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

G:\logo and QP Template\logo 3 Feb 2018 final.tif

**End Semester Examination – Nov/Dec – 2018**

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

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | What is a feasibility study? | CO1,CO3 | 3 |
| b. | Develop a technical feasibility report for a company which plans to start a unit manufacturing diabetic jam. | CO1,CO3 | 17 |
| (OR) | | | | |
| 2. |  | What is process flow? With a neat diagram, draw the process diagram for an industry manufacturing 1000kg/hr of *Gulab jamun*. | CO1,CO2 | 20 |
|  |  |  |  |  |
| 3. | a. | Discuss in detail on the 10 principles of Sanitary design. | CO2,CO3 | 14 |
| b. | Briefly discuss on the criteria to be followed while hygienically designing pipes and joints. | CO3 | 6 |
| (OR) | | | | |
| 4. |  | What is FSMS? Outline the FSMS plan for a company manufacturing frozen meat products. | CO2, CO3 | 20 |
|  |  |  |  |  |
| 5. | a. | Differentiate between process and product layout. | CO2 | 4 |
| b. | Develop the layout for a plant manufacturing 1000 kg / day of tomato sauce, based on the principles oRichard Muther. | CO1,CO3 | 16 |
| (OR) | | | | |
| 6. | a. | What are the reasons for accidents to occur in a Food Industry? | CO3 | 10 |
| b. | Outline the steps to prevent the same, as outlined by OSHO. | CO3 | 10 |
|  |  |  |  |  |
| 7. |  | Mr X plans to set up a plant manufacturing Fruit powder. The cost of the evaporator (10 kg/h) his friend bought for his concern was Rs. 10 Lakhs in 2001. The cost of steam boiler was Rs. 3 Lakhs 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 2001 = 394.3 and for 2017= 562.3. | CO1 | 20 |
| (OR) | | | | |
| 8. |  | Discuss in detail on the factors contributing to the direct manufacturing cost. | CO1, CO3 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | What is depreciation? Discuss briefly on the straight line method of depreciation. | CO1 | 8 |
| b. | What is a cash flow diagram? With the help of a neat diagram, explain the various aspects of the cash flow diagram. | CO1 | 12 |