



**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)

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="ELECTRONICS FOR COMPUTER SCIENCE - 5"/>	<input type="text"/>
Subject Code No. : <input type="text" value="3"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="5"/>	<input type="text" value="Student's Signature"/>
Section No. (1, 2,.....) : <input type="text" value="Nil"/>	

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

**Q. 1 to 12 Multiple choice questions : (1 mark)**

**Q. 13 to 22 Multiple Choise Questions : (2 marks)**

**Q. 23 to 28 Multiple Choice Questions : (3 marks)**

*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  
are given back side of 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)  $\text{sind} [3*\pi/2]$
  - (D)  $\sin [-\pi/2]$
- 4 MATLAB desktop is
- (A) The place where MATLAB puts you when you 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 of
- (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 Whos 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  $a = \text{rand}(12)$  and  $u = \text{rand}(10,1)$  will
- (A) Create  $10 \times 10$  matrix A and  $12 \times 1$  vector u
  - (B) Create  $12 \times 12$  matrix A and  $10 \times 1$  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  $z = [4 \ 4 \ 4]$  then  $x+y$  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  $A = [1 \ 2 \ 3; 4 \ 5 \ 6; 7 \ 8 \ 9]$ , what will be  $A(2,3)$
- (A) 3
- (B) 2
- (C) 4
- (D) 6

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