

Ref. No. : Ex/PG/POW/PE/T/122E/2025

**MASTER OF POWER ENGG. EXAMINATION, 2025
(2nd SEMESTER)**

ADVANCED POWER SYSTEM PLANNING AND OPERATION

TIME: THREE HOURS

FULL MARKS: 100

Answer any five questions

1. Explain the following terms:
(i) spinning reserve (ii) valve-point effect (iii) ramp rate limit constraints (iv) start-up cost
5+5+5+5
- 2) Give a note on optimal power flow. 20
- 3) Describe the mathematical formulation of hydrothermal scheduling. 20
- 4) Describe different types of load forecasting. 20
- 5) Give a note on power system planning. 20
- 6) Describe briefly about demand side management. 20
- 7) Describe different types of FACTS devices. 20