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Question Paper Code: 59326

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Elective

Electrical and Electronics Engineering

15UEE926 - PLC AND SCADA APPLICATIONS

(Regulation 2015)

Duration: 1.15 hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. The acronym PLC stands for CO1- R
 - (a) Pressure Load Control
 - (b) Programmable Logic Controller
 - (c) Pneumatic Logic Capstan
 - (d) PID Loop Controller

2. In PLC programming, a retentive function is one that CO1- R
 - (a) Defaults to the “on” state
 - (b) Comes last in the program
 - (c) Is not reset after a power cycle
 - (d) Defaults to the “off” state

3. A good application for a timed interrupt in a PLC program would be CO2- R
 - (a) A communications function block
 - (b) A PID function block
 - (c) A math function block
 - (d) A motor start/stop rung

4. The difference between online and offline PLC programming is . . . CO2- R
 - (a) whether the PLC is running or stopped
 - (b) whether the programming PC has internet connectivity
 - (c) the type of programming cable used
 - (d) where the edited program resides

5. A SCADA system will include CO3- R
 - (a) signal hardware & controllers
 - (b) networks
 - (c) user interface (HMI)
 - (d) all of the above

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| 6. | A Central host computer server or serves called | CO3- R |
| | (a) Master Terminal unit (MTU) (b) DCS (c) PLC (d) Microcontroller | |
| 7. | The first generation of SCADA architecture is | CO4- R |
| | (a) Monolithic (b) Distributed (c) Networked (d) HMI | |
| 8. | Choose the layer of IEC 60870-5 | CO4- R |
| | (a) Two layer (b) Three layer (c) Four Layer (d) Five layer | |
| 9. | PLC application includes. | CO5- R |
| | (a) speed control (b) Remote control | |
| | (c) Robotic control (d) none of these | |
| 10. | SCADA is | CO5- R |
| | (a) Real time data Acquisition and processing. | |
| | (b) Data storing. | |
| | (c) Data Monitoring and control. | |
| | (d) all the above | |

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

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| 11. | Draw and explain block diagram of programmable logic controller | CO1- U | (8) |
| 12. | Enumerate the different functions for the operation of PLC | CO2- App | (8) |
| 13. | Explain the monitoring and supervisory functions of SCADA. | CO3-U | (8) |
| 14. | Analyze the IEC 61850 layered architecture with neat sketch. | CO4- Ana | (8) |
| 15. | Construct ladder diagram for speed control of DC motor using PLC. | CO5- U | (8) |

