**18ME702**

**Hall Ticket Number:**

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| **IV/IV B.Tech (Regular/Supplementary) DEGREE EXAMINATION** | | | |
| **November,2022** | **Mechanical Engineering** | | |
| **Seventh Semester** | **Operations Management** | | |
| **Time:** Three Hours | | **Maximum: 5**0 Marks | |
| *Answer Question No. 1 Compulsorily.* | | | (10X1 = 10 Marks) |
| *Answer* ***ANY ONE*** *question from each Unit.* | | | (4X10=40 Marks) |

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| 1. | a) | Define forecasting | CO1(BL1) | | 1M |
|  | b) | List any two Aggregate Planning strategies | CO1(BL1) | | 1M |
|  | c) | What is the difference between loading and scheduling | CO1(BL1) | | 1M |
|  | d) | List any two types of inventories | CO2(BL1) | | 1M |
|  | e) | What is P system in inventory management | CO2(BL1) | | 1M |
|  | f) | List any two contemporary management techniques | CO2(BL1) | | 1M |
|  | g) | What is the difference between assignable causes and chance causes | CO3(BL1) | | 1M |
|  | h) | What is the necessity of ISO 9000 2015 standards | CO3(BL1) | | 1M |
|  | i) | Define artificial variable | CO4(BL1) | | 1M |
|  | j) | What is degeneracy in transportation method | CO4(BL1) | | 1M |
| **Unit - I** | | | | | |
| 2. | a) | Explain any two quantitative forecasting techniques | CO1(BL2) | 5M | |
|  | b) | Write the basic features of Mass, Batch production systems. | CO1(BL1) | 5M | |
|  |  | **(OR)** |  |  | |
| 3. | a) | What is the role of aggregate planning in operations management | CO1(BL1) | 5M | |
|  | b) | Explain the different scheduling policies | CO1(BL2) | 5M | |
| **Unit - II** | | | | | |
| 4. | a) | Explain the different types of inventories | CO2(BL2) | 5M | |
|  | b) | Explain the problems in materials requirement planning | CO2(BL2) | 5M | |
|  |  | **(OR)** |  |  | |
| 5. | a) | Differentiate between P and Q systems | CO2(BL2) | 5M | |
|  | b) | Explain the fundamental philosophy of JIT | CO2(BL2) | 5M | |

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| **Unit - III** | | | | |
| 6. | a) | Explain the Taguchi Principles with respect to quality management | CO3(BL2) | 5M |
|  | b) | What do you mean by acceptance sampling? How acceptance sampling operates? | CO3(BL1) | 5M |
|  |  | **(OR)** |  |  |
| 7. | a) | Explain the important features of TQM | CO3(BL2) | 5M |
|  | b) | Describe the principles behind Six Sigma. | CO3(BL2) |  |
| **Unit - IV** | | | | |
| 8. |  | Solve the following LPP by using graphical method  Maximize Z = 2x1 + 3x2  Subjected to constraints  2x1+x2 ≤ 2  3x1+4x2 ≥ 12  x1, x2 ≥ 0 | CO4(BL3) | 10M |
|  |  | **(OR)** |  |  |
| 9. |  | Solve the following transportation problem   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | F1 | F2 | F3 | Supply | | W1 | 2 | 7 | 4 | 5 | | W2 | 3 | 3 | 1 | 8 | | W3 | 5 | 4 | 7 | 7 | | W4 | 1 | 6 | 2 | 14 | | Demand | 7 | 9 | 18 |  |   **download** | CO4(BL3) | 10M |