AG-1134

B.Sc. (Part - I)
Term End Examination, 2018-19

COMPUTER SCIENCE

Paper - I

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

Note : Answer **all** questions. The figures in the right-hand margin indicate 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 are the different types of software ? Explain. 5

   (*b*) Draw and discuss the block diagram of CPU. 5

OR

(*a*) Write about the following : 5

(*i*) Monitor

(*ii*) Mouse

(*b*) Convert the following : 5

(*i*) $8FE2 = (\ )_{10}$

(*ii*) $(1011001) = (\ )_{10}$

Unit-II

2. (*a*) Discuss the basic logic gates with truth table. 5

   (*b*) Explain positive logic and negative logic with suitable example. 5

OR

(*a*) Discuss the following : 5

(*i*) Binary Code

(*ii*) Gray Code

(*b*) Why digital circuits can be represented by Boolean equations ? Explain your answer. 5

Unit-III

3. (*a*) Explain the following : 5

   (*i*) Propagation delay

   (*ii*) DeMorgan's theorem

   (*b*) Draw and disscuss the half adder and full adder. 5

OR

Simplify the following expression using K-map. 10

$f(w, x, y, z) = x'yz + wxz + w'x'yz + yz'$

Unit-IV

4. (*a*) Draw and discuss the, 4-bit binary parallel adder. 5

(*b*) Discuss the concept of Edge triggered flip-flop with suitable example. 5

OR

(*a*) Draw and discuss multiplexer in detail. 5

(*b*) Explain bistable circuits and write its advantages. 5

Unit-V

5. (*a*) Write the applications of shift registers. 5

(*b*) Draw and discuss down counter. 5

OR

(*a*) Explain the following : 5

(*i*) EPROM

(*ii*) ROM

(*b*) Discuss the concept of code-7 precision time interval. 5