

Roll No. ....

Total Pages : 03

**CMCS/M-24**

**24543**

**BIG DATA AND PATTERN RECOGNITION**  
**MS-20-43(ii)**

Time : Three Hours]

[Maximum Marks : 75

**Note :** Attempt *Five* questions in all. Question No. **1** is compulsory. Attempt *four* more questions, selecting *one* question each from Unit I to Unit –IV. All questions carry equal marks.

**(Compulsory Question)**

1. (a) What are datasets ? Discuss the different formats of datasets.
- (b) Define IoT. State example.
- (c) What are the three outcomes; Data Governance is instituted to achieve ?
- (d) What do you mean by heartbeat communication and rack arrangement ?
- (e) Differentiate between quantitative and qualitative analysis.
- (f) What do you mean by feature extraction and dimension reduction ?

- (g) Discuss about schema-less models.
- (h) Write a note on CAP theorem. 15

### Unit I

2. (a) Differentiate between Data Analysis and Data Analytics. How value and complexities increases from descriptive to prescriptive analytics :  
 (b) What are Big Data characteristics ? Explain DIKW pyramid exploring alignments amongst different corporate levels. 8+7=15
3. (a) Differentiate between the following :  
 (i) OLTP and OLAP  
 (ii) Traditional BI and Big Data BI.  
 (b) Explain the nine stages of Big Data Life-Cycle. 8+7=15

### Unit II

4. (a) Discuss Big Data oversights that data practitioners and Business process owners kept in mind.  
 (b) Write the potential reasons for Big Data project failures and its legalities. 8+7=15
5. Outline and explain HDFS framework. Write a detailed note on Zookeeper and Mahout. 15

### Unit III

6. Explain pattern recognition paradigms with supportive illustrations. Discuss fundamental problems in pattern recognition. 15
7. Write the importance of pattern recognition. How do you classify and obtain patterns using Decision tree ? Explain. 15

### Unit IV

8. What are NoSQL storage types ? How do we maintain structured data RDBMS ? Map RDBMS data with NoSQL Key value store and Wide column data store. 15
9. Explore the misconceptions about NoSQL. Draw comparison amongst SQL and NoSQL. 15