

Time: 2 1/2 Hours

Marks 60

N.B.

- 1) All questions are compulsory.
- 2) Figures to the right indicate marks.
- 3) Illustration, depth answers and diagram will be appreciated.
- 4) Mixing of sub-questions is not allowed.
- 5) Each question carries 5 marks.

Q.1 Attempt **Any Two** of the following: **12 Marks**

- a) Briefly explain Data warehousing.
- b) Explain Business intelligence architecture components with diagram
- c) Give the pros and cons of KDD.
- d) Explain Business Intelligence.

Q.2 Attempt **Any Two** of the following: **12 Marks**

- a) Differentiate among a data mart, an ODS, and an EDW.
- b) Explain the different types of Smoothing with examples?
- c) How does a data warehouse differ from a database?
- d) What is Normalization? What are the types Normalization?

Q.3 Attempt **Any Two** of the following: **12 Marks**

- a) Explain the importance of metadata.
- b) Describe the major components of a data warehouse.
- c) Identify and discuss the role of middleware tools.
- d) State the applications of data mining.

Q.4 Attempt **Any Two** of the following: **12 Marks**

- a) Explain the terms: Frequent Itemsets, Closed Itemsets and Association Rule
- b) Explain the techniques to improve efficiency of Apriori Mining
- c) Explain multidimensional and multilevel association rules with example.
- d) Explain FP-Growth algorithm with its advantages and disadvantages

Q.5 Attempt **Any Three** of the following: **12 Marks**

- a) Write short notes on: a. Data b. Information c. Knowledge
- b) Explain the different types of Smoothing with examples?
- c) Explain Data Mining Architecture.
- d) Explain the techniques to improve efficiency of Apriori Mining.

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