

Roll No. ....

# BCA-11

## Computer Organization

Bachelor of Computer Applications  
(BCA-11/16/17)

Fourth Semester, Examination, 2018

**Time : 3 Hours**

**Max. Marks : 80**

**Note :** This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

### Section-A

#### (Long Answer Type Questions)

**Note :** Section 'A' contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. What is pipelining ? What are the various hazards in instruction pipelining ? Describe each hazard with suitable example. How these hazards can be handled in instruction pipelining ?
2. What is instruction cycle and instruction format ? Write a assembly code for the addition of positive numbers among eight numbers stored from 2040H with suitable flowchart.

**(B-67) P. T. O.**

3. What is external memory ? Describe the functionality of magnetic tape and magnetic disk with suitable diagram.
4. What is locality of reference ? Describe the all mapping techniques for cache memory to main memory with suitable diagram.

### **Section-B**

#### **(Short Answer Type Questions)**

**Note :** Section 'B' contains eight (08) short answer type questions of eight (08) marks each. Learners are required to answer *four* (04) questions only.

1. What is full adder and full subtractor ? Define each with suitable diagram.
2. What addressing modes are used in 8085 ? Describe Indirect addressing mode with suitable diagram and example.
3. What is direct memory access ? Describe its functionality with suitable diagram.
4. What is Read only memory ? Describe its functionality with suitable diagram.
5. What is paging ? Where is it used ? Describe its functionality with suitable diagram.
6. What is RAID ? Where is it used ? Describe its functionality with suitable diagram.
7. What is parallel processing ? What are the conditions to execute the instructions parallel ?
8. What is CISC Architecture ? Why micro-programmed control are used in CISC architecture ?

**Section-C****(Objective Type Questions)**

**Note :** Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this section are compulsory.

Choose the correct answer :

1. Which of the following is true ?
  - (a) ROM is a read/write memory
  - (b) PC points to the last instruction that was executed
  - (c) Stack works on the principle of LIFO
  - (d) All the instruction affects the flags
2. Which of the following is Volatile ?
  - (a) ROM
  - (b) RAM
  - (c) Bubble Memory
  - (d) Magnetic Disk
3. To achieve a parallelism, one needs minimum of :
  - (a) 2 processor
  - (b) 3 processor
  - (c) 4 processor
  - (d) 1 processor
4. The addressing mode used in an instruction of the form ADD X, Y is :
  - (a) Absolute
  - (b) Immediate
  - (c) Indirect
  - (d) Index

5. Disk and drum are the :
  - (a) Hardware part of computer
  - (b) Soft part
  - (c) Firmware
  - (d) None of the above
  
6. The relevant addressing mode to write position independent code is :
  - (a) Direct mode
  - (b) Indirect mode
  - (c) Relative mode
  - (d) Indexed mode
  
7. The sequence of events that happen during a typical fetch operation :
  - (a) PC → MAR → Memory → MBR → IR
  - (b) PC → Memory → MBR → IR
  - (c) PC → MBR → Memory
  - (d) PC → MAR → Memory → IR
  
8. An indexed register that is automatically incremented or decremented with each use is :
  - (a) Shift Register
  - (b) Auto Indexing
  - (c) Segmental Indexing
  - (d) Asynchronous

9. In the memory mapped I/O system, which of the following instruction will not be there ?
- (a) LDA
  - (b) IN
  - (c) ADD
  - (d) OUT
10. Which of the following are typical characteristics of RISC Machine ?
- (a) Instruction taking multiple cycle
  - (b) large instruction set
  - (c) Instructions interpreted by microprograms
  - (d) Multiple register set