(ii) Formatting of magnetic disk

7. (a) What are I/O devices? Give five example of each.

(b) Discuss the concept of I/O controllers.

Unit-IV

8. (a) What is I/O interface? What are the needs for I/O interface?

(b) What is priority interrupt? Discuss methods used for establishing priorities of multiple simultaneous interrupt.

9. Discuss various ways to conduct DMA transfer and operation of DMA controller along with its block diagram.

Roll No. .....

97666

B.C.A. 2nd Semester

Examination–May, 2016

Logical Organisation of Computer

Paper-BCA-107

Time : 3 hours ***Max. Marks : 80***

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt five questions in all. Question No. 1 is **compulsory** and attempt **four** more questions by selecting **one** question from each unit. All questions carry equal marks.

1. (a) What are flip-flop excitation tables?

(b) What is the difference between latch and flip-flop?

(c) What is sequential circuit?

(d) What is the role of serial input and serial output in shift register?

(e) Discuss memory management unit and memory interleaving.

(f) What is cache memory ? Discuss its operation also.

(g) Why does DMA have priority over the CPU when both request a memory transfer?

(h) What is the difference between subroutine and interrupt service routine?

Unit-I

2. (a) How can a S-R flip-flop be constructed using universal gates? Discuss the working and operations of S-R flip-flop.

(b) Discuss the concept of state table and state diagram with examples.

3. (a) What are flip-flop excitation tables? Discuss with example.

(b) Define edge-triggered and master-slave flip-flops with diagram.

Unit-II

4. What is shift register? Discuss the functionality of 4-bit bidirectional shift register with diagram.

5. Differentiate the following :

(a) Synchronous and asynchronous binary counters

(b) Modulo-N and Up-Down counters

Unit-III

6. (a) Discuss different types of semiconductor memories.

(b) Write notes on the following:

(i) Optical storage devices