

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular End Semester Examination – Summer 2022

Course: B. Tech. Branch : Electrical Engineering Semester : VI

Subject Code & Name: BTEEE604A Industrial Automation & Control

Max Marks: 60

Date: 23-08-22

Duration: 3.45 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.

- | | | |
|---|----------|---|
| A) Describe the hierarchical structure of industrial automation system. | L-2/CO 1 | 6 |
| B) Distinguish between automatic control & supervisory control. | L-4/CO 1 | 6 |
| C) Explain in brief various levels of industrial automation. | L-2/CO 1 | 6 |

Q.2 Solve Any Two of the following

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|--|----------|---|
| A) Describe various methods of temperature measurement. | L-2/CO 1 | 6 |
| B) Define Error & suggest various methods of estimation of errors. | L-2/CO 1 | 6 |
| C) Explain importance of signal conditioning in measurement. | L-2/CO 1 | 6 |

Q. 3 Solve Any Two of the following.

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|---|----------|---|
| A) Describe PID Control. | L-2/CO 2 | 6 |
| B) Explain Predictive Control | L-2/CO 2 | 6 |
| C) Discuss Overriding Control in process control. | L-2/CO 2 | 6 |

Q.4 Solve Any Two of the following.

- | | | |
|---|----------|---|
| A) Write a detailed note on PLC. | L-2/CO 2 | 6 |
| B) Explain the steps involved in sequence control design. | L-2/CO 2 | 6 |
| C) Describe Relay Ladder Logic with suitable example. | L-2/CO 2 | 6 |

Q. 5 Solve Any Two of the following.

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|--|----------|---|
| A) Explain working of CNC Machines with the help of block diagram. | L-2/CO 2 | 6 |
| B) Distinguish between Hydraulic Pumps & Hydraulic Motor. | L-4/CO 2 | 6 |
| C) Explain Pneumatic control system under following points: | L-2/CO 2 | 6 |
| (i) Definition | | |
| (ii) Block Diagram | | |
| (iii) Working | | |

***** End *****