1. **Explain** the binary codes. BCD, GRAY CODES
2. **Solve** the following.
   $(A6)_{16}=(\quad)_{10}$
   $(1266)_{8}=(\quad)_{10}$
   $(10100011)_{2}=(\quad)_{10}$
   $(372)_{10}=(\quad)_{16}$
3. **Solve** the following octal numbers into binary, decimal and hexadecimal number system.
4. 3711
5. (B) 4057.66
6. **Solve** operation Subtract the following using 2's Complement method
7. (a)$(101011)_2$ from $(111001)_2$ (b)$(111001)_2$ from$(101011)_2$
8. **Solve** operation Subtract the following using 2's & 1's Complement method
9. (a)$(-46)_{10}$ from $(+66)_2$
10. **Solve** the 1's and 2's complement of the following binary numbers, 1010101,0111000,0000001,10000,00000
11. Also obtain 9's and 10's complement of the following decimal
12. Numbers, 09900, 10000, 00000.
13. **List** the Universal gates and draw their symbols. With truth tables
14. **Solve** the expression 1)$Y(A,B,C)=AB^1 + A^1B$ using SOP 2) $Y(A,B,C)=(A+B^1)(A^1+B)$ using POS
15. Implement FA Using Two HA's
16. Explain the full adder with neat Sketch
17. Define De morgans laws, theorem, K MAP, Don't Care conditions
18. **Explain** the operation of 3-to-8 decoder with circuit diagram.
19. **Explain** the operation of 4X1 MUX, 8X1 MUX with circuit diagram.
20. **compare** Synchronous and asynchronous circuits.
21. **Explain** the operation of a JK & SR flip flop using its block diagram and truth table.,Characteristic Table,Exicitation table
22. Explain the difference between ring counter and jhonson counter
23. Explain the shift register and its types
24. Define 1)combinational ckt 2) sequential cirtuit,3)difference between combinational and sequential
25. List the differences between latch and flipflop
26. Explain von nueman architecture
27. Compare the multiprocessor and multicomputer
28. Explain the concept of pipelining

29. Explain Design of Fast Adders Using Carry lookahead adder.
30. Explain Booth algorithm with an example
31. Explain Floating point Representation with example (Single Precision & Double Precision),IEEE 754
32. Compare hardwired and microprogrammed concept
33. Explain the concept of Addressing Modes
34. Explain the various Addressing modes of Instruction Set
35. Explain the concept of Multiple Bus with neat sketch
36. Draw the Flow chart for Addition and Subtraction
37. Draw the Flow chart for Multiplication and division
38. Explain execution of a Complete Instructions
39. Explain Memory Hierarchy in Memory Organisation(with respect ot parameter considerations)
40. Define Cache Memory? Explain all types of mapping techniques in cache memory.
41. Compare and Contrast Static RAM, Dynamic RAM
42. Explain Virtual Memory Concept with neat Diagram
43. Explain about Memory Management unit and its Requirements
44. With a neat diagram discuss the concept of Direct memory access?
45. Discuss about parallel priority interrupt.
46. Differentiate between Memory Mapped I/O and Isolated I/O
47. Explain the Daisy Chaining priority with neat diagram
48. Explain the interrupt system of a digital computer. Write about hardware and software interrupts.
49. Write in detail Programmed I/O
50. Explain the different kinds of I/O communication techniques? What are the relative
51. Explain Secondary memories in details