Ref No. : EX/PG/Prod E/T/129B/2024

M.Prod.E 1st Year 2nd Semester Examination 2024

Subject: Advanced Manufacturing Planning & Control

Time: 3 Hours | Full Marks: 100

(Use separate answer scripts for each part)

PART – 1 (Marks 60)

Answer any three questions

1. What is aggregate production planning? Elucidate through an example known to you. (20)
2. Expound the different lot sizing techniques with examples. (20)
3. a) What is big data analytics in the context of manufacturing planning & control? (5)
   b) Explicate capacity planning in the MPC system. (15)
4. Justify that MPS is the tool to balance between the supply and demand. (20)
5. Write short notes on any two: (10x2=20)

   a) RRP

   b) RCCP

   c) Line of Balance (LOB)

   d) Scheduling rules

Ref. No.: Ex/PG/ProdE/T/129B/2024

M.E. PRODUCTION ENGINEERING FIRST YEAR SECOND SEMESTER – 2024

Subject: ADVANCED MANUFACTURING PLANNING AND CONTROL (PM)

Time: Three Hours (Part I & Part II) **Full Marks: 100**

Part II (40 Marks)

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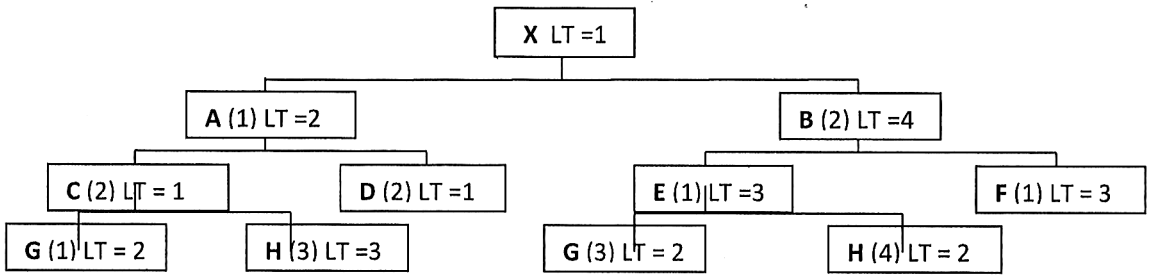
Use Separate Answer scripts for each part. **Answer any Two questions from Part II.**

1. a) What are the possible scenarios may arise during implementation of ERP systems for a manufacturing company which is adopting ERP first time? Elaborate.
b) How is Business Process Reengineering implemented? (10 + 10)

2. a) Explain the importance MRP in a Manufacturing Planning and Control System.
b) Differentiate between MRP & JIT. What is BOM? Explain.
c) The product structure and lead times for a finished product "X" are given in the figure below.



Calculate the requirements of materials at various levels. 100 units of **"X"** are to be delivered in week 12 and 50 units of item "A" will be available in inventory at the beginning week 8, show the planned order release of item "C", and "E" only. (Assume ordering policy as "lot-for-lot" size.) (5 + 5 + 10)

3. Write Short Notes on the following (any four): (i) Sustainability (ii) On-line Analytical Processing (OLAP) (iii) ERP modules (iv) ATP (v) Distribution Requirement Planning (DRP) (vi) Precedence Constraints in Operations Scheduling.

(4 × 5 = 20)

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