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| **C:\Users\ADMIN\Desktop\j.png** | **JAIPURIA INSTITUE OF MANAGEMENT, INDORE**Post Graduate Diploma in Management |
| **Course Title: Operations Management, (Course Code: OM 40502)****End-Term Examination, Term - II (Batch 2022-24) (January, 2023)**  |
|  **Time Duration : 2 Hours Total Marks: 40** |

***General Instructions*:**

1. *Answer the questions as directed. The break-up of the marks is given wherever necessary.*
2. ***Statistical tables shall be provided on request***
3. *Marks against each question is indicated to its right.*
4. *Answer all the questions of a ‘Section/Question’ at one place in continuation.*
5. *Answers should be brief and to the point.*
6. *Do not write on the question paper except your roll number.*

Q.1Examine the Operations Management concept of “Input - Transformation Process – Output” with a business illustration and example from any Service Industry. **(7 Marks)**

Q.2Indus Valley Limited manufactures plastic items. The organization has five departments A, B, C, D and E. The existing area available is presented below (Table 1) where each department is 50 x 50 meters. The load among various departments is presented in Table 2.

Develop an optimum layout for Indus Valley Limited. **(8 Marks)**

**Table 1**

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**Table 2 (Inter Departmental Movements)**

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| --- | --- | --- | --- | --- | --- |
| ***To******From*** | **A** | **B** | **C** | **D** | **E** |
| **A** | ---- | 20 | 10 | 15 | 10 |
| **B** | 30 | ---- | 25 | 25 | 15 |
| **C** | 15 | 15 | ---- | 15 | 10 |
| **D** | 15 | 25 | 20 | ---- | 10 |
| **E** | 15 | 10 | 15 | 15 | ---- |

Q.3Apply the following Operations Management concepts with a business illustration and example from the industry indicated in question.

 a. Seven QC tools for food processing Industry

 b. Kaizen and 5 “S” concept for a fast food restaurant

  **(4 + 4 Marks)**

Q4. “Astra Uno” is an organization engaged in manufacturing of super specialty bicycles for Olympics. Recently organization received an order for 12 Bicycles from French Olympic team. The French Olympic committee has asked for submission of Two sample bicycles before execution for entire order. Astra Uno submitted two sample bicycles are these were approved by French Olympic team. The first Bicycle took 50 Hours to make and the second bicycle needed 45 hours. The material required for first Bicycle was worth $ 25,000 whereas second bicycle required material worth $ 22,500. The company has a policy of earning 20 % profit on cost for similar specialty orders.

Apply Operations Management concepts and suggest the quotation for all 12 Bicycles for Astra Uno. **(7 Marks)**

Q5. Mr. Rajesh Arora is purchase manager of Consumer Bazaar, a chain of super market in India. One prime product is Basmati Rice which the Bazaar procures from wholesalers in Punjab. The bazaar then repacks the rice in small packets of 2 Kg each and offers them to their customers under their own brand name. The demand for last seven years, along with cost of placing an order, are tabulated below. In year 2023, each Kg of rice is expected to cost Rs. 65/- and after repackaging, it will be sold at Rs, 95 per Kg. The carrying cost is 9 % of the unit cost per kg per year and standard deviation of daily demand is 120 Kg. The bazaar operates all 365 days a year. Consumer Bazaar also has a policy that not more than one out of twenty customers should be turned down for this product. Design the optimum inventory policy for year 2023 for Mr. Rajesh Arora.

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| **Year** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** |
| **Quantity ordered (Kg)** | 275,000 | 302,500 | 332,750 | 366,025 | 402,628 | 442,890 | 487,179 |
| **Ordering cost (Rs)** | 6160 | 6899 | 7727 | 8654 | 9693 | 10856 | 12159 |

 **(10 Marks)**