QUESTION BANK

1. Define: (i) Input offset voltage
   (ii) Input bias current
   (iii) PSRR
   (iv) SVRR

2. Classify the types of negative feedback and explain each in brief.

3. State the characteristics of the ideal Op-amp.

4. Draw and explain Class B Push Pull Amplifier.

5. Describe the phenomenon of common mode rejection ration (CMRR).

6. Draw a practical inverting amplifier and derive expressions for closed loop voltage gain, input resistance, output resistance.

7. What do you mean by slew rate in an OP-AMP? Also mention about causes of slew rate and explain its significance in applications.

8. Describe with the help of neat diagram the operation of an instrumentation amplifier using three basic op-amps.

9. Discuss differentiator circuit using Op-amp.

10. Explain the block schematic diagram of 79XX series.

11. Classify power amplifiers. Write note on Class AB push pull amplifier. Distinguish between

    Ideal and Practical OP-AMP.

12. Draw the circuit of basic integrator using OP-AMP. What are the problems associated with this configuration? How they are overcome?

QUESTION BANK

13. How OP-AMP can be used as a difference amplifier?

14. Derive an expression of voltage gain for closed loop non-inverting OP-AMP.

15. Draw and explain circuit diagram of first order butterworth low pass filter using OP-AMP.

16. What is power amplifier? Give important features of power amplifier circuit.

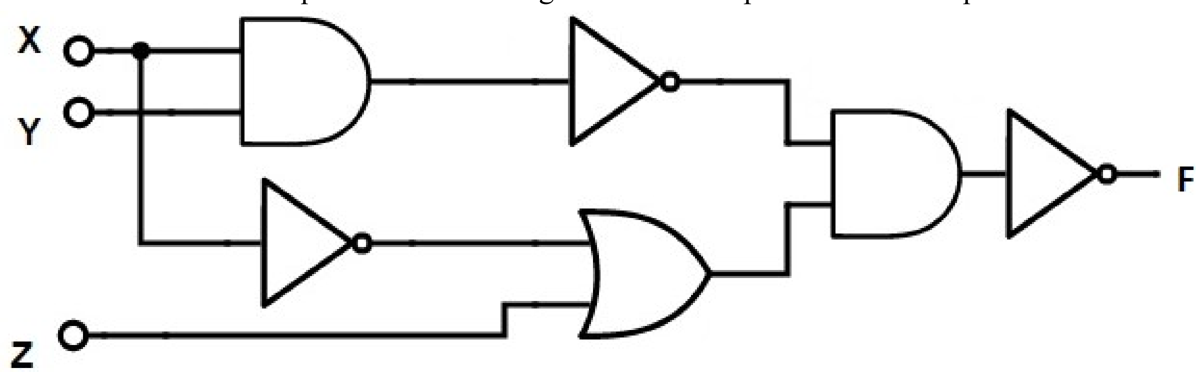
QUESTION BANK

1. Explain Half Adder circuit with neat diagram.

2. Implement the given function using multiplexer. F (A, B, C) = Σ (1, 3, 5, 6)

3. Simply Boolean Function : F=A'B'C+A'BC+AB'.

4. Find the Boolean Equation for following circuit and simplified Boolean equation.



5. Draw logic circuit of Full Adder and Full Subtractor with truth table. Obtain canonical Sum of Product form of following function: F=AB+ACD.

6. Simply Boolean function for F(W,X,Y,Z) = Σ (0, 1, 2, 4 ,5 ,6 ,8, 9, 12, 13, 14) How to generate 8x1 MUX using 4x1 MUX.

7. Solve the following Boolean functions by using K-Map. Implement the simplified function by using logic gates
   F = (w,x,y,z) = Σ (0,1,4,5,6,8,9,10,12,13,14)

8. Implement the following Boolean functions with a multiplexer and Decoder. F(w, x, y, z) = Σ (2, 3, 5, 6, 11, 14, 15)

9. Design a combinational logic circuit whose output is high only when majority of inputs (A, B, C,D) are low.

10. Implement the following function with NAND and NOR Gate. F(a,b,c) = Σ (0,6)

QUESTION BANK

11. Simplify the following Boolean functions to a minimum numbers of literals.1. x + x'y 2. x (x'+y) 3. x'y'z + x'yz + xy' 4. xy + x'z +yz

12. Implement the Boolean functions. (a) xyz+x'y+xyz' (b) (A+B)'(A'+B')' and (c) F= xy+xy'+y'z with logic gates