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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech III Year II Semester Regular & Supplementary Examinations October-2020

POWER SYSTEM ANALYSIS

(ELECTRICAL AND ELECTRONICS ENGINEERING)

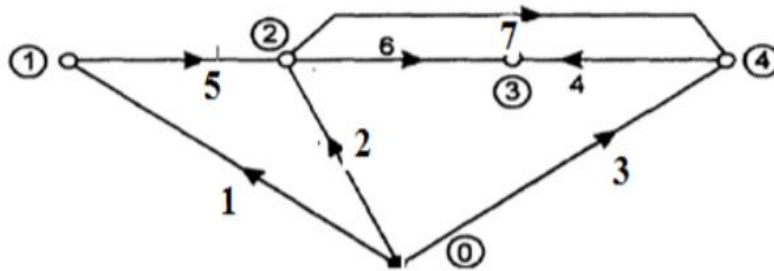
Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 For the network shown below. Draw the Oriented graph from that Find A^t , A, B and C matrices. 12M



OR

- 2 What is a primitive network and represent its forms? Prove $Y_{BUS} = A^T [y] A$ using singular transformation. 12M

UNIT-II

- 3 a Define positive, negative and zero sequence components in 3 phase systems. 6M
b Explain about sequential components in unloaded generators. 6M

OR

- 4 Discuss the principal of symmetrical components. Derive the necessary equations to convert:
i) Phase quantities into symmetrical components. 12M
ii) Symmetrical components into phase quantities.

UNIT-III

- 5 a Derive and explain about static load flow equations. 6M
b Explain the data for load flow studies. 6M

OR

- 6 Give the algorithm for load flow solution for Gauss- Seidel method with PQ buses presents. 12M

UNIT-IV

- 7 Derive power flow equation and draw power angle diagram for a 2- machine system with Negligible losses. 12M

OR

- 8 a Explain the equal area criterion applied to a Generator connected to infinite bus through a line, when fault cleared after some time. 6M
b Explain the equal area criterion applied to a Generator connected to infinite bus through a line, when fault load changing. 6M

UNIT-V

- 9 Derive the expression for Swing equation. 12M

OR

- 10 Define and explain about Steady state stability limit, Transient state stability limit and Dynamic State stability limit. 12M

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