REAL TIME CONTROL OF POWER SYSTEM

Course Code:13EE2103 **L P C**
4 0 3

Pre requisites: Power system operation and control.

Course Outcomes:

After completion of the course, the student will be able to

CO 1: Describe various activities of operator and Supervisory control and data acquisition system.

CO 2: Describe about disturbance data collection and analysis and Man-machine communication.

CO 3: Classify various structures of real time programs and describe programming language requirements for process control

CO 4: Describe computer control of Power systems

CO 5: Describe about real time network modeling

UNIT-I

Power system control-operation**,** operator activities, control center, elements of computer control system Supervisory and control functions – data acquisition, monitoring and event processing, control functions

UNIT-II

Time tagged data, disturbance data collection and analysis, reports and calculations. Man-machine communication – operators console, VDU display, operator dialogs, mimic diagrams, printing facilities

UNIT-III

Real time software – Classification of programs, Structure of real time programs, construction techniques and tools, Programming language requirements for process control

UNIT-IV

Computer control of power systems – Evolution, time scale of system control, online control, Software for state estimation, Generation and load control, security analysis, Software coordination

UNIT-V

Application functions- real time network modeling, security management: system security, security analysis functions, security modeling; production control: load prediction, local control, automatic generation control, economic dispatch, training simulators.

TEXT BOOKS:

1. Torsten Cegrell, "*Power system Control-Technology*",Prentice Hall., 1986.

2. S. Bennett and D.A. Linkens,"*Real Time Computer Control*", IEE Series., London Pcregrinus, 1984.