

GMSC/12/MAIN/2018
Yearly Examination April-2018
BCA First Year
BCA
(Computer System Architectur)

Time : 3 Hours

Maximum Marks : 40

Note - Attempt all questions from sections A, B & C. Marks are indicated.
Attempt questions of a section in continuation in the given sequence. Mention the question numbers clearly.

Section-A

1x5=5Marks

(One Mark for each question)
(Objective type questions)

Q.1 Choose the correct answer -

(a) Base of Octal system is -

- (i) 0 (ii) 1 (iii) 2 (iv) 8

(b) The logic gate which have high or '1' at its output when any one of its input is high as -

- (i) OR Gate (ii) AND Gate (iii) NOR Gate (iv) NOT Gate

(c) Full name of SMPS is -

- (i) Swith monitor power supply (ii) Swith mode power supply
(iii) Both (i) and (ii) (iv) None of these

(d) Which of the following is the address generated by CPU

- (i) Physical address (ii) Absolute address
(iii) Logical address (iv) None of these

(e) Pen Drive is -

- (i) Primary memory (ii) Program
(iii) Secondary memory (iv) Cache memory

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Section-B

2x5=10Marks

(Short answer type questions)
(Two marks for each question)

Q.2 Explain 1's complement method.

or

What is over flow?

Q.3 Explain full adder circuit.

or

Explain NAND & XOR Gate.

Q.4 Write features of sound card.

or

What is instruction sequencing?

Q.5 What is I/O processor?

or

Explain structure of mouse.

Q.6 What is Cache memory? How it works?

or

What is virtual memory.

Section-C

5x5=25Marks

(Long answer type questions)
(Five marks for each question)

Q.7 Solve following -

(i) $(1011.11)_2 = (?)_{10}$

(ii) $(123.25)_{10} = (?)_2$

(iii) $(425)_8 \rightarrow (?)_{16}$

(vi) $(ACE)_{16} \rightarrow (?)_{10}$

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or

Explain:

- (i) Binary fixed point representation.
- (ii) Addition & subtraction of binary numbers.

Q.8 Explain:

- (i) De Morgan's theorem.
- (ii) Sum of Product method using K-maps.

or

Explain counters. Describe working of Binary counters.

Q.9 Explain block diagram of a computer system; with description of each of the components.

or

Write features of 8086 microprocessor and explain its register organization.

Q.10 Explain Synchronous and Asynchronous data transfer schemes and discuss any one of them.

or

What is I/O interface? Explain, Isolated and memory mapped I/O.

Q.11 Write utility of Auxiliary memory? Describe architecture of a magnetic Disk memory.

or

What do you mean by page replacement? Explain any one page replacement technique with suitable example.