April - 2016

P.G.D.C.A. Semester – 1

Paper – 103: Logical Organization of Computer (New & Old)

Time: 3 Hours Code - 25703 **Total Marks: 100**

Q.1 (a) Convert the following: [10]

1. $(1010101010)_2 = (?)_{10}$
2. $(ABC)_{16} = (?)_{10}$
3. $(44.4)_8 = (?)_{16}$
4. $(6471)_{10} = (?)_8$
5. $(79A)_{16} = (?)_2$

(b) Perform: [10]

1. $(111001)_2 + (?)_8 = (1010)_2$
2. $(111.1)_2 * (3)_8 = (?)_2$

OR

Q.1 (a) (i) Explain ASCII7 ,ASCII8 and EBCDIC [10]

(ii) Write a short note on CU & ALU.

(b) (i) Explain Floating Point representation. [10]

(ii) Write a short note on CU & ALU.

Q.2 Write a short note on: (i) DVD (ii) Mouse [20]

(iii) 8088 architecture (iv) CPU organization

OR

Q.2 Write a short note on: [20]

(i) Fetch decode cycle (ii) Type of Bus

(iii) Cache memory (iv) Inkjet printer

Q.3 (a) State and prove D-morgan's theorem. [10]

(b) Explain Universal gate with circuit and truth table. [10]

OR

Q.3 (a) Convert into SOP: (A'+B) (B'+C') [10]

(b) Explain POS using NOR Gate. [10]

Q.4 (a) Explain multiplexer and de multiplexer [10]

(b) Explain Encoder and decoder with truth table. [10]

OR

Q.4 (a) Write a short note on Half Adders and Full Adder. [10]

(b) Explain Subtractor in details. [10]

Q.5 (a) Explain D Flip flop [10]

(b) Explain up down counter in details. [10]

OR

Q.5 (a) Write a short note on register. [10]

(b) Explain T Flip flop in details. [10]
