SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E - EEE
Title of the paper: Computer Aided Design
Semester: V — Max. Marks: 80
Sub.Code: 414507 — Time: 3 Hours
Date: 05-05-2008 — Session: AN

PART – A (10 x 2 = 20)

Answer All the Questions

1. Write and describe the Matlab function for solving differential equations.

2. What are the relational and logical operations you can perform by matlab?

3. Describe the different methods of computing matrix exponential.

4. Write the Matlab program to find the transmission parameters of a two port network.

5. Differentiate the open loop and closed loop gains in a control system.

6. Define Biasing.

7. Write the different set of operators in VHDL.

8. Classify the basic language elements in VHDL.

9. What is meant by overloading?

10. Give some examples for the attributes in VHDL conversion.

PART – B (5 x 12 = 60)

Answer All the Questions

11. Explain concept of Array. What are the different array operations that are used in Matlab representation and discuss them in detail.

(or)

12. (a) List major examples in the MATLAB Complier documentation and explain.
(b) Explain the basic features of MATLAB compiler.

13. (a) Obtain the relation for H parameters in terms of Z and Y parameters and write the MATLAB commands to get Y parameters of a two port network.
(b) Explain the DC circuit analysis in MATLAB and explain the control statements.

(or)

14. Write a MATLAB program for the circuit shown in fig.1 to determine the voltages at node 2 and 3, if Vin = 10 volts.

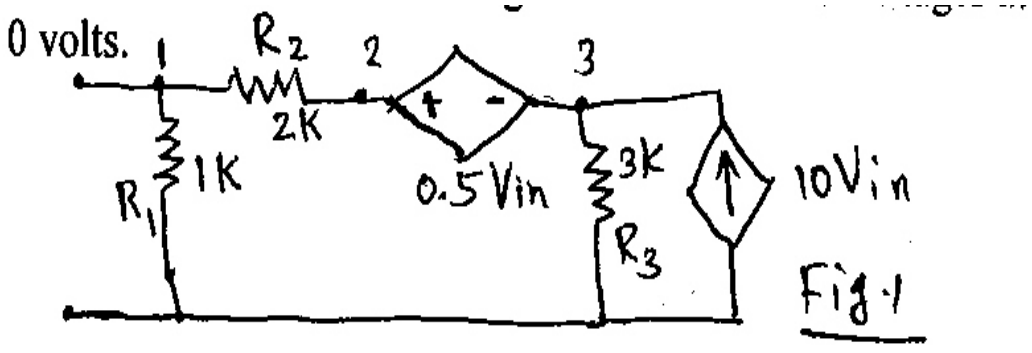

Fig.1

15. Write the MATLAB sequential commands to find the gain and phase margins of a closed loop control system having second order transfer function, H(z).

$H(z) = (z-1)/ (z^2 – 1.85z + 0.9)$

(or)

16. Describe the syntax for the creation of a discrete – time model in MATLAB for an LTI system having the following transfer function.

17. (a) Discuss in detail the concept of behavioral modeling of a system using VHDL.
    (b) Describe the different sets of data types of VHDL.

(or)

18. (a) Explain the concept of data flow modeling with different types.
    (b) Differentiate data 1 flow modeling and structural modeling with examples.

19. (a) Write short technical notes on sub program overloading.
    (b) Give some examples for attributes in VHDL and explain in brief.

(or)

20. (a) Differentiate subprogram overloading and operator overloading with examples.
    (b) Explain the different operations on packages on libraries in VHDL.