Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – April/May– 2017**

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| **Sub. Code:** | **14EC2016** | **Duration :** | **3hrs** |
| **Sub. Name:** | **CAD FOR ELECTRONICS ENGINEERS** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. | a. | Write the MATLAB script for Plotting two curves on the same graph:   1. F = 1/(1+x^2) and G = exp(x^3) 2. Plot the points at 33 points equally spaced between 0 and 1, Use black \*’s for F and green o’s for G, Label the horizontal and vertical axes, Create a title (including your name) and a legend | CO1 | 14 |
| b. | 1. Create a vector **x**, with 30 equally spaced entries from 0 to 1.0 2. Create a vector **f,** with entries of sine evaluated at entries of 5\*pi\***x** 3. Plot **f** as a function of **x**, using + symbols   Represent pictorically. | CO1 | 6 |
| (OR) | | | | |
| 2. | a. | Portray the simulink model for sampling theorem and give a procedural description of the same. | CO1 | 17 |
| b. | If A = [3 3 5; 4 6 7; 6 9 5] , what is  i. A(3,2)  ii. A(2,:)  iii. A(1:2, 2) | CO1 | 3 |
| 3. | a. | What is looping in LabVIEW? Give the advantages of looping. | CO2 | 4 |
|  | b. | Build a VI that generates 50 random numbers and plot it on a waveform chart using while loop. Accumulate the random numbers in to a array and display it on the waveform graph.List down the steps to configure front panel and block diagram. | CO2 | 16 |
| (OR) | | | | |
| 4. | a. | Under what circumstances are for loop used in LabVIEW ? | CO2 | 3 |
|  | b. | Create a sub VI that takes a number representing Celsius and convert in to number representing Fahrenheit. Build a sub-VI for conversion of Celsius to Fahrenheit. List down the steps to be followed in making front panel and block diagram | CO2 | 15 |
|  | c. | Differentiate array and matrix. | CO2 | 2 |
| 5. | a. | List the features of MATLAB OOPS. | CO1 | 7 |
|  | b. | Write a MATLAB class program to implement Binary search. Also give the commands to check its output in the command window. | CO1 | 13 |
| (OR) | | | | |
| 6. | a. | Write a MATLAB class program with the following two functions:  a) Multiply a number by 12 b) Roundoff a number | CO1 | 6 |
|  | b. | Explain the concept of constructor with a MATLAB class program. | CO1 | 14 |
| 7. | a. | Explain the Logic synthesis design flow with neat diagram. | CO3 | 12 |
|  | b. | Explain Routing and their techniques in detail | CO3 | 8 |
| (OR) | | | | |
| 8. | a. | Implement full adder circuit using structural modelling? | CO3 | 10 |
|  | b. | Implement a 1\*4 demux using behavioural modelling techniques? | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. |  | Explain about the concept of inheritance. Write a MATLAB class program with one superclass and a single subclasses, considering the superclass as ‘Shape’ having a center position and color. Take the sub classes as circle which should inherits the superclass functions and also calculates the area of its own shape. Also give the steps to find its output in command window. | CO1 | 20 |

ALL THE BEST