Roll No. | | | | | | | | | | | | |

Total No. of Pages : 01

Total No. of Questions : 08

M.Tech. (EE) EI-II (2018 Batch) (Sem.–1)

SCADA SYSTEMS AND ITS APPLICATIONS

Subject Code : MTEE-104C-18

M.Code : 75223

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWELVE marks.**

1. Make a general layout for the SCADA system and describe in detail the various components therein.
2. What are the main functions of the control centre in a SCADA system? Also make a block diagram to describe the same .
3. '*Standard and proprietary communication protocols running over serial communications are used to transport information between the control center and field sites using telemetry techniques'*. Elaborate on this statement and discuss in detail the various LAN and WAN and the other telemetry techniques and topologies employed for data communication.
4. The communications method used by most SCADA systems is called "master-slave".Why it is called so? How the MTUs and RTUs are communicate within the SCADA system for the effective operation of the system?
5. Design a small SCADA system for a practical application of your choice and explain the system description and working using block diagrams for the inherent components.
6. What are the important objectives of a SCADA system? Enlist the various benefits and functions of a SCADA system.
7. Describe briefly about :
   a) Data Acquisition
   b) Data Communication
8. Describe the system architecture of a SCADA system .Explain and justify how it is an open ended system architecture comprising of the system hardware, the system software and the human machine interface(HMI), HCI (Human-Computer Interface).

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.