

(Time: 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 necessary data wherever necessary.

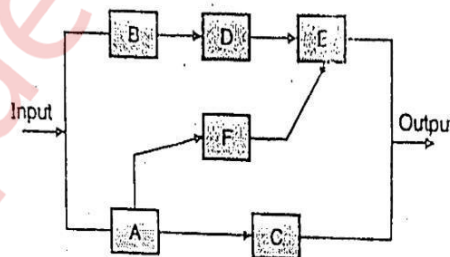
- Q1. Attempt the following 20
1. State characteristics of load.
 2. Describe Bath tub curve.
 3. State System and load point indices.
 4. Describe peak load forecasting.

- Q2.
1. Describe important points in Short term load forecasting. 10
 2. Explain the weather sensitive load model. 10

- Q3.
1. Explain Markov process with two state model. 10
 2. A system is having four components with individual reliability of 0.97, 0.99, 0.92, and 0.95 each. Calculate reliability and unreliability of a system when the components are connected in i) series and ii) parallel. 10

- Q4.
1. Explain Capacity Outage Probability table Recursive algorithm for systems including no de-rated state. 10
 2. Consider a system containing five units of 40MW each with FOR=0.03. Prepare the capacity outage table for the system. Find Loss of Load Expectation and risk factor if the annual peak load is 180 MW and base load if 40% of peak load. 10

- Q5
1. A generating system has one generator of 25 MW and 2 generators of 50 MW with FOR 0.02. Prepare Capacity Outage Table for the same. 10
 2. Calculate reliability evaluation using conditional probability approach in the following system in with individual component reliability is 0.99. 10



- Q6.
1. Describe Reliability evaluation of radial distribution Feeder system. 10
 2. Explain the impact of renewable energy on reliability of power system 10