

BCA-11

Computer Organization

Bachelor of Computer Applications

(BCA-11/16/17)

Fourth Semester, Examination, 2017

Time : 3 Hours

Max. Marks : 80

Note : This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. 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 Instruction types in 8085 ? Write a Assembly code for the transfer of 8 data set from location 3200H to 8100H with suitable flow chart.
2. What is pipelining ? What are the conditions to using pipeline for execution of instruction ? How parallel execution of Instruction is faster as compared to non-parallel execution of instruction ? Justify your answer with proper example.

3. What is Cache Memory ? What are the mapping are used in Cache Memory ? Define any *one* with proper example and figure.
4. What is Counter ? What are the different types of counter ? Design any *one* four bit counter with proper figure.

Section-B

(Short Answer Type Questions)

Note : Section 'B' contains eight (08) short answer type questions of eight (8) marks each. Learners are required to answer *four* (04) questions only.

1. What is D flip-flop ? How many D-flip-flop is needed to make 16-bit register ?
2. What Addressing modes are used is 8085 ? Define any *two* with examples.
3. What is programmed I/O ? Define with suitable example and figure.
4. What is Memory Hierarchy ? How does it help to reduce Memory Access time ? Explain with suitable example.
5. What is Locality of Reference ? Explain with suitable example.
6. What is Optical Memory ? Define any *one* optical memory with functionality.
7. What are the stages normally used in pipelining ? What is data pipelining ?
8. What is Reduced 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. Which of the following are register ?

- (a) Accumulator
 - (b) Program counter
 - (c) Buffer
 - (d) All of the above
2. Which of the follows is not a stage of Instruction execution ?
- (a) Fetch
 - (b) Decode
 - (c) Repeat
 - (d) None of the above
3. RAID configuration of disks are used to provide :
- (a) Fault tolerance
 - (b) High speed
 - (c) High data density
 - (d) None of the above
4. Property of locality of reference may fail, if program has :
- (a) many conditional jumps
 - (b) many unconditional jumps
 - (c) many operands
 - (d) All of the above
5. Any instruction should have at least :
- (a) 2-operands
 - (b) 1-operand
 - (c) 3-operands
 - (d) No-operands

6. Efficient use of addressing modes :
 - (a) Speed up execution
 - (b) Reduces the number of instructions
 - (c) Reduces the size of instruction
 - (d) All of the above
7. The logic circuitry in ALU is :
 - (a) Entirely combinational
 - (b) Entirely sequential
 - (c) Combinational cum sequential
 - (d) None of the above
8. Which of the following requires a device driver ?
 - (a) Register
 - (b) Cache
 - (c) Main memory
 - (d) Disk
9. Parallel operation is preferred because :
 - (a) It is faster than series operation
 - (b) It requires less memory
 - (c) Circuitary is simple
 - (d) All of the above
10. How many interrupts control lines are there in 8085 microprocesor ?
 - (a) 6
 - (b) 8
 - (c) 12
 - (d) 16