

**D****DF-2999****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.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="SECOND YEAR B. Sc. (SEM. 3)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="APPLIED ELECTRONICS - 5"/>	<input type="text"/>
Subject Code No. : <input type="text" value="2"/> <input type="text" value="9"/> <input type="text" value="9"/> <input type="text" value="9"/>	<input type="text"/>
Section No. (1, 2,.....) : <input type="text" value="1,2,3"/>	<input type="text"/>
	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 To modify MATLAB search path, we use
- (A) Editpath
  - (B) Both of these
  - (C) None of these
  - (D) Path
- 2 Pwd
- (A) List content of current directory
  - (B) Shows the current working directory
  - (C) None of these
  - (D) Change the current working directory
- 3 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)  $1+4/6$
- 4 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) `cosd [pi]`
  - (B) `sind [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 u when u 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
- (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 Whose 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  $x = [1 \ 5 \ 3 \ 7]$   $y = [0 \ 2 \ 8 \ 7]$  then what will be the value of  $k$ , if  $k = x < y$
- (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  $12 \times 12$  matrix  $A$  and  $10 \times 1$  vector  $u$
  - (B) Both of these
  - (C) None of these
  - (D) Create  $10 \times 10$  matrix  $A$  and  $12 \times 1$  vector  $u$
- 15 The equation to plot sine waves `fplot` must be
- (A) `fplot('x.*sin(x)',[0 11*pi])`
  - (B) `fplot('x.*sin2(x)',[0 12*pi])`
  - (C) None of these
  - (D) `fplot('x.*sin(x)',[0 10*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  $\sin^2 \pi/6 + \cos^2 \pi/6$  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  $x=[1; 2; 3]$  &  $y = [3 \ 3 \ 3]$  and  $z = [4 \ 4 \ 4]$  then  $x+y$  and  $x+z$  will be

(A) Error, Error

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

(C) Error,  $[1 \ 2 \ 3]$

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

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  $A = \begin{bmatrix} x & y & z \\ m & n & o \\ p & q & r \end{bmatrix}$ , 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)  $[4 \ 5 \ 6]$ ,  $[5 \ 6 \ 7]$