DISTANCE EDUCATION

B.C.A. DEGREE EXAMINATION, MAY 2009.

ELECTRONIC DEVICES AND DIGITAL CIRCUITS

(Upto 2002)

Time : Three hours Maximum : 100 marks

Answer any FIVE questions.

All questions carry equal marks.

$(5 \times 20 = 100)$

1. (a) Explain various character codes with example.

(b) Convert the following decimal numbers to octal and hexadecimal numbers.

(i) 234

(ii) 645.

2. (a) Explain with diagram how a transistor can be used as a switch.

(b) State and prove DeMorgan's theorem.

3. (a) Explain the working of a full adder with a circuit and truth table.

(b) Simplify using K-map and draw circuits using AND, OR gates.

$$F(A,B,C,D) = \sum(0, 1, 2, 4, 5, 6, 10, 14,1 5)$$

4. (a) Explain R-S flipflop with a circuit and truth table.

(b) Explain 4 bit right shift register with circuit. Draw wave form diagram.

5. (a) Explain the characteristics of a p-n junction diode with a circuit and graph.

(b) Explain the construction and working of MOSFET.

6. (a) Discuss signed binary numbers with examples.

(b) Construct the Basic Logic gates using Universal building blocks.

7. (a) Explain the working of Half subtractor with a circuit and truth table.

(b) Explain the working of Ring counter with a block and wave form diagram.

8. Write short notes on :

(a) SCR

(b) UJI

(c) Photo diode.
