed procedure of the experiment and comment of the results. | CO3 | 15 |
| (OR) | | | | |
| 6. |  | With a neat flow diagram, discuss in detail on the method of edible oil refining process, highlighting the importance of each step | CO3 | 20 |
|  |  |  |  |  |
| 7. |  | Discuss the chemistry of dough formation, gelation, emulsification and flavor binding properties of protein. | CO3 | 20 |
| (OR) | | | | |
| 8. | a. | Elucidate the secondary structure of protein with a clear diagram. | CO1 | 10 |
| b. | Describe the role of endogenous enzymes in food quality. | CO3 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss the sources, functions and chemistry of thiamine and riboflavin. | CO2 | 10 |
| b. | Describe the sources, functions and chemistry of Ascorbic acid. | CO2 | 10 |