

AE-1216

B.Sc. (Part - I)
Term End Examination, 2016-17

COMPUTER SCIENCE

Paper - I

Computer Hardware

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 Hardware? Discuss types of Hardware and their functions with examples.
- (b) What is Operating System? Describe the different types of Operating System.

OR

592_BSP_(4)

(Turn Over)

(2)

2. (a) What is Procedural Oriented Programming Language? How is it different from object oriented programming?
- (b) What is Number System? Write the different types of Number System. Convert 101112 into decimal system.

Unit-II

3. (a) What are the different types of Computer Communication Code? Explain BCD code and ASCII code.
- (b) Write notes on the following :
- (i) BJT as switch
- (ii) AND gate

OR

4. (a) What is Mathematical Logic? Describe the seven basic logic gates.
- (b) Write short notes on the following :
- (i) EBCDIC code
- (ii) Gray code

Unit-III

5. (a) What are the main characteristics of logic families? Describe the different types of logic families.

(3)

(b) Write short notes on the following :

- (i) Full adder circuit
- (ii) Ex-nor circuit with diagram

OR

6. (a) What is a Boolean Expression ? Discuss De Morgan's Laws.

(b) Write short notes on the following :

- (i) Half adder circuit
- (ii) Ex-or circuit with diagram

Unit-IV

7. (a) What is Multiplexer ? Discuss the different types of Multiplexer.

(b) Write short notes on the following :

- (i) Propagation delay
- (ii) Set up and Hold time

OR

8. (a) What is Encoder ? Give examples of Encoder. What is the relation between encoder and multiplexer ?

(b) Write short notes on any **two** of the following :

- (i) Schmitt trigger

(4)

(ii) Bistable multivibrators

(iii) D Flip-flop

Unit-V

9. What is Computer memory ? Discuss the different types of memory.

OR

10. (a) What is Shift Register ? Describe the different types of Shift Register.

(b) What is a Counter ? Discuss the difference between a counter and a register.
