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BIEEE-001

B.Tech. – VIEP – ELECTRICAL ENGINEERING (BTELVI)

00117

Term-End Examination

June, 2014

BIEEE-001 : DYNAMIC SYSTEM SIMULATION

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any* ***seven*** *questions. All questions carry equal marks. Assume suitable data wherever not provided.*

1. What do you understand by the term "MATLAB" ? Explain its usefulness in the simulation of dynamical systems. *10*

2. What are the various MATLAB functions used for time-domain and frequency-domain analysis ? Explain these functions briefly. *10*

3. What are the different steps involved in the simulation of an electromechanical system using transfer function model ? *10*

4. Distinguish between discrete-time and digital control systems. How could MATLAB be employed to simulate these systems ? *10*

5. Explain the steps involved in the simulation of a single-phase full-bridge converter using SIMULINK. *10*

6. Discuss the characteristics of various queuing systems. *10*

7. What are the simulation steps for simulating a voltage source inverter driven induction motor ? *10*

8. Discuss the simulation steps for AR process. *10*

9. Distinguish between "vector" and "matrices" ? Discuss the procedure for concatenation of two matrices using MATLAB. *10*

10. Write short notes on any ***two*** of the following : *2×5=10*

    (a) Inter-conversion of state-models

    (b) Statistical models in simulation

    (c) SIMULINK Blocksets
