

End Semester Examinations - 2015-16 Even Semester - May 2016

14CS3065 Big Data Analytics

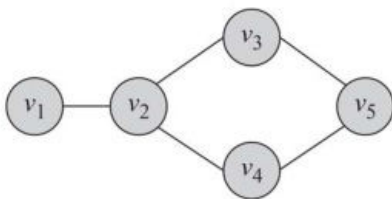
Set B

Time : 3 hrs
Total Marks: 100

1. a. What do you mean by Cliques? Demonstrate how quasi-cliques are used to determine the massive graphs in the underlying data. Give an example of massive graph. (10)

- b. Define and calculate the mentioned centrality measures for the following network. (10)

- Degree Centrality
- Closeness Centrality
- Betweenness Centrality



OR

2. a. Discuss the minimum cut problem and multi-way graph partitioning problem in detail. (10)

- b. Give a detailed description on the following: (10)

- Structural Distance-based Approach
- Structural Summary-based Approach

3. a. List the challenges involved in keyword search. Explain the process of keyword search over relational data, XML data and graph data. (10)

- b. Assume that n is the number of nodes and m is the number of edges in the graph. Calculate the complexity of query time and storage cost for the following reachability queries: (10)

- Spanning-tree based Approach
- Set Covering based Approach

OR

4. a. Mention the data structures used for representing graph data. Compare its storage and time complexity. (8)

- b. Illustrate the Kernel-based and Boosting based graph classification methods. (12)

5. a. What is a graph motif and a graph grammar? Explain the various operations that can be performed on graph structures. (14)

- b. Discuss the distinct features of GraphQL. (6)

OR

6. a. Write short notes on FLWR expression (8)

- b. Illustrate the graph algebra operators with suitable examples. (12)

7. a. Explain the structure similarity search based on frequency difference with the neat graph. (10)

b. Is there any graph indexing technique that suits the fragments that do not always corresponds to connected graphs? If yes, explain in detail. (10)

OR

8. a. State the definition of the frequent structures and discriminative structures and explain the concepts in detail. (10)
- b. Differentiate between the tree based and hierarchical graph indexing techniques. (10)
9. a. Compare and contrast chemical data graphs and biological data graphs. What do you mean by isomorphism challenges? (10)
- b. What are the different types of data? Describe the various phases of big data analytics and discuss its challenges. (10)

Wishing you All the Best
