

17PS11E4 - SMART ELECTRIC GRID

Instruction/week: 4 hrs.

Max. Sessional marks: 40

Univ. Exam: 3 hrs.

Univ. Exam marks: 60

UNIT-I

Introduction to Smart grid-Smart grid functions-Advantages-Indian Smart grid

UNIT-II

Key challenge for smart grid-Smart grid Architecture-Components and Architecture of Smart grid Design

UNIT-III

Transmission and Distribution automation-Computational intelligence techniques-Distribution generation technologies

UNIT-IV

Introduction to Renewable Energy Technologies-Micro grids-Storage technologies-Electric Vehicles and plug-in hybrids-Environmental aspects

UNIT-V

Synchrophasor measurement units(PMUS)-Wide area measurement systems(WAMS)-Control of smart power grid system

TEXTBOOKS:

1. "Renewable and Efficient Electric power system", by Gil Masters ,Wiley-IEEE Press 2004
2. "Synchronized phasor measurements and their Applications", by A.G.Phadke and J.S.Thorp, Springer,2008

REFERENCES:

1. Wind Power in Power systems by T.Ackermann,2nd Edition,John Wiley and Sons,2012