

PPD7D002 Automation in Manufacturing

(HONORS)

Module-I [10]

Manufacturing: Classification, types and Principles. Manufacturing System- Components and classifications, Automation in manufacturing systems, principles and strategies, mathematical models, cost. Single station manufacturing cell. Automated flow line: Methods of work part transfer, transfer mechanical buffer storage control function, design and fabrication considerations.

Module-II [12]

Analysis of automated flow lines: General terminology and analysis of transfer line without and with buffer storage, partial automation, implementation of automated flow lines. Assembly system and line balancing: Assembly process and system assembly lines, Line balancing methods, ways of improving line balance, flexible assembly line.

Module-III [10]

Automated Material Handling: Types of Equipments, functions, analysis and design of material handling systems, conveyor systems, Automated Guided Vehicle Systems. Automated storage and Retrieval system.

Module –IV [08]

Group Technology: Part classification and coding. Computer aided process planning. Flexible Manufacturing System: Introduction and system components, FMS planning and control.

Text Book(s)

1. Modeling and Analysis of Manufacturing Systems-R.G. Askin & C.R. Standridge, John Wiley & sons.
2. Automation, Production Systems and Computer Integrated Manufacturing- M.P. Groover, PHI.

Reference Book(s)

1. Computer Control of Manufacturing Systems-Y. Coren, McGraw Hill.
2. CAD/CAM/CIM- Radhakrishnan & Subramanian, Wiley Fastern.