



Register Number:

DATE:

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BENGALURU-27
M.Sc. BIG DATA ANALYTICS – II SEMESTER
SEMESTER EXAMINATION: APRIL 2019
BDA 2118: FOUNDATION OF DATA SCIENCE

TIME 2.5 HOURS

MAXIMUM MARKS 70

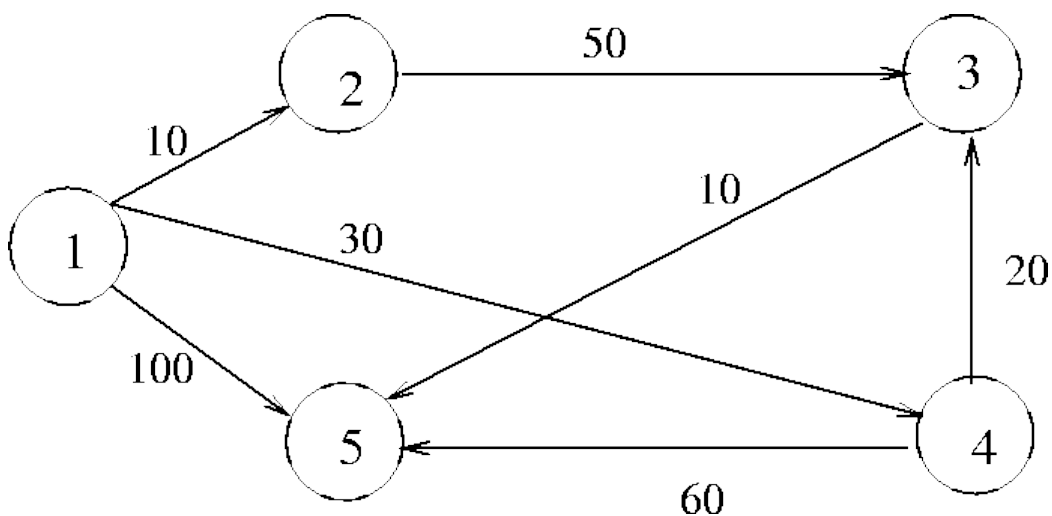
This Question Paper Contains TWO Printed Paper And ONE Part

ANSWER ANY SEVEN QUESTIONS

7 X10 = 70

- 1) Define with diagram
 - a) Connected Graph
 - b) Weighted Graph
 - c) Walk and Trail
 - d) Incidence matrix
 - e) Adjacency matrix

- 2) Write Dijkstra's Algorithm. Using Dijkstra's Algorithm find the shortest path between P and Y.



- 3) Explain Prim's Algorithm with example.

4) a) Explain High dimensional space graphically with a suitable example.

b) State and prove Markov's Inequality.

(5+5)

5) Prove that at a high dimension the volume of the sphere becomes Zero.

6) a) Define Changes of Sign with respect to reflection principle.

b) Explain Erdo and Renyi's $G(n,p)$ model on random graph. How is it different from $G(n,m)$

(2+5)

7) Find SVD where $A = \begin{bmatrix} 4 & 6 \\ 5 & 9 \end{bmatrix}$

8) a) Define Changes of Sign with respect to reflection principle.

b) Compare and contrast stream model and DBMS.

(2+8)

9) Explain the frequency moment of data stream.