October-2015

M.sc.IT Semester – I

Paper No – 1: Computer System Organization

Paper Code: 2736

Time: 2:30 Hours | Marks: 70

Q-1: (A) What is Computer? Draw Block diagram of it and explain its various functional units. [07]

Q-1: (B) Convert the Following: [07]
(1) $(AB75)_{16}=(?)_{10}$ (2) $(76542)_8 = (?)_{10}$

OR

Q-1: (A) Write detail note on : Integer and Floating Point data representation. [07]

Q-1: (B) Convert the Following: [07]
(1) $(4567)_{10} = (?)_2$ (2) $(101011101011.10111)_2 = (?)_{10}$

Q-2: (A) Write Instruction Execution Cycle Steps. [07]

Q-2: (B) Explain in detail : Laser Printer. [07]

OR

Q-2: (A) Explain : Data Bus, Address Bus and Control Bus. [07]

Q-2: (B) Write detailed note on : Keyboard and Mouse with its various types. [07]

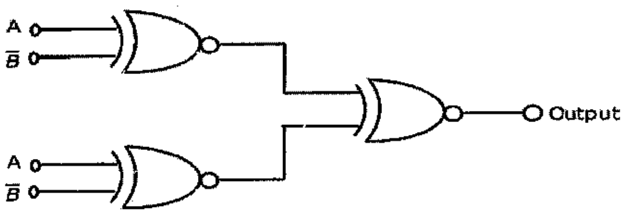
Q-3: (A) Explain all the gates with diagram and truth table. [07]

Q-3: (B) What is the difference between SOP and POS method? Explain any one with suitable example. [07]

OR

Q-3: (A) What is Boolean Algebra? Explain De Morgans's First and Second Theorems. [07]

Q-3: (B) What will be the output of the following Circuit? Prove your answer. [07]



(a) 0

(b) 1

(c) $\overline{A}B + A\overline{B}$

(d) $\overline{(A * B)} * \overline{(A * B)}$

Q-4: (A) Draw Circuit and explain Encoder and Decoder. [07]

Q-4: (B) Explain 4 bit Binary adder in detail with circuit. [07]

OR

Q-4: (A) Draw circuit diagram and explain Multiplexer and De-Multiplexer. [07]

Q-4: (B) Write detail note on 8 bit comparator with circuit diagram. [07]

Q-5: (A) Explain Serial Input and Parallel Output and Parallel Input Serial Output registers with block diagram and truth table. [07]

Q-5: (B) Explain JK latch in detail. [07]

OR

Q-5: (A) Differentiate between Classical positive-edge-triggered D flip-flop and Master–slave edge-triggered D flip-flop. Explain any one. [07]

Q-5: (B) Explain Ripple Counter with diagram, truth table and operations. [07]