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Name.....

Reg. No.....

**FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, MAY 2012**

EE 09 405 / PT EE 09 404—DIGITAL ELECTRONICS

(2009 Admissions)

Time : Three Hours

Maximum : 70 Marks

Part A

1. Define propagation delay in IC's.
2. Name any two IC packages.
3. Why are NAND and NOR called universal gates ?
4. Differentiate between level triggered and edge triggered FF.
5. What are flags ? What are their uses ?

(5 × 2 = 10 marks)

Part B

6. Draw the circuit of 2 input CMOS NAND gate. What are its advantages over TTL ?
7. What are open-collector o/ps ? Also state the function of pull up resistor ?
8. Explain priority—encoders.
9. Define ROM, PROM, EPROM, EEPROM and CDROM.
10. Construct a Full adder in PROM, PAL and PLA.
11. What are microinstructions ? Explain with example.

(4 × 5 = 20 marks)

Part C

12. (a) Draw the circuit schematic of TTL inverter and CMOS inverter. Compare the characteristic of each family.

Or

- (b) Explain mixed voltage interfacing concept with relevant diagram.

13. (a) (i) With an example, explain the use of Karnaugh map for reducing 5 variable expressions.

(7 marks)

- (ii) Differentiate between Decoder and Demultiplexer.

(3 marks)

Or

- (b) Design and draw the circuit of Binary to BCD code converter

Turn over

14. (a) Using state reduction techniques, design a synchronous circuit to detect a sequence of 3 consecutive 1's occurring in a series.

Or

- (b) Explain the circuit of DRAM and also discuss the read and write operations with timing diagram.

15. (a) Discuss the ALU.

Or

- (b) List the various addressing modes of 8085 microprocessor and write a program to find the maximum number in an array.

(4 × 10 = 40 marks)

