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Total No. 01

Total No. of Questions : 08

M.Tech. (ME) (Sem.-3)
AUTOMATION & ROBOTICS

Subject Code : MTME-206

M.Code : 74982

Date of Examination : 12-06-2024

Time : 3 Hrs.

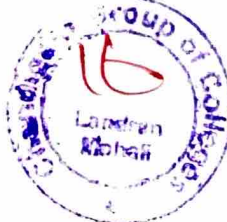
Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT question.
2. Each question carry TWENTY marks.

1. a) What do you mean by Automation in production system? (10)
b) Discuss basic elements of an automated system. (10)
2. Discuss the classification and types of automatic transfer machines used in manufacturing automation. (20)
3. Discuss the basic classification and application of industrial robot. (20)
4. Discuss the constructional details and applications of various transfer devices used for job orienting and picking operations. (20)
5. a) Give the differences between Mechanization and Automation. (10)
b) Discuss various types of Automations. (10)
6. Discuss Flexible Manufacturing Automation and explain significance of Automated Assembly System. (20)
7. a) Define degree of freedom in robot technology. (5)
b) Discuss various economical and social issues related to robot technology in manufacturing Industry. (15)
8. Discuss the features and requirements of having automated storage and retrieval system in manufacturing Industry. (20)

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.



Roll No.

Total No. of Pages : 02

Total No. of Questions : 08

M.Tech (ME) (Sem.-2,3)

SUPPLY CHAIN MANAGEMENT

Subject Code : MTME/212

M.Code : 74988

Date of Examination : 14-06-2024

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

1.
 - a) Explain the types of obstacles occur in achieving the goals of SCM.
 - b) Explain the Push, Pull and Push-pull systems. What is the effect of moving push pull boundary earlier in the supply chain?
2. What do you mean by supply chain drivers? Explain framework for structuring these drivers with suitable examples.
3.
 - a) Explain the supply chain process cycles with examples.
 - b) ZF Steering Co. supply steering wheels to Mahindra & Mahindra for the existing products. Mahindra approaches ZF steering to develop and supply steering wheels for its new products- the Logan. It wants you to invest in the necessary tools required for the same and this will involve substantial investment. Analyse and recommend systematically; what Mahindra should do to reduce transaction costs in the arrangement and to ensure consistent quality of good quality steering wheels.
4.
 - a) What do you mean by 'supply chain and competitive performance'? Discuss.
 - b) Explain the routing and scheduling in supply chain.
5.
 - a) What do you mean by activity based costing? Explain cost drivers with examples.
 - b) Explain the design options for a transport network.
6.
 - a) Why is it for a firm to periodically review its logistic network design? How do firm requirements for its logistics network change over time?
 - b) How will you determine appropriate level of safety of inventory in supply chain? Discuss.



7. Write the short notes on the following :

- a) Bullwhip effect
- b) Customer profitability analysis in logistics
- c) Managerial levers to achieve coordination
- d) Mapping of supply chain processes.

8. a) Explain the logistics performance indicators of SCM

- b) How does lack of coordination in the supply chain impact the performance of the supply chain?

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