Sanjay Ghodawat University, Kolhapur

2020-21

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

EXM/P/09/00

Year and Program: 2020-2021 BTECH	**School of Technology**	**Department: Electrical & Electronics Engineering**
Course Code: EET403	**Course Title: PLC and SCADA Applications**	**Semester : VII**
Day : Tuesday **Date: 22.12.2020**	**End Semester Examination**	**Time:2 Hrs.** **Max Marks:50**

Instructions: 1) All Questions are compulsory.
2) Figures to right indicate full marks.

		Marks	Bloom's Level	CO
Q.1	**Answer the following (any Two)–**			
a)	Define Relay based automation, Discuss the shortfalls of relay based automation over PLC based automation.	8	L1	CO1
b)	Explain classification of PLCs, discuss any one type of PLCs in detail	8	L2	CO1
c)	Define Distributed control system and with a neat block diagram explain its architecture.	8	L1	CO2
Q.2	**Answer the following (any two) –**			
a)	List out different methods for programming in PLC, Explain the syntax and structure of Ladder programming method in detail.	8	L2	CO2
b)	Illustrate the security threats involved in SCADA systems on interconnecting to communication systems.	8	L3	CO3
c)	Discuss the convergence of IT security techniques to protect SCADA systems against security threats	8	L2	CO2
Q.3	**Answer the following (any two) –**			
a)	Distinguish different types of PLCs used in thermal power station on implementation of supervisory control systems.	9	L4	CO3
b)	With a neat architecture, Illustrate monitoring and control of electrical power using Energy management systems.	9	L3	CO4

c)	Illustrate implementation of SCADA systems for automation of Water purification plants.	9	L4	CO4

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