Seat
No.

[5252]-172

S.E. (I.T.) (First Semester) EXAMINATION, 2017
COMPUTER ORGANIZATION
(2012 PATTERN)

Time : Two Hours **Maximum Marks : 50**

N.B. :— (*i*) Neat diagrams must be drawn wherever necessary.
(*ii*) Figures to the right indicate full marks.
(*iii*) Assume suitable data, if necessary.

1. (*a*) Draw and explain IEEE double precision floating point format. Represent the number $(99.75)_{10}$ using single precision floating point format. [6]

(*b*) Draw and explain the architecture of microprocessor 8086. [7]

Or

2. (*a*) List the rules for floating point binary subtraction. Subtract given single precision floating point numbers, where A = 44900000H and B = 42A00000 H. [7]

(*b*) Draw and explain minimum mode timing diagram for I/O read cycle of microprocessor 8086. [6]

3. (*a*) (*i*) Draw and explain the flag register of microprocessor 8086. [4]

(*ii*) Find out the physical address of an instruction obtained by microprocessor 8086, if CS=A4FBH, IP = 4872H. [2]

(*b*) Draw and explain block diagram of Micro-programmed control unit. [6]

4. (*a*) Explain the following instructions of microprocessor 8086 : [6]

ADC AL, 05H

DIV CX

STD

(*b*) Write control signals generated for execution of an uncondi-
tional branch instruction. [6]

5. (*a*) Write notes on : [6]

- RAID
- EEPROM.

(*b*) Draw address structure of associative mapping and set
associative mapping. [6]

Or

6. (*a*) Write features of SRAM cell and compare SRAM with
DRAM. [6]

(*b*) Draw and explain two-way set associative cache organization. [6]

7. (*a*) Draw and explain block diagram of programmable peripheral
IC-8255. [7]

(*b*) Explain Interrupt Driven I/O technique with the help of
flowchart. [6]

Or

8. (*a*) (*i*) Write a note on Small Computer System Interface (SCSI)
bus. [3]

(*ii*) Compare asynchronous serial communication with synchro-
nous one. [4]

(*b*) Explain significance of the following signals of DMA IC-8237: [6]

- Ready
- Hold Request (HRQ)
- Hold Acknowledge (HLDA).