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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – April/May– 2017**

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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 contrast the zones of moisture sorption isotherm in food system. | CO2 | 10 |
| b. | Explain the term emulsion and evaluate the types of instabilities associated with it. | CO3 | 10 |
| (OR) | | | | |
| 2. | a. | Distinguish between monosaccharides, disaccharides, and polysaccharides by laboratory tests. | CO2 | 10 |
| b. | With a help of neat flow diagram, propose the large scale production of High Fructose Corn Syrup. | CO2 | 10 |
| 3. | a. | Explain how the properties of fatty acids are affected by chain length and degree of unsaturation. | CO3 | 10 |
|  | b. | Elaborate on the types and chemical properties of fatty acids. | CO1 | 10 |
| (OR) | | | | |
| 4. | a. | Describe how the hydrogenation process can result in the formation of a trans double bond. | CO2 | 10 |
|  | b. | Define fat interesterification and mention its mechanism and application in food. | CO2 | 10 |
| 5. | a. | Classify proteins into different groups and outline how their structure will affect their functional properties with 2 examples. | CO1 | 14 |
|  | b. | Illustrate the classes of enzymes with suitable examples. | CO1 | 6 |
| (OR) | | | | |
| 6. | a. | Summarize the structural organization of protein with a neat diagram. | CO1 | 12 |
|  | b. | Explain the term denaturation and list two ways in which proteins in food can be denatured. | CO2 | 8 |
| 7. | a. | Characterize the conversion of ascorbic acid to dehydroascorbic acid. How does this conversion effect vitamin C activity? | CO3 | 10 |
|  | b. | Describe in detail the sources, structure and functions of vitamin A. | CO1 | 10 |
| (OR) | | | | |
| 8. | a. | Discriminate the stability and degradation process of Thiamine. | CO2 | 10 |
|  | b. | Review the reasons for the loss of micronutrients in food. | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Explain the types of rancidity and highlight the role of antioxidants in preventing rancidity. | CO2 | 10 |
|  | b. | Draw and illustrate theedible oil refining process with flowsheet. | CO3 | 10 |

ALL THE BEST