(2½ Hours)

[Total Marks: 75]

N. B.: (1) **All** questions are **compulsory**.
     (2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
     (3) Answers to the **same question** must be **written together**.
     (4) Numbers to the **right** indicate **marks**.
     (5) Draw **neat labeled diagrams** wherever **necessary**.
     (6) Use of **Non-programmable** calculators is **allowed**.

1. **Attempt** *any three* **of the following:**   **15**
a. Describe the architecture of business intelligence.
b. Explain Data Information and Knowledge.
c. Define system. Explain how system can be characterized.
d. What is business intelligence? Why effective and timely decision is important?
e. Explain the phases of decision making process system.
f. Explain the major potential advantage derived from adoption of a DSS.

2. **Attempt** *any three* **of the following:**   **15**
a. Explain the primary phases of model.
b. What is predictive and optimization model?
c. Explain some of the areas where data mining is used.
d. Write short notes on analysis methodology of data mining.
e. What is meant by data validation? Explain different kinds of data validation.
f. Write short note on data transformation.

3. **Attempt** *any three* **of the following:**   **15**
a. Explain Phases and Taxonomy of classification model.
b. Write short notes on evaluation of classification model.
c. Assume your own training dataset and predict the class label of an unknown sampling using Naïve Bayesian classification.
d. Differentiate between following clustering methodologies: i) Partitioning method.
    ii) Hierarchical method.
e. Explain evaluation of clustering model.
f. Explain k-means method.

4. **Attempt** *any three* **of the following:**   **15**
a What is marketing decision process? Explain relational marketing in details.
b Write short note on sales force management.
c Explain market basket analysis.
d List revenue management system. Explain any one in detail.
e What is supply chain optimization?
f Explain CCR model in detail.

5. **Attempt** *any three* **of the following:**   **15**
a. What is meant by knowledge management system?
b. Explain knowledge management activities.
c. Explain the role of people in knowledge management.
d. Compare and contrast between Artificial intelligence versus Natural intelligence.
e. Write short note on knowledge engineering.
f. What are the applications of expert systems?