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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Second Semester, M.Tech. - Computer Science and Engineering (MCSE)

Semester End Examination; May / June - 2018

Business Intelligence and its Applications

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

- 1 a. Describe why update-driven approach is preferred over query-driven approach for the integration of multiple heterogeneous information sources. 10
- b. With the help of diagram, list and explain the phases of a generic BI program. 10
- 2 a. In a data warehouse technology, describe a multiple dimensional view using ROLAP and MOLAP techniques. 10
- b. Briefly explain the benefits of having information flow embodied as part of a business process model. 10

UNIT - II

- 3 a. Briefly compare the following concepts : 10
- i) Data cleaning, data transformation, Refresh
- ii) Enterprise warehouse, data mart, virtual warehouse
- b. Discuss predictive analytics. 10
- 4 a. Discuss the processing stages of an information flow: 10
- b. Briefly explain the formal frameworks used for information and activity modeling. 10

UNIT - III

- 5 a. Suppose that a data warehouse consist of the three dimensions time, doctor and patient and the two measures count and charge, where charge is the fee that a doctor charges a patient for a visit. 10
- i) Enumerate three classes of schemes that are popularly used for modeling data warehouses
- ii) Draw a schema diagram for the above data warehouse using one of the schema classes listed in (i)
- b. With the help of diagram, briefly explain the 'Conduct, Information Consumer Interviews' phase of data requirement analysis process. 10
- 6 a. For the case study given in question no. 5(a) 10
- i) Starting with the base cuboid (day, doctor, patient), what specific OLAP operations should be performed in order to list the total fee collected by each doctor in 2004?
- (ii) To obtain the same list, write an SQL query assuming the data is stored in relational data base with the schema fee (day, month, year, doctor, hospital, patient, count, charge)

- b. With the help of diagram, briefly explain the synthesizing requirements phase of data requirements analysis process. 10

UNIT - IV

- 7 a. List and explain zone of the guidelines to be considered while laying out a BI dashboard. 10
- b. Briefly explain the value drivers relevant to at the enterprise level. 10
- 8 a. Write a note on data latency and data synchrony. 10
- b. Discuss Business Intelligence user types. 10

UNIT - V

- 9 a. Write short note on:
 - i) Scorecard and dash boards 10
 - ii) Integrated analytics
- b. List and briefly write different kinds of Query and reporting that are expected in a BI environment. 10
- 10 a. Write note on:
 - i) Event, Stream processing 10
 - ii) Data mining tasks
- b. List and explain key factors that must be considered when detailing any component of the data integration framework. 10

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