

**BACHELOR OF COMPUTER APPLICATION  
SECOND SEMESTER  
COMPUTER ORGANIZATION  
BCA-921 [IDMj]**

**SET  
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

Marks: 20

**(Objective)**

*Choose the correct answer from the following:*

*1 × 20 = 20*

1. Which one of the following gate is called as a Complementer gate?
  - a. AND
  - b. OR
  - c. NOT
  - d. NOR
2. How many bits are used to represent one Hexadecimal digit?
  - a. 2
  - b. 4
  - c. 8
  - d. 3
3. Number of AND gate required to construct a full adder circuit using two half adder is:
  - a. 2
  - b. 3
  - c. 5
  - d. 4
4. Which of the following is responsible for arithmetic and logic operations?
  - a. ALU
  - b. Memory
  - c. Control Unit
  - d. All the above
5. CPU consists of:
  - a. ALU & Memory
  - b. ALU & Control Unit
  - c. Control Unit & Memory
  - d. All the above
6. Program Counter (PC) is register used to.....
  - a. Count number of Instruction
  - b. Store the result after execution
  - c. Store the address of next instruction
  - d. Store the address of previous instruction
7. Size of Address Register (AR) in a basic computer is.....
  - a. 8 bits
  - b. 12 bits
  - c. 16 bits
  - d. 32 bits
8. A floating point number has two parts, mantissa and.....
  - a. Plus sign
  - b. Minus sign
  - c. Exponent
  - d. Decimal point
9. Which of the following bus bi-directional?
  - a. Address bus
  - b. Data bus
  - c. Both a & b
  - d. None
10. Hit ratio is a term used to measure..... of a computer.
  - a. Speed
  - b. Memory Capacity
  - c. Accuracy
  - d. Performance

11. In dynamic RAM (DRAM), memories are stored as.....
  - a. Voltage
  - b. Charges
  - c. Magnetic field
  - d. Electricity
12. MSB stands for.....
  - a. Memory Signed Bit
  - b. Most Sophisticated Byte
  - c. Master Slave Bridge
  - d. Most Significant Bit
13. A flip-flop is a basic digital circuit used to hold.....
  - a. Bit
  - b. Byte
  - c. Word
  - d. Information
14. A 2's complement number is used to represent .....of a given number.
  - a. Twice
  - b. Half
  - c. Negative
  - d. Plus two
15. DMA stands for.....
  - a. Double memory Access
  - b. Dynamic Memory Access
  - c. Digital Memory Access
  - d. Direct Memory Access
16. The CISC stands for.....
  - a. Computer Instruction Set Compliment
  - b. Complete Instruction Set Compliment
  - c. Computer Indexed Set Components
  - d. Complex Instruction set computer
17. NAND gate is equivalent to bubble input.....
  - a. OR Gate
  - b. AND gate
  - c. NOT Gate
  - d. EXOR Gate
18. Which one of the following is called adder logic gate?
  - a. AND
  - b. NAND
  - c. NOR
  - d. XOR
19. Which one of the following is called a Volatile memory?
  - a. RAM
  - b. ROM
  - c. PROM
  - d. EPROM
20. Which one of the following is fastest memory?
  - a. Register
  - b. Primary memory
  - c. Secondary memory
  - d. Tertiary memory

-- -- --

**( Descriptive )**

Time : 2 hr. 30 mins.

Marks : 50

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

1. Compute the following decimal number into equivalent number as given radix: 10  
 $342.67 = (\dots\dots\dots)_2 = (\dots\dots\dots)_8 = (\dots\dots\dots)_{16}$
2. a) What is micro-program? Write down three examples of Logic and Shift micro-program operations. 5+5=10  
b) Realize AND gate using one type of gate only (NAND or NOR).
3. a) What is interrupt signal? What are different interrupt signal available? Explain. 5+5=10  
b) Express the following logic equation in SOP form:  
 $F(x,y,z) = XY' + YZ' + X'Z$
4. a) Explain how a D-flip-flop is converted to a T flip-flop. 5+5=10  
b) Convert the following number in binary form.  
i)  $-563_{10}$       ii)  $A0C.0E_{16}$
5. a) Express the following fractional into floating representation:  $-0.0235$  5+5=10  
b) Explain with a suitable block diagram of the functional units of Computer.
6. State and prove De' Morgan's Theorem of logic variables. 10
7. a) What is Secondary memory? Why it is used in computer? Explain. 5+5=10  
b) Realize a Full adder using two Half adder circuits.
8. Differentiate between: 5+5=10  
a) Optical memory vs Magnetic Memory  
b) SRAM vs DRAM  
c) Computer Organization vs Architecture

= = \*\*\* = =