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School of Engineering
M.Tech Power System Engineering
Mid Term Examination - May 2024

Duration : 90 Minutes
Max Marks : 50

Sem II - G2PI203T - Power System Dynamics and Stability

General Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) Explain stages for dynamic system modelling. K2 (2)
- 2) Discuss various assumptions for lumped circuit model of a synchronous generator. K1 (3)
- 3) Explain Eigen value analysis. K2 (4)
- 4) Explain forward Euler's method for the solution of linear dynamical system. K2 (6)
- 5) Explain state space representation for a linear dynamic system. K3 (6)
- 6) Illustrate lumped circuit model for the development of a two-pole synchronous generator through a neat schematic model. K3 (9)
- 7) Write the expression for self-inductance for a two-pole synchronous generator by analyzing the basic schematic model. K4 (8)
- 8) Develop and analyze the state space model for a separately excited DC motor. K4 (12)

OR

Comprehensively analyze the need for equal area criterion. K4 (12)