NBH-003-1042003 Seat No. _____

B. Sc. (I.T.) (Sem. II) (CBCS) Examination
April / May - 2017
CS-09 : Computer Organization & Architecture
(New Course)

Faculty Code : 003
Subject Code : 1042003

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1 (a) Attempt Following Question : **4**

(1) Which gate is Known as Universal Gate?

(2) Flip Flop store how many bits?

(3) State True of False :
Master Slave Flip Flop is constructed using JK FF?

(4) In JK flip flop, JK stands for ?

(b) Attempt following question : (any **one**) **2**

(1) Draw circuit of boolean equation A+A'B.

(2) Give the simplification of AB+AB'.

(c) Attempt Following Question : (any **one**) **3**

(1) Explain half Adder.

(2) Simplified the equation using k-map.
F(W, X, Y, Z) = Σ(0, 2, 4, 6, 9, 11, 13, 15)

(d) Attempt Following Question : (any **One**) **5**

(1) What is Logic Gates? Explain Basic Gates in detail.

(2) Explain S-R flip flop in detail.

2 (a) Attempt following question : **4**

(1) In Shift Register which Flip flop is used ?

(2) 3 to 8 line Decoder is also called _____ Decoder?

(3) What is IC ?

(4) What is Multiplexer?

(b) Attempt following question : (any **one**) **2**

(1) What is Register? List out all types of Register.

(2) Write down the application of Multiplexer.

(c) Attempt following question : (any **one**) **3**

(1) Explain Buffer register in detail..

(2) Explain Octal - To - Binary Encoder in detail.

(d) Attempt following question : (any **one**) **5**

(1) Explain 3 to 8 line Decoder in detail.

(2) Explain Bi-directional shift register with parallel load.

3 (a) Attempt following question : **4**

(1) Perform 1's complement of 101001010?

(2) In signed Magnitude representation system, Orepresent _____ number?

(3) The decimal equivalent of binary number 10101 is _____ ?

(4) What is Error Detection Code?

(b) Attempt Following question : (any **one**) **2**

(1) Perform 1101 * 110.

(2) Perform 1010 / 101.

(c) Attempt following question : (any **one**) **3**

(1) Explain Term Overflow, Underflow, Normalization.

(2) Explain 2's Complement method in detail with example.

(d) Attempt Following question : (any **one**) **5**

(1) What is Parity Bit? Explain P(odd) and P(even) in detail.

(2) Explain floating point representation number system in detail.

4 (a) Attempt following question : **4**

(1) Stack Works on _____ algorithm.

(2) How many control word in General Register Organization?

(3) _____ register is multipurpose register.

(4) In prefix notation the operator is placed _____ the operand.

(b) Attempt following question : (any **one**) **2**

(1) Convert expression into prefix Notation.
(A+B) / (C-D)

(2) Write a POP operation algorithm of stack.

(c) Attempt following question : (any **one**) **3**

(1) Write a short note on ALU.

(2) What is Interrupt explain in detail with types.

(d) Attempt Following question : (any **one**) **5**

(1) Explain General Register Organization in detail.

(2) Explain Stack Organization in detail.

5 (a) Attempt following question : **4**

(1) In most of computer CPU is _____ and IOP is _____.

(2) BG stands for ?

(3) In IOP computer is divide into _____ module(Parts)?

(4) State true or false. RD(read) and WR(write) lines are bi-directional.

(b) Attempt following question : (any **one**) **2**

(1) Explain term Burst Transfer, Cycle Stealing.

(2) Explain Programmed input-output.

(c) Attempt following question : (any **one**) **3**

(1) Explain IOP in detail.

(2) Explain Address register , Word - count Register and Control Register in detail.

(d) Attempt following question : (any **one**) **5**

(1) Explain DMA Transfer in detail.

(2) Explain DMA controller in detail.
