Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

VI SEMESTER B.TECH. (COMPUTER SCIENCE & ENGINEERING)

END SEMESTER EXAMINATIONS, APRIL/MAY 2019

SUBJECT: BIG DATA MODELING AND MANAGEMENT [CRA-4005]

REVISED CREDIT SYSTEM

(30/ 04 /2019)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL FIVE** questions.
- Missing data may be suitable assumed.

1A. Describe how and what type of data is generated by people. List the challenges faced in extracting the data generated by the people and how it is overcome? **3M**

1B. Justify with an example from Amazon.com why sentiment analysis often gets referred to as opinion mining and how the global consumer behavior can be used for product growth in an airline company. **4M**

1C. Explain six characteristics of Big Data. **3M**

2A. Explain the first step of data science process and the different techniques and technologies to access the different types of data. **3M**

2B. What is a programming model? Explain the requirements for big data programming models. **3M**

2C. Explain the key features that makes a problem Hadoop friendly and when to avoid Hadoop. **4M**

3A. Why would anyone choose DAS for their storage strategy over SAN and NAS? List all the advantages and disadvantages of DAS. **3M**

3B. Explain the factors to be considered when answering the questions related to data ingestion in a Hospital Information System. **2M**

3C. With example, explain following different operations on data collection. **5M**

i) Subsetting ii) Substructure extraction iii) Union.

4A.	Write note on any three types of Data model constraints.	**3M**
4B.	Explain how document vector model is used to find document similarity.	**4M**
4C.	With example, explain the following concepts with respect to a graph model. i) Neighborhoods ii) Community iii) Anomalous Neighborhoods	**3M**
5A.	Describe how vector model representation is useful in image processing.	**4M**
5B.	Explain with an example, serialized representation of data.	**3M**
5C.	Explain the ACID and BASE properties.	**3M**