Name: Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2023

Course : B Tech Automotive Design Engineering   **Semester : VI**
Program : Automation in Manufacturing   **Time** : 03 hrs.
Course Code: MEPD 3019P   **Max. Marks: 100**

Instructions: Draw figures and diagrams, wherever required.

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	According to you what is significance of Automation in current industry scenario?	4	CO4
Q 2	Explain Cellular manufacturing, its components and advantages.	4	CO2
Q 3	What are the Primary, Secondary, and Tertiary Industries?	4	CO1
Q 4	Explain why material transport and storage systems in manufacturing industry become so crucial now a day.	4	CO2
Q 5	What are Group technology?	4	CO1

SECTION B
(4Qx10M= 40 Marks)

Q 1	Write down basic elements of an automated system. Explain with diagram.	10	CO3
Q 2	Differentiate Bar code, QR code technologies with RFID and AIDC technologies.	10	CO4
Q 3	Write short note on SCADA. Explain how SCADA helps process industries?	10	CO2
Q 4	Discuss the Automation migration strategy with phase diagram. **OR** Explain different material transport equipment's used in material handling and their performance and location strategies.	10	CO1

SECTION-C
(2Qx20M=40 Marks)

Q 1	Explain integrated automated production lines and automated assembly systems used in automobile production through schematic diagram and also explain level of automation in T1, T2, and T3 vendors.	20	CO3
Q 2	Explain Inspection technologies-coordinate measuring machines, surface measurement and machine vision. **OR** Explain design considerations used for material handling and material storage system in ware house management.	20	CO4