Paper Code : 21312

F-412

B.C.A. (IIIrd Semester)

Examination, 2019-20

(New Course)

COMPUTER ORGANISATION

Paper-BCA-302

Time : 3 Hours] [Maximum Marks : 70

***Note* :-** Attempt any *five* questions. All questions carry equal marks.

1. (a) Describe in detail constructing of Arithmetic Logic Unit (ALU).
   (b) What do you mean by Floating point arithmetic ? Explain it with an example.

2. (a) Convert the following numbers accordingly :
      i. $(10111010)_2 = (?)_{10}$
      ii. $(ABD45)_{16} = (?)_8$
      iii. $(10011010)_2 = (?)_{\text{Gray}}$
      iv. $(128)_{10} = (?)_2$
      v. $(167)_9 = (?)_2$
   (b) How many types of instruction format ? Describe the all field of instruction format with an example.

3. Describe the following addressing mode with an example :
   (a) Implied mode
   (b) Immediate mode
   (c) Register indirect mode
   (d) Autoincrement or autodecrement mode
   (e) Direct addressing mode
   (f) Indirect addressing mode

4. Explain the following :
   (a) Micro-operation
   (b) Micro-instruction
   (c) Micro-program
   (d) Micro-code

5. (a) Differentiate between the following memory :
    i. RAM and ROM
    ii. PROM and EEPROM
   (b) How many 256×8 RAM chips are needed to provide a memory capacity of 4096 bytes ?

6. (a) Differentiate between segmented memory system and paged segment memory.
   (b) Describe the characteristics of cache memory.

7. (a) Describe the need of bus arbitration in system organizataion.
   (b) Explain the architecture of DMA in detail.

8. Write short notes on any *four* of the following :
   (a) Logical operation
   (b) Primary memory
   (c) Static RAM
   (d) High speed memory
   (e) Reverse polish notation
   (f) IEEE floating point notation