

Roll No.....

Total No. of Section : 03

Total No. of Printed Pages : 03

Code No. : B-226(B)

Annual Examination - 2017

B.Sc.-I

COMPUTER SCIENCE

Paper - I

COMPUTER HARDWARE

Max.Marks : 50

Time : 3 Hrs.

Min Marks : 17

Note :Section 'A' is objective type, containing 10 questions, is compulsory. Section 'B' consists of short answer type questions and Section 'C' consists of long answer type questions. Section 'A' has to be solved first.

Section-'A'

Very short answer type questions. Answer in one or two lines. (1x10=10)

- Q.1 What do mean by CPU?
- Q.2 What do you mean by operating system?
- Q.3 What is ASCII code? Why it is used?
- Q.4 Draw logic diagram of NOR gate.
- Q.5 What is k-map?
- Q.6 What do you mean by combinational circuit?
- Q.7 Write down de-morgan's law.
- Q.8 What do you mean by flip flop?
- Q.9 What is RAM?
- Q.10 Find 2's complement of :
 - i) 11011011
 - ii) 11001100

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Section-'B'

**Short answer type questions with word limit 150-200
(3x5=15)**

Q.1 Explain difference between computer and calculator.

OR

Explain different types of software.

Q.2 Explain Excess-3 codes.

OR

Draw truth table of AND, OR, NAND and NOR gates.

Q.3 What do you mean by half adder? Explain.

OR

Add +14 and (-9) using 2's complement.

Q.4 Explain encoder.

OR

Explain multiplexer.

Q.5 What do you mean by shift register?

OR

Explain ROM, PROM & EPROM.

Section-'C'

**Long answer type questions with word limit 300-350
(5x5=25)**

Q.1 Explain different types of input devices.

OR

Convert :

i) $(0111)_{BCD} = (?)_{EXCESS-3}$

ii) $(625.67)_{10} = (?)_2$

iii) $(1C.9E)_{16} = (?)_2$

iv) $(11001.110)_2 = (?)_8$

v) $(5112)_{10} = (?)_8$

Q.2 Explain parity code with example, why parity codes are used?

OR

Explain different types of operating system.

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

$$F = \Sigma (2, 6, 7, 9, 10, 11, 15)$$

$$D = \Sigma (3, 5, 13)$$

OR

Explain half subtractor.

Q.4 Explain RS flip-flop.

OR

Explain D flip-flop.

Q.5 Explain binary counter.

OR

Write difference between primary and secondary memory.

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