

B.Sc. 1st Semester (Honours) Examination, 2019-20**COMPUTER SCIENCE****Course ID : 11512****Course Code : SH-CSC-102-C-2**

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) Why does NOR gate is called universal gate?
 - (b) What is Demultiplexer?
 - (c) What is combinational circuit?
 - (d) What is interrupt?
 - (e) What is half-adder?
 - (f) Write down the truth-table of XOR gate.
 - (g) What is CISC?
 - (h) Define BVS.
2. Answer *any two* questions from the following: 5×2=10
- (a) What is stack? Explain its use and different operations on it. 1+2+2=5
 - (b) Apply Booth's Algorithm with following example multiplicand = 11100 and multiplier = 10011.
 - (c) Design full-adder circuit.
 - (d) Design J-K flip-flop.
3. Answer *any one* from following: 10×1=10
- (a) Explain different organization of cache memory. Explain working of a cache memory. 4+6=10
 - (b) What is flip-flop? Design a 3-bit even parity generator. 2+8=10
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