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 – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **14FP3006** | **Duration :** | **3hrs** |
| **Sub. Name :** | **STORAGE ENGINEERING OF GRAINS** | **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. | Summarise the physical properties of grains and their implications in design of grain storage structures. | CO1 | 10 |
| b. | Illustrate the different parts of a wheat Kernel with suitable sketches. Examine why each of these parts are important to human nutrition. | CO2 | 10 |
| (OR) | | | | |
| 2. |  | Explain the need to learn about the aerodynamic & thermal properties of grain. How does it influence the actual storage structure? | CO1 | 20 |
| 3. | a. | Describe the changes that take place on the building blocks of a grain during storage. | CO2 | 10 |
|  | b. | Paraphrase the different possible configurations or arrangements that can be given within a thin layer drying system with respect to the Air Flow Vs Grain Flow. | CO3 | 10 |
| (OR) | | | | |
| 4. | a. | Illustrate the 3 different systems that are an important part of the “natural-air-drying system”. | CO2 | 5 |
|  | b. | Interpret the action of fluidization in a dryer. | CO3 | 5 |
|  | c. | Elaborate on the different Traditional storage structures available. Why are traditional structures popular in developing countries? | CO2 | 10 |
| 5. |  | Briefly, summarize the functioning of the following types of dryers with neat sketches.  (i.) LSU Dryer  (ii.) Sprouted Bed Dryer | CO2 | 10  10 |
| (OR) | | | | |
| 6. |  | Briefly, summarize the functioning of the following types of dryers with neat sketches.  (i.) Mixing type – Thin Layer Dryer  (ii.) Non-Mixing type – Thin Thin layer Dryer | CO2 | 10  10 |
| 7. |  | Derive the different types of pressure distribution theories that are used to calculate the pressure load on a grain silo. | CO3 | 20 |
| (OR) | | | | |
| 8. |  | Summarize the different Integrated Pest Management Systems used in bag storage structures. | CO2 | 20 |
|  | | **Compulsory:** |  |  |
| 9. |  | Elaborate upon the different Pests that are commonly found in stored (or) pantry foods. | CO2 | 20 |

ALL THE BEST