Question Bank (I-Scheme)

Name of course: Elements of Electronics   **Unit Test:II**

 Subject code: 22213 (EOE)   **Semester: II**   **Program: EE**

Chapter 3:(Transistor)

2 Marks

1. Draw the symbol of NPN , PNP, N-Channel JFET, P-Channel JFET

4 Marks

2. Draw and explain single stage CE amplifier.

3. Draw and explain N-Channel JFET

4. Compare BJT and FET.

Chapter 4:(Regulators and Power supply)

2 Marks

5. Write three terminal voltage regulator IC for obtaining : (i) + 24V (ii) -6V

6. Draw the pin diagram of IC 78XX , IC 79XX, IC LM 723

7. Define the term Line Regulation and Load Regulation.

8. State the output voltages of IC 7805 and IC 7912.

4 Marks

9. Draw and Explain how Zener diode can be used as a voltage regulator.

10. Draw the block diagram of regulated power supply and describe the working of each block

11. Construct a dual power supply capable of giving ±12 V using IC78XX, IC 79XX.

12. Draw the block diagram of IC 723, write its functions

13. Sketch pin configuration of IC 723. State functions of each pin. Sketch circuit diagram for obtaining 6V output d.c. regulated voltage using IC 723.

Chapter 5: (Oscillators)

2 Marks

14. List the types of feedback in amplifier

15. List the advantages of negative feedback

16. State Barkhausen criteria

17. Give classification of oscillators

4 Marks

18. Draw circuit diagram of Colpitt's oscillator and explain its working

19. Draw the circuit digram of Hartley's oscillator and explain its working

20. Draw the circuit diagram of crystal oscillator and explain

21. Draw the circuit diagram of RC phase shift oscillator and explain

22. Sketch circuit diagram of RC phase shift oscillator. If value of capacitor $C = C_1 = C_2 = C_3 = 5$ pF and frequency of oscillation is 800 Hz, calculate value of resistor R, $(R = R_1 = R_2 = R_3)$.

Chapter 6: (Digital Electronics)

2 Marks

23. Write De Morgon's theorem

24. Draw the symbol, logic expression and truth table of NOR gate.

25. Draw the symbol, logic expression and write the truth table of EX-OR gate.

26. Classification of Logic Gates.

27. Draw the symbol,logic expression and write the truth table of NAND gate.

4 Marks

28. Perform the following number system conversion

    i) $(589)_{10} = ($ $)_2$ ii) $(101101)_2 = ($ $)_{16}$

    iii) $(413)_8 = ($ $)_2$ iv) $(5AF)_{16} = ($ $)_{10}$

    v) $(AC8)_{16} = ($ $)_2$ vi)$(106)_8 = ($ $)_{10}$

29. Implement the fundamental logic gates 'OR gate', 'AND gate', 'NOT gate' using only NAND gates.

30. Construct the D and T flip flop using S R Flip flop.