

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 an 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) $PC \rightarrow MAR \rightarrow Memory \rightarrow MBR \rightarrow IR$
 - (b) $PC \rightarrow Memory \rightarrow MBR \rightarrow IR$
 - (c) $PC \rightarrow MBR \rightarrow Memory$
 - (d) $PC \rightarrow MAR \rightarrow Memory \rightarrow IR$
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