18-Dec-2019 02:30 pm - 05:30 pm 1T00826 - T.E.(Electiral Engineering)(SEM-VI)(Choice Base) / 88927 - DLOC-II Micro-grid 66405

Duration – 3 Hours

Total Marks- 80

N.B.:- (1) Question No.**1** is compulsory.
(2) **Attempt** any **three** questions out of remaining **five** questions.
(3) Assume suitable data if necessary and justify the same.

Q 1. Answer **any four** from the following questions. **20**

A. Give complete classification of Micro grid.
B. Explain the power quality issue "voltage sag" and justify in what way it is different from under voltage.
C. Explain the role of Energy storage system in micro grid.
D. What is event triggered and time triggered communication.
E. What is Adaptive protection in micro grid?
F. What is non detection zone for protection in micro grid?

Q 2 a) With the help of neat diagram explain flywheel as ESS for MG. **10**

Q 2 b) Explain hybrid micro grid with any 2 types of micro sources with neat diagram. **10**

Q 3 a) What are the different measures to overcome power quality issues in MG. **10**

Q 3 b) What is P-f and Q-V droop control strategies and why it is required in MG. **10**

Q 4 a) Explain the different types of power converters or PE interfaces for micro sources. **10**

Q 4 b) What are the different types of Data communication /protocols used in micro grid? **10**

Q 5 a) Discuss the centralized & hierarchical control method **10**

Q 5 b) Explain the issues in islanding detection with an example. **10**

Q 6. Write a short note **(any two)** **10**

a) Battery as ESS in MG. **10**
b) Behavior of fault current in grid connected and islanded mode of operation
c) Basic structure of micro grid with neat diagram and explanation.

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