# B.Sc. Semester I (Honours) Examination, 2018-19
## COMPUTER SCIENCE

**Course ID : 11512**                    **Course Code :  SHCSC-102C-2(T)**

Course Title : Computer System Architecture

**Time:  1 Hour 15 Minutes**                              **Full Marks:  25**

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words*
*as far as practicable.*

1.  Answer *any five* questions from the following:                    1×5=5

   (a)  What is demultiplexer?

   (b)  What is sequential circuit?

   (c)  What is RISC?

   (d)  Convert $(E5.D)_{16}$ to binary.

   (e)  What is EPROM?

   (f)  What is 2's complement?

   (g)  What is register?

   (h)  What is counter?

2.  Answer *any two* questions from the following:                    5×2=10

   (a)  What is combinational circuit? Distinguish between combinational circuit and sequential circuit.                    2+3=5

   (b)  Write down the truth table and logic circuit diagram of J-K flip-flop.                    2+3=5

   (c)  Distinguish between RAM and ROM.

   (d)  Write short note on Direct Memory Access (DMA).

3.  Answer *any one* question from the following:                    10×1=10

   (a)  What is half-adder? What is full-adder? Design a full-subtractor circuit showing the necessary steps.                    2+2+6=10

   (b)  Write short note on different types of system Bus.                    10

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