A

Second Year B. Sc. (Sem. III) Examination
March / April - 2016
Applied Electronics : Paper - V
(Simulation using MATLAB)

Time : **2** Hours]   [Total Marks : **50**

Instructions :

(1)

નીચે દર્શાવેલ ☞ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☞ signs on your answer book.

Name of the Examination :

☞ | **SECOND YEAR B. Sc. (SEM. 3)**

Name of the Subject :

☞ | **APPLIED ELECTRONICS - 5**

☞ Subject Code No. : | **2** | **9** | **9** | **9** | ☞ Section No. (1, 2,......) : **1,2,3**

Seat No. :

Student's Signature

(2)   All questions are compulsory.

(3)   Section - 1 carry 12 marks.

(4)   Section - 2 carry 20 marks.

(5)   Section - 3 carry 18 marks.

(6)   Symbols and terminology used here have their usual meanings.

(7)   Scientific calculator is allowed.

O.M.R. Sheet ભરવા અંગેની અગત્યની સૂચનાઓ આપેલ
*O.M.R. Sheet*ની પાછળ છાપેલ છે.
*Important instructions to fillup O.M.R. Sheet
is given on back side of the provided O.M.R. Sheet.*

1   Which of the following MATLAB calculations would result the value 1 ?

(A)   1+4/6

(B)   5/2*3

(C)   3^2/3*8

(D)   None of these

2   The difference between a function and a script is only

(A)   function file can be run from the command line

(B)   only a function requires inputs

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

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

3   Which of the following MATLAB expression gives –1 ?

(A)   cos [180]

(B)   cosd [pi]

(C)   sind [3*pi/2]

(D)   sin [–pi/2]

4   MATLAB desktop is

(A)   The place where MATLAB puts u when u launch

(B)   The command window

(C)   Directory pane

(D)   None of these

5　The P-files are created with the

(A)　pcode command

(B)　Ncode command

(C)　Pncode command

(D)　None of these

6　Editor window is the place

(A)　Where you write

(B)　Where you edit

(C)　Where you create

(D)　All of these

7　M-files are

(A)　Standard ASCII text files

(B)　Hex files

(C)　Both of these

(D)　None of these

8　The command "what" will

(A)　Lists Mat- on the disk

(B)　Lists only M-, on the disk

(C)　Lists only Mex-files on the disk

(D)　Lists M-, Mat- and Mex- files on the disk

9   The 'workspace pane" will

(A)   Lists all variables

(B)   Lists all values of variable

(C)   Both of these

(D)   None of these

10   Whose will

(A)   lists variables currently in the workspace with their size

(B)   show only workspace

(C)   both of these

(D)   None of these

11   To modify MATLAB search path, we use

(A)   Path

(B)   Editpath

(C)   Both of these

(D)   None of these

12   Pwd

(A)   Change the current working directory

(B)   List content of current directory

(C)   Shows the current working directory

(D)   None of these

13 To plot a circle using MATLAB, the linspace must be declared as

(A) linspace (1,4*pi, 10)

(B) linspace (1,2*pi,10)

(C) linspace (0,2*pi,100)

(D) None of these

14 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) [–3.0000 –1.2500 –0.5000 0 0.5000 1.5000 2.5000 4.0000]

(B) [–2.0000 –1.2500 –0.5000 0 0.5000 1.5000 2.5000 3.0000]

(C) [–1.0000 –1.2500 –0.5000 0 0.5000 1.5000 2.5000 4.0000]

(D) [–6.0000 –1.2500 –0.5000 0 0.5000 1.5000 2.5000 6.0000]

15 If x = [1 5 3 7] y = [0 2 8 7] then what will be the value of k, if k = x<y

(A) [2 0 1 0]

(B) [1 1 1 0]

(C) [0 0 1 0]

(D) None of these

16 If a = rand (12) and u = rand(10,1) will

(A) Create 10 × 10 matrix A and 12×1 vector u

(B) Create 12 × 12 matrix A and 10×1 vector u

(C) Both of these

(D) None of these

17 The equation to plot sine waves fplot must be

(A) Fplot ('x.*sin(x)',[0 10*pi])

(B) Fplot ('x.*sin(x)',[0 11*pi])

(C) Fplot('x.*sin2(x)',[0 12*pi])

(D) None of these

18   To draw 2-D plots we need

(A) Xvalues

(B) Yvalues

(C) Style-option

(D) All of these

19   To draw 3-D plot using MATLAB we must have

(A) X and y

(B) Y and z

(C) X, y, z and 'style-option'

(D) All of these

20   To generate and plot the surface we need

(A) linspace (–2,2,100)

(B) linspace (–3,3,50)

(C) linspace (–1,1,10)

(D) All of these

21   What will be the answer by Computing $\sin^2 \pi/6 + \cos^2 \pi/6$ using MATLAB?

(A) 1.1111

(B) 1.0011

(C) 3.0013

(D) 1.0000

22   If x = [6 6 6] & y = [3 3 3] then x+y will be

(A) [5 5 5]

(B) [1 1 1]

(C) [3 3 3]

(D) [6 6 6]

23   If x = [1 2 3] & y = [3 3 3] and z = [4 4 4] trhen x+y and x+z will be

(A)   [4 5 6], [5 6 7]

(B)   Error, [6 6 6]

(C)   [5 6 7], [4 5 6]

(D)   Error, Error

24   Which of the following command will create a vector x with 10 elements linearly spaced between 0 & 100 ?

(A)   linspace (0,10,100)

(B)   linspace (10,20,100)

(C)   linspace (0,100,100)

(D)   linspace (0,100,10)

25   If x=[1; 2; 3] & y = [3 3 3] and z = [4 4 4] then x+y and x+z will be

(A)   [4 5 6], [5 6 7]

(B)   Error, Error

(C)   [5 6 7], [4 5 6]

(D)   Error, [1 2 3]

26   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)   240

(B)   102

(C)   402

(D)   120

27   If >> A = [x y z; m n o; p q r], what will be A (3,1) ?

(A)   x

(B)   m

(C)   r

(D)   o

28   What will be the answer by Computing 2^5 / (2^5 - 1) ?

(A)   1.0323

(B)   1.0011

(C)   3.0013

(D)   4.2341