Roll No. ....

OLE-24424

B. Tech. 7th Semester (EE) Examination – April, 2021

COMPUTER APPLICATIONS TO POWER SYSTEM ANALYSIS

Paper : EE-409-F

Time : Three Hours]   *[Maximum Marks : 100*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all. Question No. **1** is *compulsory*. Attempt *four* more question from the Sections **A, B, C** & **D** by selecting at least *one* question from each Section.

  1. (a) Explain Ferrenty effect in details.

     (b) In how many types of the buses a power can be classified ?

(c) What is the importance of symmetrical component in fault calculation ?

(d) What are the applications of SCADA system in power system ? Explain in brief.　　　$4 \times 5 = 20$

SECTION – A

2. What is voltage regulation of transmission line ? Drive the expression for voltage regulation for a short transmission line.　　　　　20

3. Write short note on :　　　　　$2 \times 10 = 20$

(a) Growth of power system in India

(b) Contigency analysis

SECTION – B

4. Detail the algorithm to perform load flow using Gauess Siedel method and also draw its flow chart.　20

5. Write short note on :　　　　　$2 \times 10 = 20$

(a) Load flow Study of Distribution System.

(b) Y Bus formation using singular transformation method

SECTION – C

6. Determine the symmetrical components of three voltages given below :   20

$V_a = 200\angle 0°$, $V_b = 200\angle 245°$ and $V_c = 200\angle 105°V$

7. Distinguish between symmetrical and unsymmetrical faults. Explain L-G fault in detail with derivation.   20

SECTION – D

8. Write short note on : $2 \times 10 = 20$

(a) Energy control centres

(b) Various stares of power systems

9. (a) Draw and explain the block diagram of SCADA system.   10

(b) What are the applications of MATLAB in power system? Explain it with example ?   10

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