

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 are the different instruction formats used in Computer Organization ? Describe each with proper figure and example.
2. What is Magnetic tape memory ? How magnetic tape is differ from magnetic disk ? What is memory access time in terms of magnetic tape ?

3. What read only memory ? Design a ROM of 1024×8 with the help of 512×8 ROM. Also define the memory Address space for ROM of 1024×8 .
4. What is Interrupt-Driven I/O ? Explain with suitable example and figure.

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 Instruction Execution Cycle ?
2. Draw a four bit Magnitude Comparator.
3. What is Direct Memory Access ?
4. What is Memory Hierarchy ?
5. What is Virtual Memory ?
6. What is Optical Memory ?
7. What are the conditions for the parallel execution of instructions ?
8. What is Complex Instruction Set Computers ?

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.

1. The first machine cycle of an instruction is always :
 - (a) A memory read cycle
 - (b) A fetch cycle
 - (c) A I/O read cycle
 - (d) A memory write cycle

2. Which of the following is not an addressing mode ?
 - (a) Relative Addressing mode
 - (b) Reflexive Addressing mode
 - (c) Direct Addressing mode
 - (d) Indirect Addressing mode
3. In a microprocessor, the address of the next instruction to be executed, is stored in :
 - (a) Stack pointer
 - (b) Address latch
 - (c) Program counter
 - (d) General purpose register
4. To activate the memory chip, which of the following signals is used ?
 - (a) Chip Select (CS)
 - (b) Memory Select (MS)
 - (c) IC Select (IS)
 - (d) None of the above
5. Disk and Drum are the :
 - (a) Hardware part of computer
 - (b) Software part of computer
 - (c) Firmware
 - (d) None of the above
6. Which of the following is not a form of memory ?
 - (a) Instruction cache
 - (b) Instruction register
 - (c) Instruction opcode
 - (d) Translation lookahead buffer

7. The Addressing mode used in an instruction of the form ADD X, Y is :
 - (a) Absolute
 - (b) Immediate
 - (c) Indirect
 - (d) Indexed
8. An index register that is automatically incremented or decremented with each use is :
 - (a) Shift register
 - (b) Auto indexing
 - (c) Sequential indexing
 - (d) Asynchronous
9. To complete 6 tasks using 4 segments pipeline requires :
 - (a) 4 clock cycles
 - (b) 10 clock cycles
 - (c) 24 clock cycles
 - (d) 9 clock cycles
10. Which of the following is volatile ?
 - (a) Bubble memory
 - (b) RAM
 - (c) ROM
 - (d) Magnetic disc