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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

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

**Supplementary Examination – June – 2017**

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| **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 a MATLAB class program to implement Binary search. Also give the commands to check its output in the command window. | CO1 | 10 |
| b. | Explain about recursion with an example MATLAB class program. | CO1 | 8 |
|  | c. | Spot the error in the following MATLAB program:  Class class\_name  properties  v  end  method  functions a(x)  a.x=v;  end  end | CO1 | 2 |
| (OR) | | | | |
| 2. | a. | Using the concept of constructor write a single MATLAB class including the following fuctions:  i) Add two numbers  ii) Check a number is even or odd  iii) To find the smallest among five numbers | CO1 | 9 |
| b. | List the features of constructors in MATLAB OOPS. | CO1 | 6 |
| c. | Write a MATLAB function to solve the recursive expression y=10^5. |  | 5 |
| 3. | a. | Create a VI to find the average of 5 numbers and convert a section of VI in to a sub VI.Also list down the steps. | CO2 | 15 |
|  | b. | Explain about the different types of loops used in LabVIEW? | CO2 | 5 |
| (OR) | | | | |
| 4. | a. | List the steps to create an 2D array using LabVIEW. | CO2 | 4 |
|  | 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 | 16 |
| 5. | a. | Portray the simulink model for Amplitude modulation and give a procedural description of the same. | CO1 | 17 |
|  | b. | Solve: Y = ax4+bx3+cx2  Using the concept of functions. | CO1 | 3 |
| (OR) | | | | |
| 6. |  | Write the MATLAB script for Plotting two curves on the same graph:  F = 1/(1+x^2) and G = x^3.Plot the points at 33 points equally spaced between 0 and 1, Use green \*’s for F and blue +’s for G, Label the horizontal and vertical axes, Create a title (including your name) and a legend. | CO1 | 20 |
| 7. | a. | Implement full adder circuit using structural modeling. | CO3 | 10 |
|  | b. | Implement a 1\*4 demux using behavioural modelling techniques. | CO3 | 7 |
|  | c. | What are the three palettes used in programming? | CO3 | 3 |
| (OR) | | | | |
| 8. | a. | Explain the Logic synthesis design flow with neat diagram. | CO3 | 10 |
|  | b. | With suitable example, explain Task and Functions. | CO3 | 3 |
|  | c. | Explain Routing and their techniques in detail. | CO3 | 7 |
|  | | **Compulsory**: |  |  |
| 9. |  | Explain about the concept of inheritance. Write a MATLAB class program with one superclass and two subclasses, considering the superclass as ‘Shape’ having a center position and color. Take the sub classes as circle and rectangle 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