

FE sem -II (NEP) - Branch - Electrical | Date - 05/12/2025

1/1

Q.P. code - 94138

Duration 2hrs

Total Marks 60

- NB: 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.
 4) **Figure** to the **right** indicates **marks**

- Q1. Answer **any 5** from the following questions
- A) Explain the importance of battery management system. 3
 - B) List the advantages of Thermal power plant 3
 - C) List different types of transmission lines in power system. 3
 - D) List the importances of measurement in electrical power system. 3
 - E) Write the power rating of PC, Tube light, fan. 3
 - F) Enlist the types batteries used for storage purpose. 3
- Q2 A) Explain in detail medium transmission lines in power system 7
- Q2 B) Explain Lithium-Ion battery with charging and Discharging characteristic 8
- Q3 A) Compare single circuit and double circuit of 3 phase line 7
- Q3 B) Explain industrial, residential and commercial loads with suitable application 8
- Q4 A) Discuss the Hydroelectric power plant with block diagram 8
- Q4 B) Explain Moving Iron type of instruments with detail diagram 7
- Q5 A) Write the short note on electric heating & welding 8
- Q5 B) Explain the structure of power system with the diagram showing different voltage levels of Transmission, distribution and utilization 7
- Q6 A) Write a short note on Battery Management System.(BMS) 8
- Q6 B) A 3-phase line delivers 3600 kW at a p.f. 0.8 lagging to a load. If the sending end voltage is 33 kV, determine 7
- receiving end voltage
 - line current
 - Transmission efficiency.
- The resistance and reactance of each conductor are 5.31 Ω and 5.54 Ω respectively