

COURSE TITLE : HDL & MAT LAB
COURSE CODE : 6048
COURSE CATEGORY : A
PERIODS/WEEK : 5
PERIODS/ SEMESTER : 75/6
CREDITS : 3

On completion of the course, the student will be able:

1. To write simple programs in Verilog HDL and test them using simulator Software and implement it into an FPGA kit (Gate level, Data flow and behaviour level)
 - a) Basic gates (Gate level, Data flow and behaviour level)
 - b) 4 to 1 multiplexer
 - c) Decoder
 - d) Full adder
 - e) 4 bit full adder
 - f) D flip-flop
 - g) JK flip-flop
 - h) Ripple counter
 - i) Shift Register
2. To write MATLAB programs and simulate using command prompt and script
 - a) To perform basic matrix operations (addition, subtraction, multiplication, division & inverse) using command prompt.
 - b) To find solution to linear equations using script editor.
 - c) To determine eigen values and eigen vectors of a square matrix using command prompt.
 - d) To determine the roots of a polynomial using script editor.
 - e) To plot 2D and 3D curves using command prompt and script editor.
 - f) To differentiate and integrate a given function.
 - g) To determine the time response of RLC circuits using simulink.
 - h) To plot amplitude modulated wave by giving carrier, modulating signal and depth of modulation using simulink.