

BCA-11

Computer Organization

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

Forth Semester Examination, 2019

Time : 3 Hours

Maximum Mark: 80

Note: This paper is of Eighty (80) marks divided into 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 any two (02) questions only. (2x19=38)

1. What do you mean by various addressing modes ?
Explain all in detail with suitable diagram.
2. (a) Explain Flynn’s Classification for multiple processor organization. Explain with diagram.
(b) What is memory Hierarchy? Explain.
3. (a) What is virtual memory and what are the benefits of virtual memory?
(b) what is meant by bus arbitration? Explain in detail.
4. Draw the typical diagram of DMA controller and explain how it is used for direct data transfer between memory and peripherals?

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 any Four (04) questions only. (4x8=32)

1. What is half adder? Design all possible diagram of half adder. Design a full adder using two half adder and an external OR gate
2. What is the difference between combinational and sequential circuit? Draw and explain JK flip flop with its characteristics table.
3. What is pipelining? What are the various hazards in instructions pipeline?
4. Describe hardwired control unit and specify its advantages and disadvantages.
5. Define RISC and CISC. Illustrate the difference between RISC and CISC.
6. What do you mean by instruction cycle? Explain it.
7. Explain stack organization of central processing unit.
8. Write short notes on:
 - (a) Multiplexer
 - (b) Auxiliary memory
 - (c) Cache memory
 - (d) Micro operation

Section –C

(Objective- type questions)

Note : Section 'C' contains (10) objective-type questions of one (01) mark each. All the questions of this sections are compulsory. (10x1=10)

1. The two parts of floating point representations are:
 - a. Radix, mantissa
 - b. Mantissa, base
 - c. Mantissa, exponent
 - d. Radix, exponent
2. The part of hardware of computer that controls the transfer of information between computer and outside world is:
 - a. IOP
 - b. CPU
 - c. Memory
 - d. Microprocessor
3. Signed 1's complement representation of -14 with eight base is:
 - a. 01110001
 - b. 11110001
 - c. 10001110
 - d. 00001110
4. In the instruction cycle the phase that reads instruction into instruction register from memory is:
 - a. Decode
 - b. Read effective address
 - c. Execute the instruction
 - d. Fetch

5. Devices that provide backup storage are called:
 - a. Auxiliary memory
 - b. Cache memory
 - c. Virtual memory
 - d. None of them
6. In reverse polish notation expression $A*B+C*D$ is written as:
 - a. $AB*CD*+$
 - b. $A*BCD*+$
 - c. $AB*CD+*$
 - d. $A*B*CD+$
7. Von neumann architecture is:
 - a. SISD
 - b. SIMD
 - c. MIMD
 - d. MISD
8. The operation executed on data stored in register is called :
 - a. Macro operation
 - b. Micro operation
 - c. Bit operation
 - d. Byte operation
9. The average time required to reach a storage location in memory and obtain its contents is called :
 - a. Latency time
 - b. Access time
 - c. Turnaround time
 - d. Response time
10. A stack organized computer has :
 - a. Three address Instruction
 - b. Two address Instruction
 - c. One address Instruction
 - d. Zero address Instruction
