Seat No.

B.C.A. (Semester - II) (CBCS) Examination March/April-2019
DIGITAL ELECTRONICS

Day & Date: Wednesday, 24-04-2019   Max. Marks: 70
Time: 08:30 AM To 11:00 AM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1   Choose the correct alternative and rewrite the sentences.   14

1) When all the I/P of AND gates is _____ then O/P is one.
   a) 0   b) 1
   c) Both 0 and 1   d) None of these

2) The decimal 79 is equivalent to _____ BCD.
   a) 00010000   b) 1010
   c) 10101010   d) 01111001

3) In virtual memory management _____ address converts to physical address.
   a) Physical   b) Logical
   c) Arithmetic   d) None of these

4) _____ Memory type have high speed.
   a) Cache   b) RAM
   c) HDD   d) None of these

5) The binary 110 = _____ Gray code.
   a) 101   b) 111
   c) 100   d) 010

6) The 8086 has _____ byte instruction queue.
   a) 4   b) 6
   c) 8   d) 1

7) Half adder circuit has _____ I/P.
   a) 2   b) 3
   c) 1   d) 4

8) The output of OR Gate Y = _____.
   a) A+B   b) A.B
   c) Both a & b   d) None of these

9) In Half adder SUM is stored in _____ Gate.
   a) EX-NOR   b) EX-OR
   c) NAND   d) AND

10) Address Bus of 8086 Microprocessor _____ bit.
   a) 8   b) 16
   c) 20   d) 32

11) DMA techniques use for _____ data transfer.
   a) High Speed   b) Low Speed
   c) Both a and b   d) None of these

12) For selecting Minimum mode 8086 microprocessor pin 33 connected to ____
   a) VCC   b) VEE
   c) GND   d) none of these

13) _____ memory is used in CPU.
   a) Register   b) DVD
   c) USB   d) Hard disc

14) _____ bus is unidirectional Bus.
   a) Data   b) Address
   c) Control   d) All

Q.2 A) Answer any four of the questions: **08**
   1) Write feature of 8086 microprocessor.
   2) Define cache memory.
   3) Draw logic gate symbol of AND, OR, NAND and EX-OR gate.
   4) Define DMA controllar
   5) Explain Half adder. and full adder

B) Answer any two of the following.   **06**
   1) Convert
      a) $(1111)_2 = (?)$GRAY
      b) $(5748)_{10} = (?)$BCD
   2) Write a note on memory parameters
   3) What is the bus? Give its types.

Q.3 A) Answer any two of the following.   **08**
   1) Define memory hierarchy. Explain Three level memory hierarchy.
   2) Explain Half adder.
   3) Differentiate between CISC and RISC

B) Answer any one of the following.   **06**
   1) Explain full subtractor.
   2) Define cache mapping. List types and explain any one.

Q.4 A) Attempt any two of the following.   **10**
   1) Define virtual memory mapping and explain its type.
   2) Explain Associative memory.
   3) Differentiate between synchronous and asynchronous communication

B) Answer any one of the following: **04**
   1) Draw and explain general I/O interface.
   2) Explain stack oraganisation.

Q.5 Answer any two of the following: **14**
   a) Explain DMA controller
   b) Draw and explain register model of 8086
   c) Explain 3 bit asynchrous counter