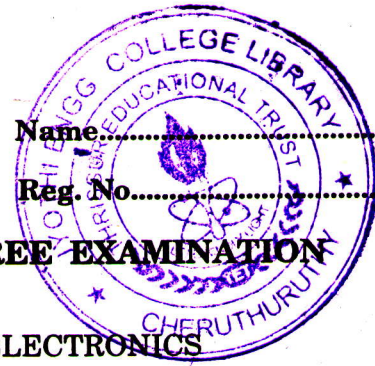


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Name.....

Reg. No.....

**FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION  
DECEMBER 2006**

**EE 2K 504/PT EE 2K 404—PULSE AND DIGITAL ELECTRONICS**

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.*

- I. (a) Explain how BJT can act as a switch.  
(b) What are voltage and current sweeps ?  
(c) Realize EX-OR Boolean function using only NAND gates.  
(d) State the advantages of ECL logic circuits.  
(e) Explain the limitations of K Map.  
(f) What are decoders and demultiplexers ? Explain.  
(g) Explain the function table of TFF and DFF.  
(h) What is critical race ? Explain.

(8 × 5 = 40 marks)

- II. (a) Explain in detail resistive switching and clamped inductive switching of BJTs with neat sketches.

*Or*

- (b) Draw a neat collector coupled astable circuit using BJT and explain its principle of operation.

- III. (a) State and explain all the laws of Boolean algebra. Give examples.

*Or*

- (b) Explain NMOS and PMOS logic families with neat circuit diagrams.

- IV. (a) Design a Gray to binary and binary to Gray code converters. Draw the realization diagram.

*Or*

- (b) What are multiplexers ? Explain the principle of 4 : 1 MUX with a neat sketch.

- V. (a) Realize :

- 1 JKFF from SRFF.
- 2 SRFF from JKFF.

*Or*

- (b) Write short notes on :

- 1 ASM charts.
- 2 Hazards.

(4 × 15 = 60 marks)