# COMPUTER SYSTEM & ORGANIZATION

ASSIGNMENTS

1. What is the basic building block of any computer?
2. Explain the basic architecture of a computer?
3. What is the role of CPU in a computer?
4. What is the function of memory in computer?
5. What is the role of input unit in a computer?
6. What is the role of output unit in a computer?
7. Give some examples of input devices of computer?
8. Give some examples of output devices of computer?
9. What are the functions of input and output unit of a computer?
10. What are the functions performed by control unit in computer?
11. What are the functions performed by ALU?
12. Can you distinguish CPU and ALU?
13. Distinguish internal and external memory of a computer?
14. Differentiate RAM and ROM.
15. Write short notes on different types of ROMs.
16. Write any four memory units
17. What are the basic components of any typical mobile system?
18. What are the various categories of software?
19. What is application software?
20. What is system software ?
21. What is operating system and how it is important for any computer?
22. What is software library and how it is useful?
23. Write names of some software libraries of Python.
24. Draw the basic building block of any typical mobile system
25. Do you feel mobile phones are replacing computers ,if yes then why.
26. Differentiate compiler and interpreter

27.   What is Boolean algebra?
28.   What are the basic logic elements/gates?
29.   What is truth table?
30.   What are the universal logic gates?
31.   Define Logic Gates.
32.   Define following gates and draw logic circuit diagram
   (a) OR Gate (b) AND Gate
   (c) NOT Gate (d) NAND Gate
   (e) NOR Gate
33.   Prove by Boolean Algebra rules X (X + Y) = X
34.   Prove by Boolean Algebra Rules X +X' Y = X + Y
35.   Prove that by Boolean Algebra Rule for AB +AC + ABC= AB+AC
36.   Construct a logic diagram for expression A. B + C
37.   Construct a logic diagram for expression A. B + B.C
38.   Construct a logic diagram for expression B. (A +C)
39.   Find truth table of X + Y = Y + X
40.   Prepare a truth table of XY= YX
41.   Prepare a truth table X(X +Y) = X
42.   Prepare a truth table of X + X Z' = X
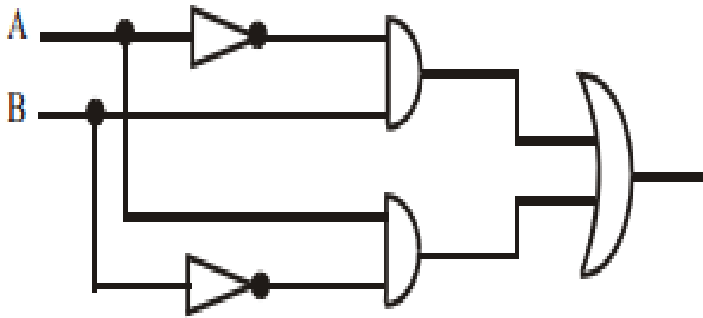43.   Obtain logic expression for logic diagram

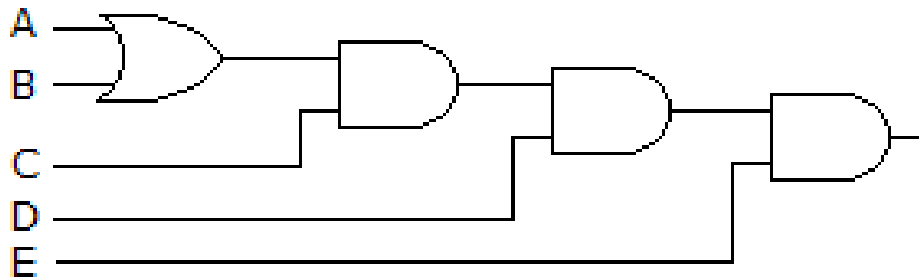44.   Obtain logic expression for logic diagram
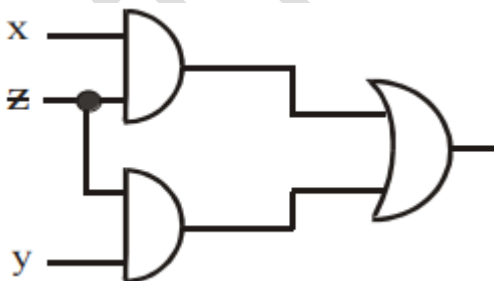
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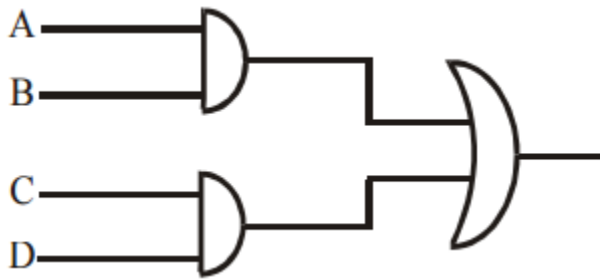
46. Obtain logic expression for logic diagram

47. Obtain logic expression for logic diagram

48. Show that A + A.B = A

49. Applying DeMorgan's theorem to the expression , we get _____.

50. How many gates would be required to implement the following Boolean expression after simplification? XY + X(X + Z) + Y(X + Z)

51. When are the inputs to a NAND gate, according to De Morgan's theorem, the output expression could be:

52. Applying DeMorgan's theorem to the expression $\overline{\overline{(X + Y)} + \overline{Z}}$, we get _____

53. The Boolean expression is logically equivalent to what single gate?

54. Applying the distributive law to the expression $A(B + \overline{C} + D)$, we get _____

55.   Simplify the following Boolean expressions
   a. A . B + B

   b. $\overline{B} \cdot \overline{(\overline{A}+\overline{B})}$

56.   Look at the truth table below.

Input A	Input B	Output Q
0	0	1
0	1	0
1	0	0
1	1	0

What logic gate does the table represent?