

No. of Printed Pages : 03

Roll No. ....

**CC-25**

**M. Tech. EXAMINATION, May 2017**

(Third Semester)

(Re-appear Only)

EE(I&C)

MIC-615-B

SCADA & POWER SYSTEM AUTOMATION

*Time : 3 Hours]*

*[Maximum Marks : 75*

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Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

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**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

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**P.T.O.**

### Unit I

1. (a) Draw architecture of SCADA and explain role of SCADA in Grid substation system.  $7\frac{1}{2}$   
(b) What are the applications and security issues in SCADA system ?  $7\frac{1}{2}$
2. (a) Explain the following term RTU, MTU and their applications.  $7\frac{1}{2}$   
(b) What is a PLC ? Its application and role of Ladder logic diagram in industries.  $7\frac{1}{2}$

### Unit II

3. (a) How SCADA helps in distribution planning and operation of power system ?  $7\frac{1}{2}$   
(b) Explain AGC-SCADA application in power grid.  $7\frac{1}{2}$
4. (a) Explain the different types of communication system explain any *one* in detail.  $7\frac{1}{2}$

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- (b) Describe the power line carrier communication and its advantages.  $7\frac{1}{2}$

### Unit III

5. (a) What do you mean by energy management system ? Discuss its various hierarchical levels.  $7\frac{1}{2}$   
(b) What are power system operation states ? Explain in detail.  $7\frac{1}{2}$
6. (a) How can you design a substation layout explains in detail ?  $7\frac{1}{2}$   
(b) What is energy audit and steps of energy audit process ?  $7\frac{1}{2}$

### Unit IV

7. (a) Explain in detail, customer level intelligent automation system.  $7\frac{1}{2}$   
(b) Explain layout, construction and commissioning of subtraction.  $7\frac{1}{2}$
8. Write short notes on the following :
  - (i) Automatic tracking and facility inventory system  $7\frac{1}{2}$
  - (ii) Equipment maintenance and trouble call management.  $7\frac{1}{2}$

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