

Roll No.

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D-3612

B. Sc. (Part I) EXAMINATION, 2020

(Old Course)

COMPUTER SCIENCE

Paper First

(Computer Hardware)

Time : Three Hours] [Maximum Marks : 50

Note : Attempt any *two* questions from each Unit. All questions carry equal marks.

Unit—I

1. (a) State the difference between procedure oriented and object oriented programming.
- (b) What do you understand by personal computer ? Explain various types of computer.
- (c) Convert the following numbers :
 - (i) $(110101)_2 = ()_{10}$
 - (ii) $(25)_{10} = ()_2$
 - (iii) $(235)_{10} = ()_8$
 - (iv) $(11011011011)_2 = ()_8$

Unit—II

2. (a) Write short notes on any *two* of the following :
 - (i) Grey code

- (ii) ASCII code
- (iii) Binary code
- (iv) EBCDIC
- (b) Explain parity code with example.
- (c) What do you understand by Universal Gate ? State with diagram.

Unit—III

3. (a) Explain half-subtractor and full-subtractor along with diagram.
- (b) Explain Boolean algebra laws with example.
- (c) What is K-map ? Explain with example.

Unit—IV

4. (a) How do multiplexer and demultiplexer work ? Explain with example.
- (b) State the difference between RS and Master-Slave flip-flop.
- (c) Write a note on Monostable, Astable and Bistable circuits.

Unit—V

5. (a) What is computer memory ? Also write about primary and secondary memory.
- (b) What is shift register ? Also write the applications of shift register.
- (c) Write short notes on any *two* of the following :
 - (i) Binary counter
 - (ii) Down counter
 - (iii) Synchronous counter

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