END TERM EXAMINATION

FOURTH SEMESTER [MCA] MAY 2017

Paper Code: MCA-204	Subject: Data Warehousing and Data Mining
Time: 3 Hours	Maximum Marks: 75

Note: Attempt any five questions including Q.no.1 which is compulsory. Select one question from each Unit.

Q1 Attempt **any ten** questions: (2.5x10=25)
   (a) Explain data granularity in a data warehouse.
   (b) What are dimension hierarchies?
   (c) Explain with an example meaning of slice-and-dice.
   (d) Differentiate between slowly and rapidly changing dimensions.
   (e) Write difference between ER Modeling and Dimensional Modeling.
   (f) How are top-down and bottom-up approaches for building a data warehouse different?
   (g) Explain two differences between operational systems and informational systems?
   (h) List out any five modeling data mining tools.
   (i) Explain Genetic Algorithm with example.
   (j) How is the Data mining is the primary step in the process of knowledge discovery?
   (k) Explain the cluster detection technique.

Unit-I

Q2 (a) What are the components of data warehouse?   (6.25)
   (b) What are the three major types of metadata in a data warehouse? Explain the purpose of each type.   (6.25)

Q3 (a) Explain the three-tier data warehouse architecture?   (6.25)
   (b) Differentiate between operational and decision-support systems. (6.25)

Unit-II

Q4 (a) Why is the entity-relationship modeling technique not suitable for the data warehouse? How is dimensional modeling different?   (6.25)
   (b) What is fact less fact table? Design a simple Star schema with a fact less fact table to track patients in a hospital by diagnostic procedures and time.   (6.25)

Q5 (a) What are aggregate fact tables? Why are they needed explain with example.   (6.25)
   (b) Explain STAR Schema with example and why a dimension table is wide and fact table is deep.   (6.25)

Unit-III

Q6 (a) What are Multidimension Databases (MDDBS)? How do these store data?   (6.25)
   (b) How is data mining different from OLAP. Explain with example. (6.25)

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Q7 (a) Explain knowledge Discovery Process (KDD) in detail.   (6.25)
    (b) Compare and summarize the major distinguished features between OLTP and OLAP.   (6.25)

Unit-IV

Q8 (a) How does the memory based reasoning (MBR) technique work? What is the underlying principle?   (6.25)
    (b) Write the three common applications of the link analysis technique.(6.25)

Q9 (a) Explain the following Data Mining technique with example.   (6.25)
        (i) Decision tree based   (ii) Memory based reasoning
    (b) What is the difference between clustering and grouping of Data? Explain the clustering techniques in detail.   (6.25)

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