

17PS11E3 - POWER SYSTEM INSTRUMENTATION

Instruction/week: 4 hrs.

Max. Sessional marks: 40

Univ. Exam: 3 hrs.

Univ. Exam marks: 60

UNIT-1

Measurement of large currents and voltages, current and voltage transformers, design equations and operational characteristics, error compensation schemes.

UNIT-II

TRANSDUCER INSTRUMENTATION: Primary sensors, voltage and current generating analogue transducers, variable parameter analogue transducers, transducer selection factors.

UNIT-III

DIGITAL INSTRUMENTATION: Introduction, Basic measurement system, Digital voltage measurement, Frequency measurement, Time measurement.

UNIT-IV

TELEMETRY SYSTEM: Introduction to information transmission, Basic ideas.
POINT TO POINT TELEMETERING: Basic principles, pneumatic and electrical system, voltage and current telemetry.

UNIT-V

INSTRUMENTATION ASSOCIATED WITH POWER PLANT: Centralized control and measurement in Thermal, Hydro, Nuclear power plants. Power line carrier principles.

TEXT BOOK:

1. "Electrical Instrumentation and measuring Techniques" by Cooper Helfrick, Prentice Hall India.

REFERENCES:

1. "Instrumentation Measurement and Analysis", by D.C.Nakra and K.K.Chowdhry, TaTa McGraw Hill