IMPORTANT QUESTIONS

Short answer questions:

1) Write short notes on binary number systems?
2) Why NAND and NOR gates are called Universal gates.
3) Convert Binary to Octal $(011011011.011011100)_2$
4) Write about Idempotent Law and its Truth Table
5) Draw the block diagram of 4X1 MUX.
6) Write about min-term & max-term.
7) Realize following expression $f=\sum_m (0,3)$ using K-Map.
8) Write the equation of POS = $\prod_M(1,6,8,12)$
9) Write the Boolean expression for sum and carry of Half Adder
10) Write the Boolean expression for sum and carry of Full Subtractor.
11) Write Truth table and Circuit Diagram for XOR Gate and NOR Gate.
12) Convert Octal to binary number $(562)_8$
13) Write about Distributive Law and write its Truth Table
14) Draw the logic circuit for the function F= A' +B C'.
15) Write about SOP & POS.
16) Define multiplexer.
17) Write the equation of SOP = $\sum m(0,3,9,14,15)$
18) Draw the block diagram of 1X2 DEMUX.
19) Write the Boolean expression for sum and carry of Full Adder
20) Write the Boolean expression for sum and carry of Half Subtractor.
21) Convert Binary to Hexadecimal $(11011011.01101110)_2$
22) State De-Morgan's Law.
23) Write about Absorption Law and write its Truth Table
24) Convert Hexadecimal to Decimal (A79.E4)2
25) Define K-map.

26) Define De-multiplexer.
27) Realize following expression f=$\prod$ (0,1) using K-Map.
28) Write about min-term & max-term.
29) Write the Boolean expression for sum and carry of Full Adder
30) Write the Boolean expression for sum and carry of Full Subtractor

Long answer questions:

1) Implement XOR Gate using NOR.
2) Convert Binary code to Gray code the binary number is 01011101, and convert Gray code to Binary code the Gray code is 10110101
3) Do the 2's complement subtraction of 26 − 41 and Do 2's complement subtraction of 010 - 01110.
4) Prove that AB + A'B+BC= AB+A'C and (A+C)(A'+B) = AB+A'C.
5) Simplify the equation using k-map f = $\sum$(0,2,3,4,6,7) draw the logic diagram also.
6) Write the truth table, Logic circuit and block diagram for 1x8 Demux.
7) Convert f=B+A'D+A'B'C+ABC+ABD' into standard SOP & standard POS
8) Implement the given function using 4x1 mux f(A,B,C) = $\sum$(1,3,5,6)
9) Design 3-bit full adder
10) Design half adder and half subtractor.
11) Implement XNOR Gate using NAND
12) Prove that AB + A'B+BC= AB+A'C and (A+C)(A'+B) = AB+A'C
13) Do the 1's complement subtraction of 21-34 and Do 1's complement of 011 − 01000.
14) Convert Binary code to Gray code the binary number is 01011101, and convert Gray code to Binary code the Gray code is 10110101
15) Simply the equation using k-map f = $\sum$(4,5,7,12,14,15)+d(3,8,10)
16) Write the truth table, Logic circuit and block diagram for 1x8 Demux
17) Convert f=(A+C')(B+C)(A'+C)(B'+C) into standard POS & standard SOP
18) Do the 2's complement subtraction of 26 − 41 and Do 2's complement of 010 - 01110.
19) Design 3-bit full subtractor
20) Design 3-bit full adder

21) **Implement XNOR Gate using NAND**

22) **Do the 1's complement subtraction of 21-34 and Do 1's complement of 011 – 01000.**

23) **Prove that AB + A'B+BC= AB+A'C and (A+C)(A'+B) = AB+A'C**

24) **Do the 2's complement subtraction of 26 – 41 and Do 2's complement of 010 - 01110.**

25) **Convert f=(A+C')(B+C)(A'+C)(B'+C) into standard POS & standard SOP**

26) **Simply the equation using k-map f = $\sum(0,2,3,4,6,7)$ draw the logic diagram also**

27) **Implement the given using 8X1 MUX f (A,B,CD) = $\sum(1,3,4,5,6,11,15)$**

28) **Simply the equation using k-map f = $\sum(4,5,7,12,14,15)+d(3,8,10)$**

29) **Design 3-bit full subtractor**

30) **Design half adder and half subtractor.**