

(4)

Code No. : S-176

Roll No.....

Total No. of Sections : 03

Total No. of Printed Pages : 04

OR

Explain AND, OR and NOT Gates in brief.

Q.3 Simplify the Boolean function using k-map. Find sum of product (SOP) with don't care conditions as :-

Code No. : S-176

Annual Examination - 2019

B.Sc. Part - I

COMPUTER SCIENCE

Paper - I

COMPUTER HARDWARE

Max.Marks : 50

Min.Marks : 17

Time : 3 Hrs.

Note : Section 'A', containing 10 very short-answer-type questions, is compulsory. Section 'B' consists of short answer type questions and Section 'C' consists of long answer type

$f(A, B, C, D) = \sum(0, 2, 3, 5, 7, 12, 13, 14)$ to be solved first.

OR

Explain Full adder with its logic diagram and truth table.

Q.4 Explain Master-slave flip-flop.

OR

Explain encoder and decoder in detail.

Q.5 Explain binary counter.

OR

Explain DRAM and SRAM.

---x---

Section - 'A'

Answer the following very short-answer-type questions in one or two sentences : (1 × 10 = 10)

- Q.1 Write the names of any two personal computers developed by IBM.
- Q.2 Write any two uses of Hexadecimal number system.
- Q.3 What is EBCDIC code?
- Q.4 Write any two uses of ASCII Code.
- Q.5 What is propagation delay?
- Q.6 Define multiplexer.

P.T.O.

(2)

Code No. : S-176

- Q.7 What is preset and clear?
- Q.8 What is De-Morgans theorem?
- Q.9 What do you mean by EPROM?
- Q.10 Define main memory.

Section - 'B'

Answer the following long answer type questins in word limit 300-350 : (3 5=15)

- Q.1 What are the differences between Disk Operating System (DOS) and Windows Operating System?

OR

Differentiate between structured programming and object-oriented programming languages.

- Q.2 What do you mean by binary code? Explain any two uses of binary code in brief.

OR

Explain the following logic gates with Boolean equation and logic symbol :-

- (1) NAND Gate
- (2) NOR Gate

- Q.3 Subtract $(0111000)_2$ from $(1011100)_2$ using 2's complement.

OR

Explain the types of load RTL, DTL and TTL.

(3)

Code No. : S-176

- Q.4 Explain logic function generator.

OR

Explain D-flip flop.

- Q.5 Differentiate between RAM and ROM.

OR

Discuss the applications of shift Register.

Section - 'C'

Answer the following long answer type questins in word limit 300-350 : (5x5=25)

- Q.1 What is software? Explain various types of software in brief.

OR

Convert the following :-

- (i)
- (ii) $(1001.011)_2 = (?)_{10}$
- (iii) $(562)_8 = (?)_2$
- (iv) $(A2B.D4)_{16} = (?)_{10}$
- (v) $(1010101100)_2 = (?)_8$

- Q.2 Explain parity code with the help of suitable example.