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Important 16 Mark Questions: (Theoretical)

Unit - I:

- 1) Discuss the computerized elements of CIM.
- 2) Discuss the types of M¹ production systems (Mass, Job, Batch) with the layouts.
- 3) Discuss the concept of Concurrent engineering in detail.
- 4) Discuss the elements and levels of Automation in detail.
- 5) Discuss the concept of Lean production / Manufacturing in detail. (w.r.t types of wastes and Tools for waste reduction)
- 6) How push system differs from pull system? - pull system is KANBAN
- 7) Discuss the ~~type~~ Just-in-Time production in detail.

Unit - II:

- 1) What are the logical steps in process planning?
- 2) Discuss the types of CAPP - Generative & Retrieval
- 3) Discuss the 3 stages of shop floor control in detail. (along with order scheduling)
- 4) Discuss about Material Requirement planning in detail (MRP-I / MRP)
- 5) Discuss Capacity planning in detail.
- 6) What is Aggregate production planning and how it differs from Master production Schedule?

Unit - III:

- 1) What is group Technology? How the part can be classified?
- 2) Discuss edit coding system in detail (Both the tabular columns).
- 3) What is composite part concept? (8 Mark)
- 4) Discuss the types of layout for cellular manufacturing systems?
- 5) ~~What is~~ production flow analysis concept (8 Mark)

Unit - IV:

- 1) ~~What~~ Discuss the components of FMS in detail. Workstations, Material handling system & storage system, Computer control system, Human Resource system
- 2) Discuss the types of FMS in detail according to:
 - No. of Machines - Single m/c cell, FMC, FMS
 - Level of flexibility: Dedicated FMS, Random order FMS.
- 3) Discuss the different types of FMS layouts.
- 4) Discuss the AGV guidance Technology in detail
- 5) Discuss the AGV Control Technology in detail.
- 6) Discuss the sensors used in AGVs.
- 7) Discuss the FMS ^{Planning} implementation Issues in detail.

Unit V:

- 1) Discuss the Robot Autonomy / Types of Robot configurations / Robot co-ordinators?
- 2) Discuss the Robot central systems in detail.
- 3) Discuss the ~~Rob~~ Sensors used in Robots.
- 4) Discuss the applications of Robotics.
- 5) Discuss end effectors ~~sensors~~ / types of grippers in detail.
- 6) ~~Discuss~~ Robotic programming (Just go through a glance)