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Register Number:

DATE:

**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU-27**

**M.Sc. BIG DATA ANALYTICS – II SEMESTER**

**SEMESTER EXAMINATION: APRIL 2017**

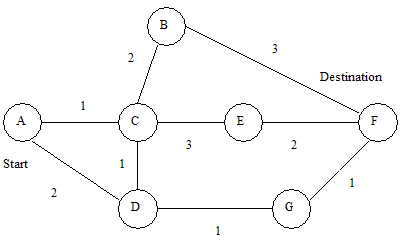
**BDA 2116: Foundation of Data Science**

**Time 2.5 Hours Maximum Marks 70**

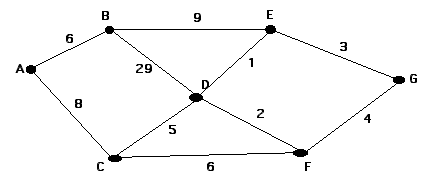
**This Question Paper Contains TWO Printed Paper And ONE Part**

**Answer Any Seven questions 7 x10 = 70**

1. Using Dijkstra's Algorithm find the shortest path.



1. Using Kruskal's Algorithm find the Minimum Spanning Tree from A to G .



1. a) Explain properties of High dimensional space.

b) What isChebyshev’s inequality? Prove Chebyshev’s inequality. (5+5)

1. a) State and prove law of large number.

b) What do you mean by giant Component? (7+3)

1. a) Explain similarity function S(Q,D).

b) Explain Erdo and Renyi’sG(n,p) model on random graph. (5+5)

1. Write and explain the algorithm for finding SVD using Power method. (10)
2. What do you mean by reflection principle? Explain with suitable example.

(10)

1. Write short notes of the following
2. Random walk
3. Long lead
4. Change of sign (4+4+2)
5. Explain the frequency moment of data stream. (10)