DF-3005
Second Year B. Sc. (Sem. III) Examination
March/April – 2016
Electronics for Computer Science : Paper - V
(Simulation Using MATLAB)

Time : 2 Hours] [Total Marks : 50

Instructions :
(1)

(2) All 28 questions are compulsory.
(3) Symbols and terminology used here have their usual meanings.
(4) Scientific calcualtor is allowed.

Q. 1 to 12 Multiple choice questions : (1 mark)
Q. 13 to 22 Multiple Choice Questions : (2 marks)
Q. 23 to 28 Multiple Choice Questions : (3 marks)

O.M.R. Sheet भरवा अंगेनी अव्यस्त भाबे सुज्जीत सादे अपेक्षा 
O.M.R. Sheet-ली पार्श्व भर्नी भएको छ।
Important instructions to fillup O.M.R. Sheet 
are given back side of provided O.M.R. Sheet.
To modify MATLAB search path, we use

(A) Editpath

(B) Both of these

(C) None of these

(D) Path

Pwd

(A) List content of current directory

(B) Shows the current working directory

(C) None of these

(D) Change the current working directory

Which of the following MATLAB calculations would result the value 1

(A) 5/2*3

(B) 3^2/3*8

(C) None of these

(D) 1+4/6

The difference between a function and a script is:

only

(A) only a function requires inputs

(B) only a script file can perform a series of commands

(C) function variable names only have meaning within the, whereas
script variables are available to other programs.

(D) function file can be run from the command line
5 Which of the following MATLAB expression gives \(-1\) ?

(A) \(\cos \, [\pi]\)

(B) \(\sin \, [3 \pi/2]\)

(C) \(\sin \, [-\pi/2]\)

(D) \(\cos \, [180]\)

6 MATLAB desktop is

(A) The command window

(B) Directory pane

(C) None of these

(D) The place where MATLAB puts you when you launch

7 The P-files are created with the

(A) Ncode command

(B) Pncode command

(C) None of these

(D) pcode command

8 Editor window is the place of

(A) Where you edit

(B) Where you create

(C) All of these

(D) Where you write
9 M-files are
(A) Hex files
(B) Both of these
(C) None of these
(D) Standard ASCII text files

10 The command “what” will
(A) Lists only M-, on the disk
(B) Lists only Mex-files on the disk
(C) Lists M-, Mat- and Mex-files on the disk
(D) Lists Mat- on the disk

11 The “workspace pane” will
(A) Lists all values of variable
(B) Both of these
(C) None of these
(D) Lists all variables

12 Whos will
(A) show only workspace
(B) both of these
(C) none of these
(D) lists variables currently in the workspace with their size
13. If \( x = [1 \ 5 \ 3 \ 7] \) and \( y = [0 \ 2 \ 8 \ 7] \) than what will be the value of \( k \), if \( k = x\leq y \)
(A) \( [1 \ 1 \ 1 \ 0] \)
(B) \( [0 \ 0 \ 1 \ 0] \)
(C) None of these
(D) \( [2 \ 0 \ 1 \ 0] \)

14. If \( a = \text{rand}(12) \) and \( u = \text{rand}(10,1) \) will
(A) Create \( 12\times12 \) matrix \( A \) and \( 10\times1 \) vector \( u \)
(B) Both of these
(C) None of these
(D) Create \( 10\times10 \) matrix \( A \) and \( 12\times1 \) vector \( u \)

15. The equation to plot sine waves \( \text{fplot} \) must be
(A) \( \text{fplot} (\text{’}x.*\sin(x)\text{’},[0 \ 11*\text{pi}]) \)
(B) \( \text{fplot} (\text{’}x.*\sin(2(x))\text{’},[0 \ 12*\text{pi}]) \)
(C) None of these
(D) \( \text{fplot} (\text{’}x.*\sin(x)\text{’},[0 \ 10* \text{pi}]) \)

16. To draw 2-D plots we need
(A) Yvalues
(B) Style-option
(C) All of these
(D) Xvalues

17. To draw 3-D plot using MATLAB we must have
(A) Y and z
(B) X, y, z and ‘style-option’
(C) All of these
(D) X and y
18. To generate and plot the surface we need
(A) linspace (−3,3,50)
(B) linspace (−1,1,10)
(C) All of these
(D) linspace (−2,2,100)

19. What will be the answer by computing \( \sin^2 \frac{\pi}{6} + \cos^2 \frac{\pi}{6} \) using MATLAB?
(A) 1.0011
(B) 3.0013
(C) 1.0000
(D) 1.1111

20. If \( x = [6 \ 6 \ 6] \) & \( y = [3 \ 3 \ 3] \) then \( x+y \) will be
(A) \( [1 \ 1 \ 1] \)
(B) \( [3 \ 3 \ 3] \)
(C) \( [6 \ 6 \ 6] \)
(D) \( [5 \ 5 \ 5] \)

21. To plot a circle using MATLAB, the linspace must be declared as
(A) linspace (1,2*\( \pi \),10)
(B) linspace (0,2*\( \pi \),100)
(C) none of these
(D) linspace (1,4*\( \pi \),10)

22. What will be the value of y-coordinates of a line with slope \( m = 0.5 \) and the intercept \( c = −2 \) at the following x-coordinates, 
\[ x=0,1.5,3,4,5,7,9,10. \]
(A) \[ [-2.0000 \ -1.2500 \ -0.5000 \ 0 \ 0.5000 \ 1.5000 \ 2.5000 \ 3.0000] \]
(B) \[ [-1.0000 \ -1.2500 \ -0.5000 \ 0 \ 0.5000 \ 1.5000 \ 2.5000 \ 4.0000] \]
(C) \[ [-6.0000 \ -1.2500 \ -0.5000 \ 0 \ 0.5000 \ 1.5000 \ 2.5000 \ 6.0000] \]
(D) \[ [-3.0000 \ -1.2500 \ -0.5000 \ 0 \ 0.5000 \ 1.5000 \ 2.5000 \ 4.0000] \]
23 Which of the following command will create a vector x with 10 elements linearly spaced between 0 & 100?

(A) linspace (10,20,100)
(B) linspace (0,100,100)
(C) linspace (0,100,10)
(D) linspace (0,10,100)

24 If \( A = [1 \ 2 \ 3; \ 4 \ 5 \ 6; \ 7 \ 8 \ 9] \), what will be \( A(2,3) \)?

(A) 2
(B) 4
(C) 6
(D) 3

25 What will be the value of factn if \( n = 5 \) in following program

function factn = factorial (n);

factn = 1;

for k = n:-1:1

    factn = factn*k

end

(A) 102
(B) 402
(C) 120
(D) 240
26. If \( A = [x \ y \ z; \ m \ n \ o; \ p \ q \ r] \), what will be \( A(3,1) \):

(A) \( m \)

(B) \( r \)

(C) \( o \)

(D) \( x \)

27. What will be the answer by computing \( 2^5 / (2^5 - 1) \)?

(A) \( 1.0011 \)

(B) \( 3.0013 \)

(C) \( 4.2341 \)

(D) \( 1.0323 \)

28. If \( x = [1 \ 2 \ 3] \) & \( y = [3 \ 3 \ 3] \) and \( z = [4 \ 4 \ 4] \) then \( x+y \) and \( x+z \) will be

(A) Error, \([6 \ 6 \ 6]\)

(B) \([5 \ 6 \ 7], [4 \ 5 \ 6]\)

(C) Error, Error

(D) \([4 \ 5 \ 6], [5 \ 6 \ 7]\)