Answer all the Questions

1) For any three sets A, B, C P.T AU (BnC) = (AUB)n (AUC)
   (Or)
   For any two sets A and B P.T i) (AUB)' = A’n B'
   ii) (An B)' = A’UB’

2) If A and B are finite sets than P.T n(AUB) = n(A) + n(B) − n(AnB)
   (Or)

3) Let A = {(1,2), (2,3), (3,4), (2,1)} using warshall algorithm. Find the
   transitive closure of R.
   (Or)
   i) P.T every chain is a lattice.
   ii) P.T every chain is a modular lattice

4) Suppose A={2,3,6,8,12} C={13,17,22} and R= {(12), (1,3), (1,12), (2,3), (2,6), (2,8), (2,12)}
   S= {(2,13), (2,17), (3,13), (3,22), (8,22)} find SoR.
   (Or)
   Write warshalls algorithm.

5) Show that Qv(p ∧ 7Q) v (7Q ∧ 7Q) is tautology.
   (Or)
   Show that P→S can be derived from the premises 7PvQ, 7QvR, R→S.

6) Constructs the truth table for (7pvQ)n(7Qvp)
   (Or)
   Show that (p ∧ Q) => (p→Q) using truth table.

7) Solve the recurrence relation S(K) – 10s(K-1) + 9(K-2) = 0, S(0)=3 S(1)=11.
   (Or)
   Solve S(K)-S(K-1)-6S(K-2)= -30, s(0)=20, s(1)= -5.

8) Find the generating matrix and its observations
   (Or)
   Solve S(K) – 3S(K-1)-4S(K-2)=4^K

9) Explain incidence matrix and its observations
   (Or)
   P.T A tree with n vertices has (n-1) edges.
10) Explain adjacency matrix and its observations.

(Or)

Let g be a graph P.T i) \( \delta d(v) = 2 \)  ii) the number of add degree vertices in even.
FUNDAMENTALS OF COMPUTER AND C PROGRAMMING

Marks: 10 x 5 = 50

Answer all the Questions

1) Explain briefly about history of C and Constants. 
   Or
   Discuss shortly about C tokens.

2) Write short notes about operators available in C. 
   Or
   How does the type conversion done in C explain with example.

3) What is formatted Input, Output in C, explain with an example program. 
   Or
   Write a C program using switch statement.

4) Explain briefly about while & do while looping. 
   Or
   Explain about if statement & else if concept.

5) Define array, how to declare & initialization with an example. 
   Or
   Explain briefly about two dimensional array, with an example.

6) Write a c program using string handling function. 
   Or
   Write short notes on string data type, how to declare & initialize a string variable.

7) Discuss briefly about user defined function in C. 
   Or
   Write a c program using recursion function.

8) List out the difference between structure & unions. 
   Or
   Write short notes on scope visibility & life time of variables.

9) Explain about pointers in C. 
   Or
   How does pointers and character string are related in C.

10) Explain in detail about I/O operations on file in c with suitable example program. 
    Or
    Discuss the concept of command line argument in C using a C program.