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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)