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SUBJECT CODE NO: E-325
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(EEP/EEE/EE) Examination Nov/Dec 2017
Industrial Automation
(REVISED)

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

N.B

- i) Q.1 & Q.6 are compulsory.
- ii) Solve any two questions from remaining questions of each section.
- iii) Solve total 3-questions from each section.

SECTION – A

- Q.1 Solve any five:** 10
- a) Define Industrial Automation.
 - b) Draw basic control cycle diagram.
 - c) What is meant by actuator?
 - d) What is tackler diagram?
 - e) What is role of controller in Automation?
 - f) What is the role of Actuator in Automation?
- Q.2** 07
- a) Explain concept of Hierarchy of Automation in details.
 - b) What is meant by Modbus? How it is used in Automation system? Give example. 08
- Q.3** 07
- a) With neat sketches Explain working of the modern control of 3-ph I.N. Star-Delta starter.
 - b) How PLC can be used to protect AC motor from over loading? Explain with neat sketch. 08
- Q.4** Draw basic SCADA system Architecture block diagram, naming each block & Explain function & significance of each Block. 15
- Q.5 Write short notes on any three:** 15
- i) Mechanical Actuators
 - ii) Communication standards Rs232 & Rs485
 - iii) Trending function in SCADA
 - iv) Access control

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SECTION – B

- Q.6 **Solve any five:** 10
- a) What do you mean by H/w & S/w type interfaces?
 - b) What is communication Protocol?
 - c) What do you mean by Field buses?
 - d) What are types of control systems?
 - e) Name the control technologies used in Automation.
 - f) What is supervisory control?
- Q.7 a) Explain Operation & control of inter connected Power System by SCADA. 07
b) Explain working of multiplexers & their role in SCADA. 08
- Q.8 a) What do you mean by Distributed control system? Draw its architecture & show system elements. 07
b) How many types of H/w & S/w interfaces are used in SCADA system & Explain working of any one. 08
- Q.9 a) Explain working of HMI with neat sketches. 07
b) What is significance of Data Highways in DCS? Explain in details. 08
- Q.10 **Write short notes on any three:** 15
- a) Remote sensing Terminal
 - b) Types of Displays in DCS
 - c) High speed inputs
 - d) Archiving