TDC (CBCS) Odd Semester Exam., 2023

COMPUTER SCIENCE

(5th Semester)

Course No. : CSCSEC–501T

(Programming in Matlab)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

SECTION—A

Answer *fifteen* questions, selecting any *three* from each Unit :　　　　　　　　　　　　1×15=15

UNIT—I

1. What are the components of a computer?

2. What is memory unit?

3. What is software hierarchy?

4. What is an input unit?

　　　　　　　　　　　　　(Turn Over)

UNIT—II

5. How floating point numbers are represented by default?

6. What is the name of the window in which you type Matlab commands?

7. What are assignment statements?

8. What are constants?

UNIT—III

9. What is an array?

10. What are expressions?

11. What is the function of load?

12. What is the function of save?

UNIT—IV

13. What are decision-making statements?

14. What is switch statement?

15. What is fprintf ()?

16. What is a break statement?

(Continued)

UNIT—V

17. What is rand function?

18. What is the function sort(A), if A is a vector?

19. What is GUI?

20. Which command is used to identify files?

SECTION—B

Answer *five* questions, selecting *one* from each Unit : 2×5=10

UNIT—I

21. What are constants and variables in Matlab? Give examples.

22. Write down the features of Matlab.

UNIT—II

23. Mention some popular built-in functions to plot a graph.

24. Write down the procedure to generate waveforms.

(Turn Over)

UNIT—III

25. What are the types of loop that Matlab provide?

26. What are the different input-output statements used in Matlab?

UNIT—IV

27. How polynomials can be represented in Matlab?

28. What are the types of program files that Matlab allows to write?

UNIT—V

29. How to randomize a list of numbers?

30. How to attach buttons to actions in Matlab?

SECTION—C

Answer *five* questions, selecting *one* from each Unit :

5×5=25

UNIT—I

31. (a) Write a Matlab program file to add two real numbers. 2

    (b) How arrays are declared and initialized in Matlab? How to define 3×4 matrix in Matlab? 3

(Continued)

32. Explain the Matlab environment highlighting all the sub-windows under it.

UNIT—II

33. How do you plot a graph in Matlab? Explain the steps.

34. (a) Create a script file to plot the function $y = x^2$. 2

    (b) Create a script file to plot the $\sin(x)$ and $\cos(x)$ in a single graph. 3

UNIT—III

35. How strings are handled in Matlab? Explain with example.

36. Create a script file to perform the following :

    (a) Multiply two matrices

    (b) Transpose of a matrix

UNIT—IV

37. (a) How do you write to a text file in Matlab? 2

    (b) Explain the principles of fprintf function. Give syntax. 3

(Turn Over)

38. How can you sort a vector in a random manner in Matlab? Explain with example.

UNIT—V

39. Explain different controls that are used to design interface in Matlab.

40. Write down the steps to create a simple GUI using push button static text and pop-up menu.

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