

**BCA 4th Semester Exam., 2019**

**DIGITAL ELECTRONICS, COMPUTER  
SYSTEM ARCHITECTURE AND  
ORGANIZATION**

Time : 3 hours

Full Marks : 60

Instructions :

- (i) The marks are indicated in the right-hand margin.
- (ii) There are **SEVEN** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question Nos. **1** and **2** are compulsory.

1. Answer the following questions (any six) :  
2×6=12

- (a) What is the basic computer concept?
- (b) What is an interrupt?
- (c) What do you mean by first-generation computers?
- (d) Define the number system.
- (e) What do you mean by universal logic gates?
- (f) What is encoder?

- (g) What is sequential circuit?
- (h) What is flip-flop?
- (i) What are the levels of RAID?
- (j) What is DMA?

2. Answer any three of the following : 4×3=12

- (a) Write a short note on register organization.
- (b) Define counters. How many types of counters are there?
- (c) What are the main features of the von Neumann architecture?
- (d) Briefly discuss secondary memory and its characteristics.
- (e) Briefly explain J-K flip-flop with an excitation table.

3. What do you understand by Associative memory? Explain it with a block diagram.

( 3 )

4. Discuss various addressing modes. 12
5. Discuss the organization and functions of Arithmetic and Logic Unit. 12
6. Explain six-stage instruction pipeline with suitable diagram. 12
7. Explain hardwired and microprogrammed control unit. 12

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