PVP 14

Code: EE8T2C

IV B.Tech - II Semester – Regular / Supplementary Examinations
March 2020

SMART GRID
(ELECTRICAL & ELECTRONICS ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11 x 2 = 22 M

1.

a) Identify two key points of smart grid rationale.
b) List the five stakeholders in smart grid development.
c) List any four attributes involved in working definition of smart grid.
d) Mention any two wireless technologies used for smart grid communication.
e) Mention the principle on which WAMS operate for time stamping of measurements in the transmission system.
f) Define power system stability.
g) Classify system contingencies.
h) Differentiate between voltage stability and collapse.
i) List the various dynamics considered in dynamic voltage stability analysis.
j) Define Analytical Hierarchical Programming.
k) List any four optimization techniques.

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.
3 x 16 = 48 M

2. a) Explain the design architecture of smart grid with a neat diagram. 8 M

   b) Explain the role of various stakeholders in smart grid development. 8 M

3. Explain about the following: 16 M
   a) Advanced metering Infrastructure
   b) MAS Technology

4. Explain the generic load flow for smart grid technology with the help of a flow chart. 16 M

5. What are the methods available for voltage stability assessment techniques? Explain about voltage stability indexing in detail. 16 M

6. Discuss about the following: 16 M
   a) Non-linear programming
   b) Chance constant programming