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(Pages 2)

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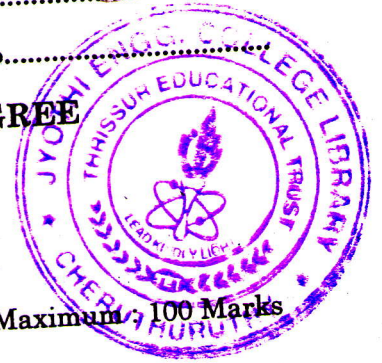
Reg. No.....

**FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE  
EXAMINATION, DECEMBER 2007**

EE 04 503—PULSE AND DIGITAL ELECTRONICS

(2004 Admissions)

Maximum : 100 Marks



Time : Three Hours

Answer all questions.

**Part A**

- I. (a) Explain what is meant by reverse recovery time.  
(b) Explain briefly the function of Miller sweep generator using OP-AMP.  
(c) Explain two-input diode OR gate.  
(d) Explain the function of EX-OR and EX-NOR gates with truth table.  
(e) Explain what is meant by static RAM and dynamic RAM.  
(f) What is state diagram ? Explain.  
(g) Explain basic micro-computer operation.  
(h) Discuss the basic concepts in programming.

(8 × 5 = 40 marks)

**Part B**

- II. (a) Draw the circuit of CE inductively loaded switching circuit and explain its function with input and output waveforms.

Or

- (b) Draw the circuit of transistorized Schmitt trigger and explain its operation with hysteresis diagram.

- III. (a) (i) Convert the following :—

1  $(237.46)_{10} = (?)_2$ .

2  $(144.165605)_8 = (?)_{10}$ .

3  $(AB2C)_H = (?)_{10}$ .

(6 marks)

(9 marks)

- (ii) Explain signed number representation.

Or

Turn over

(b) (i) Implement the following function using 8 : 1 multiplexer

$$y(A, B, C, D) = \Sigma m(0, 1, 2, 3, 4, 5, 7).$$

(8 marks)

(7 marks)

(ii) Write short note on PAL.

IV. (a) Draw the circuit of master slave J-K flip-flop and explain its operation with truth table.

Or

(b) (i) Draw the circuit of ring counter and explain.

(ii) Write short note on ASM chart.

V. (a) Draw the block diagram of typical organization of a micro-computer system and explain.

Or

(b) Explain implied addressing and register indirect addressing modes.

(4 × 15 = 60 marks)