

**(DEE 424 A)**

**B. Tech. DEGREE EXAMINATION, MAY - 2015**

**(Examination at the end of Final Year)**

**ELECTRICALS & ELECTRONICS ENGINEERING**

**Paper - IV : Embedded Systems & VLSI**

**Time : 3 Hours**

**Maximum Marks : 75**

**Answer question No. 1 compulsory**

**(15)**

**Answer ONE question from each unit**

**(4 x 15 = 60)**

- 1) a) Compare and contrast micro controller and Microprocessor.
- b) What is scaling?
- c) What is meant by logic synthesis?
- d) What are limitations of scaling?
- e) What is sheet resistance?
- f) Compare PLAs and CPLDs.
- g) What is embedded system?
- h) Write applications of FPGA.
- i) What is switch logic?

**Unit - I**

- 2) a) What is an integrated circuit (IC)? Explain the different types of integrations for IC.
- b) Explain the applications of embedded system in details.

**OR**

- 3) a) Write short note set processors ASITPS.
- b) Explain the different types of embedded systems.

## Unit – II

- 4) a) Derive an expression drain current of NMOS in saturation region.  
b) Write short notes on MOS layers.

OR

- 5) a) Derive scaling factor for Gate capacitance, current density, drain current.  
b) Explain importance of delay unit.

## Unit – III

- 6) a) Compare switch and gate logic with relevant examples.  
b) Explain function SRAM.

OR

- 7) a) Draw and explain the architecture of CPLDs.  
b) Explain structural design approach with suitable example.

## Unit – IV

- 8) a) What is behavioral synthesis? Explain with an example.  
b) What is the goal of VHDL synthesis step in design flow? Explain.

OR

- 9) a) Explain about hardware co simulation.  
b) Write about RTL synthesis.

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