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BIEEE-001

B.Tech DEGREE PROGRAMES

Term-End Examination

December, 2012

01544

BIEEE-001 : DYNAMICS SYSTEM SIMULATION

Time : 3 Hours *Maximum Marks : 70*

Note : *Attempt **any seven** questions. All question **equal** marks. Assume suitable missing data, if any.*

1. (a) What are the MATLAB functions ? 5
   (b) Explain the purpose of C2d, ss2tf, residue, ss2zp and fun fun functions. 5

2. Explain how the 'm - files' are created in MATLAB. 10

3. How the simulation of Transfer functions is done using MATLAB ? Explain with an example. 10

4. Convert the given continuous time state-space plant equation $X = Ax + Bu$ 10

   where $A = \begin{bmatrix} 0 & 1 \\ -3 & -4 \end{bmatrix}$ $B = \begin{bmatrix} 0 \\ 1 \end{bmatrix}$;

   into a discrete - time state-space equation with a sampling period of 0.1 seconds using 'C2d function' of MATLAB.

5. Write the MATLAB script to determine the gain of the given control system in fig.1/Block -1. **10**

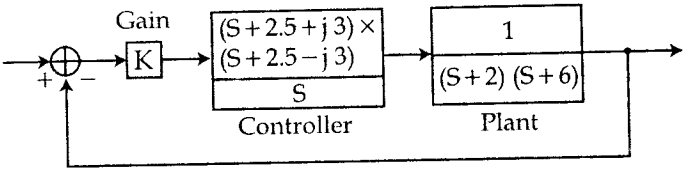

Fig. 1

6. Write the computer simulation of a continuous time dynamic systems using transfer function models. **10**

7. Explain Blockset based simulation with an example. **10**

8. What is the use of "MATLAB" and 'SIMULINK in power electronic circuit modelling. **10**

9. What are Markovian models. Simulate steady - state behaviour of infinite population Markov models. **10**

10. Write short note on ***any two :*** **5+5=10**
    (a) Queueing Models.
    (b) Statistical Simulation of statistical models
    (c) Simulation of AR process.