



JB-3101
Second Year B. Sc. (Sem. III) Examination
March/April – 2013
Applied Electronics : Paper - V
(Simulation Using Matlab)

Time : 2 Hours]

[Total Marks : 50

Instructions :

(1)

<p>नीचे दर्शायेव निशानीवाणी विगतो उत्तरवही पर अवश्य कपवी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : S. Y. B. SC. (SEM. 3)</p> <p>Name of the Subject : APPLIED ELECTRONICS : PAPER - 5</p> <p>Subject Code No. : 3 1 0 1 Section No. (1, 2,.....): Nil</p>	<p>Seat No. : <input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/><input type="text"/></p> <p style="text-align: center;">Student's Signature</p>
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- (2) Q.1 is Compulsory.
- (3) Assume data wherever necessary.
- (4) Figures to extreme right indicate full marks.

1 Write very short answers : 14

- (i) What is Matlab? What is a variable in Matlab?
- (ii) Describe the relational operators of Matlab giving examples.
- (iii) Plot the function $y = 2x + 3$.
- (iv) What is a matrix transpose operation? How is it done with Matlab?
- (v) The value assigned to t if $t = \text{linspace}(2,6,8)$.
- (vi) What is an M file in Matlab ?
- (vii) What is a Simulink library browser ?

2 (a) Explain the 'while' loop in Matlab giving suitable example. 8

(b) Write a Matlab program to generate the square of first 10 integers. 4

OR

2 (a) What are functions in Matlab? Describe the use of any two mathematical functions using Matlab giving examples. 8

- (b) Write a Matlab program to plot the following mathematical functions, 4
- (i) $Y = \text{SIN}(X)$
 - (ii) $Y = \text{SIN}(2X)$
 - (iii) $Y = X^2$
- 3** (a) Discuss the elementary matrix operations in Matlab. 8
- (b) Evaluate : 4
- (i) The value assigned to t if t = 1:6
 - (ii) The value assigned to t if t = 3:-0.5:1
- OR**
- 3** (a) Explain giving suitable examples the 'if' statement in Matlab. 8
- (b) Write a Matlab program to input a number by the user and print appropriate indicating whether it is even or odd. 4
- 4** Write short notes : (any two) 12
- (i) Constructing a Simulink block diagram
 - (ii) Solving differential equations
 - (iii) Matlab Desktop and its environment
 - (iv) Graphical functions.
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