RCETEEAC11– SMART ENERGY GRID

Course outcomes:

The students will be able to:

- Differentiate the parts of a smart grid and identify the benefits of each part
- Outlining the characteristic of real time embedded systems
- Discuss the response of embedded system in the case of simultaneous events
- Evaluate the characteristics while choosing a processor
- Outline the requirements of power and energy optimization
- Understand the basic elements, architecture and technologies of IoT involved.

Syllabus:

UNIT I   Basic Electricity –Generation, Transmission, & Distribution – System Design & Switching – Renewable Energy & Smart Grid Technologies.

UNIT II   Embedded Systems - Problems & Failures of Systems - System Life Cycle - Hardware & Software for Embedded Systems - RTOS – System finalisation– Low Power.

UNIT III   Introduction to IOT - Networking Technologies for IOT - IOT Programming with Arduino - IOT Programming with Raspberry Pi - IOT Programming with ARTIK Board - Introduction to M2M & IoT - Cloud for IOT - Communications Protocols - Other Cloud and IoT Elements.