REV-01
BCA/01/06

2023/06

SET A

BACHELOR OF COMPUTER APPLICATION
SECOND SEMESTER (REPEAT)
COMPUTER ORGANIZATION & ARCHITECTURE
BCA-202

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

(Objective)

Time: 30 mins. **Marks: 20**

Choose the correct answer from the following: ***1×20=20***

1. DMA module can communicate with CPU through:
   a. Interrupt
   b. Brunch instruction
   c. Cycle stealing
   d. None of these

2. A high speed device used in CPU for temporary storage during processing is called:
   a. Register
   b. Bus
   c. A data bus
   d. All of these

3. A processor performing fetch or decoding of different instruction during the execution of another instruction is called:
   a. Super-scaling
   b. Pipelining
   c. Parallel computations
   d. None of these

4. Which register holds address of instruction to be executed?
   a. Instruction registrar
   b. Program counter
   c. Control register
   d. None of these

5. A.....is a group of wires that each wire caries one bit.
   a. Cable
   b. Bus
   c. Link
   d. None of these

6. Which of the following is not an octal number?
   a. 222
   b. 333
   c. 111
   d. 378

7. RISC processor uses:
   a. Hardwired control unit
   b. Microprogrammed control unit
   c. Both a & b
   d. None of these

8. Which of the following memories must be refreshed many times per second?
   a. Static RAM
   b. Dynamic RAM
   c. RPROM
   d. ROM

9. Execution of two or more programs by a single CPU is known as:
   a. Multiprocessing
   b. Time-sharing
   c. Multiprogramming
   d. None of these

10. Which of the following addressing mode is used for program relocation?
    a. Immediate mode
    b. Autoincrement
    c. Implied mode
    d. Base register mode

11. 1's complement of 1111 is:
    a. 0011 b. 1100
    c. 0000 d. None of these

12. How many bits are required in the address part of an instruction to address a memory size of 4096 x 16?
    a. 12 b. 10
    c. 8 d. 9

13. Which of the following is not a part of the CPU?
    a. Storage unit b. Arithmetic Logic Unit
    c. Program unit d. Control unit

14. A flip-flop can store:
    a. 1 bit of data b. 2 bits of data
    c. 3 bits of data d. 4 bits of data

15. Which one of the following is a characteristic of CISC?
    a. Fixed format instruction b. Variable format instruction
    c. Instruction is executed by hardware d. None of these

16. 2's complement of 101010 is:
    a. 010101 b. 111111
    c. 101001 d. 010110

17. In a computer data transfer takes place between two devices:
    a. CPU and memory b. CPU and I/O devices
    c. Memory and I/O devices d. All of these

18. Processor of all computers, whether micro, mini, or mainframe must have:
    a. ALU b. Primary storage
    c. Control unit d. All of these

19. In micro programmed control unit, control words are stored in a separate memory is called.....
    a. RAM b. ROM
    c. Micro memory d. Control memory

20. In magnetic disks, concentric circles on each surface are called.....
    a. Blocks b. Sectors
    c. Tracks d. Pages

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Descriptive

Time : 2 hr. 30 mins. **Marks : 50**

[Answer question no.1 & any four (4) from the rest]

1. What do you mean by control unit? Explain hardwired control unit with block diagram. 3+7=10
2. What do you mean by assembly language program? What is an assembler? Write an assembly language program to subtract two numbers. 2+2+6=10
3. What is pipelining? Discuss with an example. Explain instruction pipelining. 2+4+4=10
4. Explain primary memory, secondary memory and cache memory. State what type of memory is used for each of these memories. 7+3=10
5. Explain: 3+3+4=10
   a) Program initiated I/O
   b) Interrupt initiated I/O
   c) DMA
6. What do you mean by computer instruction? Explain the basic computer instruction format. 3+7=10
7. What do you mean by bus? What are the different types of buses that a processor has? Explain PCI bus. 2+1+7=10
8. What do you mean by instruction cycle? Write the characteristics of RISC and CISC. 2+8=10

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