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

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**End Semester Examination – Nov/Dec– 2017**

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| **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 five different pantry best that infect food and its commodities with neat sketches where required. | CO2 | 15 |
| b. | “Maida absorbs a lot of water during dough making”, interpret the cause of this phenomenon and indicate the role of temperature in the phenomenon? | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Discuss about atleast five different methodologies used for the storage of grains on a traditional farm setting. | CO3 | 10 |
| c. | Summarise the different control measures used for vertebrate Pests in grain storages. | CO3 | 10 |
|  |  |  |  |  |
| 3. | a. | Outline the construction and the working of a vertical form, fill seal machine with a neat sketch. | CO2 | 10 |
| b. | Illustrate the methods of manufacture of thermoformed trays used in MAP systems with neat sketches. | CO3 | 10 |
| (OR) | | | | |
| 4. |  | Illustrate the construction and working of the following kinds of commercial dryers with necessary diagrams.   1. Fluidised bed dryer. ii. Sprouted Dryer. | CO2 | 10+10 |
|  |  |  |  |  |
| 5. | a. | Simulate the working of the Chamber Machines used in MAP applications. | CO3 | 8 |
|  | b. | Illustrate the various instruments that can be used for test residual levels of fumigants and leaks in fumigated warehouse. | CO3 | 12 |
| (OR) | | | | |
| 6. |  | Outline the various sampling methods and equipments which can be used for sampling grains in bulk or bag storage. | CO2 | 20 |
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| 7. | a. | Outline the process of fumigation under closed gas-proof sheets used in fumigation of bag stored grain. | CO3 | 15 |
| b. | Objectify why CO is not popularly used as a MAP gas in food applications. | CO3 | 5 |
| (OR) | | | | |
| 8. | a. | Discuss different properties of any chemical compound that can be used as a fumigant with examples. | CO2 | 15 |
| b. | Describe the term “terminal velocity” with respect to fumigation. | CO1 | 5 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss the various pressure theories with respect to design of silo. | CO3 | 10 |
|  | b. | Summarise the alternate methods of pest control in contrast to the use of pesticides. | CO2 | 10 |