SURESH GYAN VIHAR UNIVERSITY Accredited by NAAC with 'A' Grade		INTERNAL ASSIGNMENT - 1
Course	**BCA**	**Discrete Mathematics**
Semester	**1**	
Total Marks:	**15**	

Q.1. Write answers for any two questions from below. (5 marks each – Word limit – 500)

A. What is inclusion – exclusion principle? How many bit strings of length eight start with one bit or end with the two bits 00

B. What do you understand by principle duality?

C. Find x, if 10C5 + 10C6 + 11C7 = 12Cx.

Q.2. Write short notes on all of the following topics (1 mark each - Word limit - 100)

A. Basic Set Theory

B. The Lightest Path: Dijkstra's Algorithm

C. Linear Recurrence Relations with constant coefficients.

D. Labeled Graphs and Isomorphism

E. Set Difference, Set Complement and the Power Set

SURESH GYAN VIHAR UNIVERSITY Accredited by NAAC with 'A' Grade		INTERNAL ASSIGNMENT - 2
Course	**BCA**	**Discrete Mathematics**
Semester	**1**	
Total Marks:	**15**	

Q.1. Write answers for any two questions from below. (5 marks each – Word limit – 500)

A. Find the truth table of the following propositions---
(i) –(pvq) v (-p^-q) (ii) (p ^ q) v (-p ^ q) v (p ^-q) v (-p ^ -q)(iii) p ^ (q v r) (iv) –p v q => -q

B. (i) Write the definition of simple graph, multi graph and pseudo graph with example?

C. Define Eulerian graph. Show that a non-empty connected graph is Eulerian if and only if all its vertices are of even degree.

Q.2. Write short notes on all of the following topics (1 mark each - Word limit - 100)

A. The Lightest Path: Floyd's Algorithm

B. Recurrence Relations: Introduction, Formation.

C. Propositional Logic

D. Graph Operations

E. The Lightest Spanning Tree: Kruskal's and Prim's Algorithms