TIME: 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:**

a. Define business intelligence? Explain architecture of the business intelligence. 15

b. What is decision support system (DSS)? What are the factors that affect the degree of success of a DSS.

c. Describe the phases in the development of a decision support systems (DSS).

d Enumerate approaches to the decision-making process.

e Explain main components of the main components of a business intelligence system

f What is system? Write the role of a closed cycle marketing system with feedback effects

2. **Attempt *any three* of the following:**

a. Explain the concept of mathematical models according to their characteristics, probabilistic nature, temporal dimension. 15

b. Describe different applications of Data Mining.

c. Compare incomplete, noisy, or inconsistent data.

d. Enumerate basic data mining tasks in details.

e. Explain data cleansing? Why is data cleansing important for data mining?

f. Differentiate between supervised and unsupervised learning.

3. **Attempt *any three* of the following:**

a. Explain Taxonomy of classification model. 15

b. Explain the concept of k-means algorithm for Clustering.

c. Describe in details support vector machines

d. Write about different Taxonomies of clustering methods.

e. Differentiate between Partitioning method and Hierarchical method.

f. Explain the concept of agglomerative and divisive hierarchical methods.

4. **Attempt *any three* of the following:** 15

a. What is relational marketing? Write motivations & objectives of relational marketing.

b. Explain types of data feeding a data mart of relational marketing analysis.

c. Describe the term Market Basket Analysis.

d. Describe in details optimization models for logistics planning.

e. What is supply Chain optimization? Explain in brief.

f. What is the role of cross efficiency analysis and virtual input and virtual output in identification of good operating practices?

5. **Attempt *any three* of the following:** 15

a. Describe how AI and intelligent agents support knowledge management. Relate XML to knowledge management and knowledge portals.

b. Define 1. Data 2. Information 3. Knowledge

c. Describe knowledge management activities in details.

d. Describe in details the Process and Practice Approaches to Knowledge Management

e. Compare and contrast between Artificial Intelligence versus Natural Intelligence

f. Write different areas of expert systems.

****