Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2022

Course   : B Tech Mechatronics   Semester: VII
Program   : Automation in Manufacturing   Time   : 03 hrs.
Course Code: MEPD 4010   Max. Marks: 100
Instructions: Draw figures and diagrams, wherever required.

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	What are the reasons behind the adoption of automation in manufacturing?	4	CO1
Q 2	Define the deciding parameters in Manufacturing support systems? How automation is integrated with computerization in manufacturing support systems?	4	CO2
Q 3	Explain difference between continuous and discrete control systems.	4	CO1
Q 4	How would you apply automation migration strategy with phase wise upgradation in production unit?	4	CO2
Q 5	Define Cellular manufacturing and its advantages?	4	CO4

SECTION B
(4Qx10M= 40 Marks)

Q 1	What do you understand by different levels of automation? Differentiate between Fixed, Programmable and Flexible automation.	10	CO3
Q 2	How would you compare the common measuring devices used in automation?	10	CO1
Q 3	How would you categorize Ten strategies for automation?	10	CO2
Q 4	Differentiate Bar code technology with RFID and AIDC technologies. Which technology, why and where you prefer in mobile production unit? **OR** Evaluate and suggest an effective mechanism for parts delivery at work stations for continuous production line.	10	CO4

SECTION-C
(2Qx20M=40 Marks)

Q 1	Can you brainstorm a better solution for automated production line for EV car manufacturing Industry?	20	CO3
Q 2	Discuss advantage of proper material handling and material transport and storage systems in manufacturing industry. Also explain design considerations for material handling and material storage system. **OR** Explain Flexible Manufacturing system (FMS) components, applications and its benefits over traditional manufacturing system.	20	CO4