



AF-3016

B.Sc. (Part - I)
Term End Examination, 2017-18

COMPUTER SCIENCE

Paper - I

Time : Three Hours] [*Maximum Marks* : 50

Note : Answer **all** questions. All questions carry equal marks. Answer should be brief and to the point. Draw diagrams to justify your answers. Assume suitable data if required.

Unit-I

1. (a) What is Computer ? Explain their types.
- (b) Define Decimal number system. Explain 10's complement with example.

OR

- (a) What is programming language ? Describe the object-oriented programming language with their features.

(2)

(b) Convert the following :

(i) $(8132F)_{16} = ()_{10}$

(ii) $(57.375)_{10} = ()_2$

Unit-II

2. (a) Define computer communication code and explain 8421 code.

(b) Describe diode and BJD switches.

OR

Explain the following :

(a) EBCDIC Code

(b) Parity Code

(c) Nand Gate

(d) Mathematical Logic

Unit-III

3. (a) Draw and explain TTL circuit.

(b) Describe the law of Boolean algebra.

OR

(a) What is Adder ? Explain full adder with example.

(b) Define K-Map and give the example for simplification of K-Map.

(3)

Unit-IV

4. (a) What is flip-flop ? Explain clocked RS flip-flop with diagram.
(b) Explain the concept of encodes and decodes.

OR

Explain the following :

- (a) Schmitt trigger
(b) Multiplexer
(c) Data transmission
(d) Edge triggered flip-flop

Unit-V

5. (a) Describe memory in respect of ROM and their types.
(b) Give the difference between Register and Counter.

OR

- (a) Give the difference between SRAM and DRAM.
(b) What is Counter ? Explain synchronous counter with example.