PRSU BSC PART 1 COMPUTER HARDWARE 2017

Time :Three Hours Maximum Marks : 50

Attempt all questions. All questions carry equal marks.

UNIT - 1

1.(a) Write down the evaluation of computer system from PC-XT to Pentium PC.

(b) Perform the following conversions :

(i) $(79612)_{10} = (?)_2$

(ii) $(101110101)_2 = (?)_{10}$

(iii) $(A96D\ 2)_{16} = (?)_{10}$

(iv) $(594.76)_{10} = (?)_2$

(v) $(11011.1101)_2 = (?)_{10}$

(a) What is operating system ? Describe the types of operating system.

(b) Perform the following operations :

(i) 10110111 + 11011 by 2' s complement

(ii) 794 - 197 by 9's complement

UNIT - 2

2.(a) Write the following code system : (i) ASCII code (ii) EBCDIC code

(b) Describe the following gates :

(i) AND (ii) OR (iii) NOR (iv) NAND (v) NOT

OR

(a) Describe the following coding system : (i) 8421 code (ii) Grey code

(b) Convert the following :

(i) 79At -> EBCDIC representation (ii) 123 -> Excess 3 code

UNIT - 3

3.(a) Describe the following term in detail :

(i) Karnaugh map (ii) De-Morgan's theorem

(b) Write notes on the following :

(i) Half and Full adder (ii) Laws of Boolean Algebra

OR

(a) Write down the types of load such as : RTL, DITL and TTL.

(b) Explain the computer logic circuits :

(i) EX-OR (ii) EX-NOR circulatory

UNIT - 4

4.(a) Describe the basic principle of the following :

(i) Decoder encoder (ii) Multiplexers and demultiplexers

(b) What are Master-Slave flip-flops ?

OR

(a) Describe the clocked-RS flip-flop.

(b) What is Data Transmission ?

UNIT - 5

5. (a) What is the synchronous counter ?

(b) Describe the following counters :

(i) Binary counter (ii) Down counter

OR

(a) Explain the hierarchy of memory in computer.

(b) Explain the application of shift registers.