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 – Nov/Dec– 2017**

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| **Code :** | **14FP3022** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ADVANCES IN PACKAGING AND HANDLING OF FOODS** | **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. | Demonstrate the manufacture of a three-piece metal can with necessary diagrams. | CO3 | 10 |
|  | b. | Report the various functions of Packaging. | CO1 | 5 |
|  | c. | Interpret the level of packaging offered in the below mentioned case. List the purpose for each level of packaging offered; | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Outline the process of designing a Belt conveyor for conveying grains. | CO3 | 12 |
| b. | Summarize the different factors that are taken to account while selecting a handling device for grain conveying. | CO1 | 8 |
|  |  |  |  |  |
| 3. | a. | Demonstrate the manufacture of glass bottles using the blow and blow forming process. | CO3 | 10 |
| b. | Summarize the different mechanisms of constructing a pack based on laminates and films. | CO2 | 10 |
| (OR) | | | | |
| 4. | a. | Outline the designing parameters of a screw conveyor for conveying grains. | CO3 | 10 |
| b. | List the different compositions of glass that are available commercially and are in use specifically in the food industry. | CO1 | 6 |
| c. | Recognize any 5 unique attributes of food packages made from glass. | CO1 | 4 |
|  |  |  |  |  |
| 5. | a. | Demonstrate the manufacture of paper with necessary diagrams. | CO3 | 10 |
|  | b. | Report on any five features on paper & paperboards which are developed by adding additives. Illustrate these features with suitable examples. | CO2 | 10 |
| (OR) | | | | |
| 6. |  | Outline the working of different MAP machines that are available commercially for MAP of fruits and Vegetables. | CO3 | 20 |
|  |  |  |  |  |
| 7. | a. | Enumerate the different gases used in MAP systems and their effect on microorganism. | CO1 | 10 |
|  | b. | Summarize the working of a bucket elevator with proper diagrams. | CO2 | 10 |
| (OR) | | | | |
| 8. |  | Sketch a thermoform, filling and sealing machine with neat labels that explain the working. | CO2 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Outline any 4 tests that are conducted on packaging with necessary formulates and illustrations. | CO3 | 10 |
| b. | Summarize the feature “Intelligent Pack” and “Retort Pack” | CO2 | 10 |

ALL THE BEST