UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2017

Program: B.Tech (CS-TI)	**Semester –**	VII
Subject (Course): Business Intelligence	**Max. Marks**	: 100
Course Code : CSMB383	**Duration**	: 3 Hrs
No. of page/s:3		

Section A

Answer all questions. [4x5=20]

1. Differentiate between knowledge & intelligence.

2. What is Data Marts?

3. What is risk management?

4. What is HOLAP?

Section B

Answer any 6 questions. [6x10=60]

5. Differentiate between ROLAP & MOLAP..

6. Explain star schema & snowflake schema in detail with respect to MOLAP.

7. What are the best practices in BI design?

8. What are the project planning activities? Explain in detail.

9. What are the different backup and restoration method?

10. Differentiate between centralized and decentralized BI architecture.

11. Differentiate between relational and dimensional reporting style.

<u>Big Data</u> can be used for strategic policy making in almost any field and the Greater Manchester Waste Disposal Authority (GMWDA), England's largest Waste Disposal Authority, has turned to <u>Big Data</u> to better plan their services. In order to do that, they are collaborating with the University of Manchester who uses the data generated by the GMWDA. Together they help create environmentally sustainable solutions for Manchester and the 1.1 million tonnes of waste that is produced each year.

Waste is an important aspect of societies and getting rid of it links societies with all the economic and consumption practices that we are so familiar with as well as how we can improve our environment. Big Data can greatly contribute to that and help governments better understand what's going on and how they can incentivy citizens to improve their lives.

How the GMWDA applies Big Data, as can be seen in this video, is only one way to improve urban waste management. In many cities around the world, Big Data practices are used to reduce waste and improve waste management. In the city of <u>Songdo</u> for example, a true smart city in the making, citizens have to use a chip card to dispose their garbage. This enables the government to measure how much waste is disposed of when and where. In addition, <u>sensors</u>are placed inside the containers that measure all kinds of data. When combined with usage <u>trends</u> data or historical data, cities can forecast when the ideal moment is to empty the containers as well as optimize waste collection routes.

<u>Researchers</u> in Ethiopia are even combining geographic and socioeconomic data to better understand how household waste is spatially distributed to better manage waste practices for the whole city. Researchers from the <u>University of Stockholm</u> are using Big Data to identify how waste collection routes in the city can be optimized. Using a wide variety of data such as roughly half a million entries of waste fractions, locations and weights they were able to develop waste generation maps of Stockholm, revealing quite a few inefficiencies.

Big Data has only recently started to be used by local governments, but urban waste management is only one application of Big Data that we will see a lot more in the smart cities of the future. There are a wide range op applications ranging from public safety, traffic management or water management that can be optimized using Big Data. The smart city of the future will be a lot more effective and efficient thanks to Big Data <u>analytics</u>.

Question:

    12. What should be the BI components in the above given scenario? (please give reasons).

    13. What should be the reporting style in the above scenario and why?

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Section A

Answer all questions. [4x5=20]

1. Explain ETL process.

2. What are the types of risk in a BI project?

3. What is trending?

4. What is Real Time monitoring?

Section B

Answer any 6 questions. [6x10=60]

5. Explain in detail HOLAP.

6. Which one between ROLAP and MOLAP is better and how?

7. What is the importance of multi-dimensional modelling?

8. What are the project planning activities? Explain in detail.

9. What do you understand by collaborative BI?

10. Differentiate between mobile and disconnected BI.

11. What do you understand by phased and incremental BI.

Answer all questions. [2x10=20]

The New York Mets turn to big data and analytics to create higher levels of engagement with fans today, while working toward longer-term fandom down the road.

The ultimate challenge for any professional sports team is filling seats and building a fan base that consistently contributes to bottom-line results. But understanding fans—and what motivates them to attend games and spend their hard-earned dollars on everything from television subscriptions to souvenirs—has traditionally proved elusive. Most teams take a swing at broad advertising and marketing campaigns, pitch emails to previous ticket buyers and hope for a good result at the cash register.

However, the New York Mets are now attempting to hit a home run with by applying data analytics to fan relationships. The franchise has entered an agreement with software firm SAS "to better understand who the fans are on more of an individual level," states Lou DePaoli, chief revenue officer for the team.

Among the things he and other executives at the Mets are interested in: What specific factors impact overall satisfaction? What motivates fans to interact with the brand and attend games, watch or listen to games, follow the team on social media, and purchase Mets merchandise.

"Being able to drill down to the individual level to understand who these fans are and what motivates them will allow us to accomplish a couple of key things," DePaoli points out. It helps the Mets boost engagement levels and, by using predictive modeling, it enables management to identify similar groups of fans so that the team can market to them more narrowly and, in the end, better engage them with the brand.

"Understanding fan behavior and motivations is crucial to creating and maintaining long-term loyalty," he adds.

DePaoli believes this reflects an evolution in thinking for sports teams and other businesses. "It is important to understand that you should not build your business plan around selling wins and losses," he says. That's because "team performance is an unstable and unsustainable business model" to build the business on.

Instead, the Mets are tuning into big data and analytics to identify the factors that maximize loyalty and build better relationships.

The task isn't without challenges. For example, if a person purchases tickets for a game with cash at the box office, the team currently doesn't ask for contact information for fear of slowing down the line. The downside is that the team doesn't know whether the person is a

season ticket holder who purchased extra tickets for a game, or is someone attending a game for the first time in years.

"We need to know exactly who is interacting with our brand and at what level," DePaoli explains.

In order to get the most from the analytics software, the team will revamp sales and marketing practices to create new data points, match the data with historical records and current patterns, and shape it into new marketing and sales practices. The goal is to expand the database, but also use the data in new and innovative ways.

"The benefits are higher levels of engagement today, which will lead to longer-term fandom down the road," DePaoli concludes.

Question:

12. What should be the BI components in the above given scenario? (please give reasons).
13. What should be the reporting style in the above scenario and why?

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