

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE Regular and Supplementary Summer 2024 Course: B. Tech. Branch : AI & DS and Allied Semester : VI Subject Code & Name: BTAIPE603C Industry 4.0 and Automation Max Marks: 60 Date: 19/06/24 Duration: 3 Hr.			
Instructions to the Students: 1. All the questions are compulsory. 2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question. 3. Use of non-programmable scientific calculators is allowed. 4. Assume suitable data wherever necessary and mention it clearly.			
		(Level/CO)	Marks
Q. 1	Solve Any Two of the following.		12
A)	What is smart factory? What are its different components? Why do we need smart factories?	(L3/CO1)	6
B)	What is Industry 4.0? Explain with Advantages of Industry 4.0	(L2/CO1)	6
C)	List out the pillars of industry 4.0 and explain any three in detail	(L2/CO1)	6
Q.2	Solve Any Two of the following.		12
A)	Explain different types of Sensors.	(L2/CO2)	6
B)	Explain IIoT business model and types of business model for IoT	(L2/CO2)	6
C)	What is SDN(Software Define Network)? Explain architecture of SDN	(L3/CO2)	6
Q. 3	Solve Any Two of the following.		12
A)	What Internet of Robotics things? Explain applications of IoRT in detail	(L3/CO3)	6
B)	Explain advanced sensor technologies used in robotics	(L2/CO3)	6
C)	Explain cloud robotics with architecture.	(L2/CO3)	6
Q.4	Solve Any Two of the following.		12
A)	Explain the different layers of Automation Pyramid with the help of its Block diagram?	(L3/CO4)	6
B)	What is VFD? How VFD is used in energy conservation?	(L3/CO4)	6
C)	State the advantages and disadvantages of Automation System.	(L2/CO4)	6
Q. 5	Solve Any Two of the following.		12
A)	Draw the schematic of a basic Distributed Control System (DCS) and explain in detail.	(L3/CO5)	6
B)	Describe architecture of PLC and its application in industrial automation	(L2/CO5)	6
C)	Draw and explain the architecture of the SCADA system	(L3/CO5)	6
*** End ***			