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 :** | **14FP2032** | **Duration :** | **3hrs** |
| **Sub. Name :** | **PROCESS ECONOMICS AND PLANT LAYOUT DESIGN** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | Discuss on the different aspects of developing a feasibility study by preparing one for a company which wants to start a carbonated beverage industry. | CO1, 3 | 20 |
| (OR) | | | | |
| 2. |  | What is a process flow diagram? Develop the same for a company that wants to produce 1000 kg / day of a Mixed Fruit Jam. | CO1, CO3 | 20 |
| 3. | a. | Discuss in detail on the general principle of Hygeinic design of a Food Plant. | CO2, 3 | 14 |
|  | b. | Develop a CIP protocol for a dairy processing unit. | CO2,3 | 6 |
| (OR) | | | | |
| 4. | a. | Discuss in detail on the 10 principles of Sanitary design. | CO2, 3 | 12 |
|  | b. | Hence give your suggestions for a company manufacturing RTE foods. | CO2,3 | 8 |
| 5. |  | What is Simplified Systematic Plant lay out? A dairy industry wants you to plan the layout for their plant. Can you help them? | CO2,3 | 20 |
| (OR) | | | | |
| 6. | a. | Discuss on the following:  8 PRPs of Food hygiene | CO2,3 | 12 |
|  | b. | 6 preliminary steps of HACCP. |  | 8 |
| 7. |  | Mr X plans to set up a plant manufacturing fruit powder. The cost of the spray drier (10 kg/h) his friend bought for his concern was Rs. 10 Lakhs in 1995. The cost of steam boiler was Rs. 75,000 then for an appropriate capacity. Calculate the cost of setting up a plant now for a plant manufacturing 25kg/h, by the method of Miller. CEPC index for 1995 = 381.1 and for 2015= 556.8. | CO1,3 | 20 |
| (OR) | | | | |
| 8. | a. | Discuss briefly on variable costs that contribute to the Manufacturing costs | CO1 | 6 |
|  | b. | What is depreciation? Discuss in detail on the methods of determining the same. | CO1 | 14 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Discuss in detail on the various aspects of a cash flow diagram | CO1 | 14 |
|  | b. | With the help of the Cash flow diagram, explain the concept of Net present worth and method to determine the same | CO1 | 6 |

ALL THE BEST