2031
B.E. (Computer Science and Engineering)
Seventh Semester
Elective – II
CS-704C: Business Intelligence

Time allowed: 3 Hours   Max. Marks: 50

NOTE: *Attempt* _five_ *questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.*

x-x-x

I. Attempt the following:-

   a) List at least four tools for business analysis available in market.

   b) Differentiate between OLAP and OLTP.

   c) Give two examples each of Transactional System and Data Warehouse.

   d) What are various Graphical Widgets used in Dashboards?

   e) A supply chain is "Manufacturer →Whole seller→ Retailers→ Consumers".

   What metric could be defined for this supply chain?   (5x2)

UNIT – I

II. a) A firm selling wearable devices wants to build a data warehouse for storing business activities for analysis later on. Sales-data has regions, quantity sold, products, dates and return rates. Which data entities should be Measures and Dimensions for the analysis?

   b) What are roles and responsibilities of Business Intelligence Analyst?   (2x5)

III. There are some online applications for selling and buying used cars like CARS24/DROOM. The company owner would like to get the answers for: per day visitors to website; peak traffic hours of the day; least traffic hours of the day; visitor channel to visit the website; time spent by visitor on website. What type of metadata is presented in the scenario above and why?   (10)

IV. a) Why should healthcare providers like Fortis/Max/Apollo/AIIMS invest in business intelligence solutions?

   b) What is a dimension table and how it is different from the fact table? Explain with an example.   (2x5)

P.T.O.

UNIT – II

V. a) Differentiate between a snowflake schema and star schema.

b) Briefly describe the general objective of Association Rules mining.   (2x5)

VI. a) Compare the Precision and Recall metrics for classifier evaluation. Illustrate your answer using the Confusion Matrix.

b) In the context of Decision Tree induction, what does overfitting mean? And how to avoid over fitting?   (2x5)

VII. Assume following table represents features & their value for smart phones Phone1, Phone2, Phone3 and New-Phone. Last line in table shows the manufacturer of phone, Find out the manufacturer of New-Phone using k-nearest neighbour algorithm. Assume closeness is defined by Euclidean Distance between two phones.

	Phone1	Phone2	Phone3	New-Phone
Processor Speed (MHz)	200	1000	150	550
RAM (GB)	10	80	30	64
Display (inch)	6	5	7	6
Storage (GB)	100	80	200	90
Camera (Megapixel)	13	15	10	12
Manufacturer	Mi	Apple	Mi	?

(10)

x-x-x