



**BACHELOR OF MEDICAL LABORATORY  
TECHNOLOGY  
SECOND SEMESTER  
FUNDAMENTALS OF COMPUTER SCIENCE  
BMLT – 206**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 min.

[ Objective ]

Marks: 20

*Choose the correct answer from the following:*

**1×20=20**

1. The binary form of decimal 7 is  
a. 101  
b. 110  
c. 111  
d. 010
2. Which of the following is Universal gate?  
a. AND  
b. OR  
c. NOT  
d. NOR
3. Which of the following is responsible for arithmetic and logic operations?  
a. ALU  
b. CPU  
c. Memory  
d. All of these
4. The 2's compliment of the number 10101101 is  
a. 01010010  
b. 11010010  
c. 01010011  
d. 11101111
5. DEMUX is also called  
a. Data distributor  
b. Data selector  
c. Data analyzer  
d. none
6. In 8:1 MUX, the number of select lines are  
a. 3  
b. 2  
c. 1  
d. 4
7. A Half Adder performs binary addition of  
a. 1 bit  
b. 2 bits  
c. 3 bits  
d. All of these
8. The hexadecimal form of the binary number 11111010 is  
a. AF  
b. EA  
c. CD  
d. FA
9. The 1's compliment of the number 10101101 is  
a. 01010010  
b. 01100001  
c. 10010010  
d. 01010011

3. The expression for OR gate is  
 a.  $Y=AB$  b.  $Y=A+B$   
 c. Both (a) & (b) d. None
1. How many NAND gates are required to construct an OR gate?  
 a. 2 b. 4  
 c. 3 d. 1
2. Transistor was used in  
 a. 3rd generation of computer b. 2nd generation of computer  
 c. 1st generation of computer d. 5th generation of computer
3. The base of Hexa-decimal number system is  
 a. 2 b. 10  
 c. 8 d. 16
4. The octal form of  $(101110)_2$  is  
 a.  $(65)_2$  b.  $(56)_2$   
 c.  $(23)_2$  d.  $(32)_2$
5. Vacuum tube was used in  
 a. 3rd generation of computer b. 2nd generation of computer  
 c. 1st generation of computer d. 5th generation of computer
6. An example of output device is  
 a. Keyboard b. Mouse  
 c. CPU d. Printer
7. Which of the followings can store data permanently  
 a. Main memory b. Secondary memory  
 c. Both (a) & (b) d. None
8. Which of the following is a volatile memory?  
 a. Hard-disk b. ROM  
 c. RAM d. All of these
9. A computer can understand  
 a. Machine language b. High level language  
 c. Assembly language d. None of the above
10. Which is the fastest RAM?  
 a. SRAM b. DRAM  
 c. Both d. None of these

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**( Descriptive )**

Time : 2 hrs. 30 min.

Marks : 50

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

1. Discuss the features, advantages and disadvantages of generation of computer. 10
2. What do you mean by MUX? Design a 4:1 MUX with the help of truth table. 10
3. a. Find the binary equivalent of the decimal number 13.25. 5+5=10  
b. Convert  $(11011.1011)_2$  into decimal.
4. a. Subtract  $(10)_{10}$  from  $(15)_{10}$  in 1's Complement method. 5+5=10  
b. Subtract  $(20)_{10}$  from  $(15)_{10}$  in 2's complement method.
5. a. Define DEMUX. Design a 1:2 DEMUX. 6+4=10  
b. Convert  $(101110101111)_2$  into hexadecimal number.
6. a. Explain with the help of diagram the Computer architecture. 5+5=10  
b. What Do you mean by Universal gate? Realize an OR gate using NAND gate only.
7. Define Full -Adder. Design a Full- adder with the help of truth table. 10
8. Write short notes on the followings: 5+5=10
  - a. Half-Subtractor.
  - b. Half Adder.

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