| | **UPES** UNIVERSITY WITH A PURPOSE |

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: Business Intelligence **Semester: VIII**
Program: BTech – CS (BFSI) **Time 03 hrs.**
Course Code: CSIB 387 **Max. Marks: 100**

Instructions: All questions are compulsory. Answer Section A in a single sentence. Options are given for questions 31 and 32.

SECTION A

S. No.		Marks	CO
Q 1	Business intelligence (BI) is a broad category of application programs which includes _____ a) Decision Support b) Data Mining c) OLAP d) All of the mentioned	**2**	**CO1**
Q 2	Point out the correct statement. a) OLAP is an umbrella term that refers to an assortment of software applications for analyzing an organization's raw data for intelligent decision making b) Business intelligence equips enterprises to gain business advantage from data c) BI makes an organization agile thereby giving it a lower edge in today's evolving market condition d) None of the mentioned	**2**	**CO1**
Q 3	BI can catalyze a business's success in terms of _____ a) Distinguish the products and services that drive revenues b) Rank customers and locations based on profitability c) Ranks customers and locations based on probability d) All of the mentioned	**2**	**CO1**
Q 4	Which of the following areas are affected by BI? a) Revenue b) CRM c) Sales d) All of the mentioned	**2**	**CO1**
Q 5	Point out the wrong statement. a) Data is factual information for analysis b) BI is a category of database software that provides an interface to help users quickly and interactively scrutinize the results in a variety of dimensions of the data c) Customer relationship management (CRM) entails all aspects of interaction that a company has with its customer d) None of the mentioned	**2**	**CO1**

Q 6	_____ is a performance management tool that recapitulates an organization's performance from several standpoints on a single page. a) Balanced Scorecard b) Data Cube c) Dashboard d) All of the mentioned	2	CO2
Q 7	_____ is a system where operations like data extraction, transformation and loading operations are executed. a) Data staging b) Data integration c) ETL d) None of the mentioned	2	CO2
Q 8	_____ is a category of applications and technologies for presenting and analyzing corporate and external data. a) Data warehouse b) MIS c) EIS d) All of the mentioned	2	CO2
Q 9	Which of the following is the process of basing an organization's actions and decisions on actual measured results of performance? a) Institutional performance management b) Gap analysis c) Slice and Dice d) None of the mentioned	2	CO2
Q 10	Which of the following is an unsupervised data mining technique? a) Cluster analysis only b) Both Regression and RFM Analysis c) Regression Analysis only d) RFM analysis only	2	CO2
Q 11	Which type of data sets, does k-means partitioning is suitable for a) Large data sets b) Spatial data sets c) Separated clusters d) Small data sets	2	CO3
Q 12	What type of model is used for text retrieval? a) Nearest Neighbour b) Linear Regression c) Clustering d) Non-linear regression	2	CO3
Q 13	Which of the metadata approach helps in integration with multi-vendor tools along with flexibility a) Decentralized API approach b) Centralized API approach c) Centralized or repository approach d) Decentralized or interchange approach	2	CO3

Q 14	_____ is a category of applications and technologies for presenting and analyzing corporate and external data.
	   a) Data warehouse
	   b) EIS
	   c) MIS
	   d) All of the mentioned
		2	CO3

Q 15	This is broad category of applications and technologies for gathering, storing, analyzing and providing access to data to help enterprise users make better business decisions.
	   a) Business Intelligence
	   b) Business Information Warehouse
	   c) Best practice Data Mart
	   d) Business Warehouse
		2	CO3

Q 16	Which of the following is not a component of a data warehouse?
	   a) Metadata
	   b) Lightly summarized data
	   c) Component key
	   d) Current detail data
		2	CO3

Q 17	Business intelligence is a broad category of application programs which includes:
	   a) OLAP
	   b) Decision support
	   c) Data Mining
	   d) All of the mentioned
		2	CO3

Q 18	BI can catalyze a business's success in terms of:
	   a) Distinguish the products and services that drive revenues
	   b) Rank customers and locations based on profitability
	   c) Ranks customers and locations based on probability
	   d) All of the mentioned
		2	CO3

Q 19	By default, in a _____ schema, all attributes are directly related to the key attributes.
	   a) Star
	   b) Snowflake
	   c) Relational
	   d) None of the mentioned
		2	CO3

Q 20	Which tool is used for querying data warehouse?
	   a) Data marts
	   b) Data-mining tools
	   c) Database management systems
	   d) Pick and shovels
		2	CO3

Q 21	What is the objective of a business intelligence system?
	   a) Gathering confidential information from competitors
	   b) Improving the timeliness and quality of input for decision making
	   c) Improving the timeliness and quality of decisions
	   d) All of the mentioned
		2	CO4

Q 22	Which enterprise software's primary goal is to improve and streamline internal business processes?	2	CO4

	a) SCM b) ERP c) CRM d) None of the mentioned		

Q 23	When BI is focused on external competition then, it is
	   a) External business intelligence
	   b) Smart
	   c) Illegal
	   d) Competitive intelligence
		2	CO4

Q 24	What is the main benefit of using DSS
	   a) Express problem solving
	   b) Increases organizational control
	   c) Promotes learning or training
	   d) All of the mentioned
		2	CO4

Q 25	We have Market Basket data for 1000 rental transactions at a video store. There are four videos for rent- Video A, Video B, Video C and Video D. The probability that Video D will be rented given that Video C has been rented is known as_____.
	   a) Support
	   b) Confidence
	   c) Lift
	   d) Basic probability
		2	CO4

Q 26	What is the unit called, in which character text is parses during term extraction?
	   a) Word
	   b) Token
	   c) Element
	   d) Block
		2	CO4

Q 27	What is a subset of a data warehouse?
	   a) Data set
	   b) Data mart
	   c) Data storeroom
	   d) Database
		2	CO4

Q 28	What type of model is used for text retrival:
	   a) Linear regression
	   b) Nearest neighbor
	   c) Clustering
	   d) Non-linear regression
		2	CO4

Q 29	BI systems do not obtain their data by which of the following means?
	   a) Process data purchased from data vendors
	   b) Read and process data from an operational database
	   c) Process transactions
	   d) Process extracts from operational databases
		2	CO4

Q 30	Which of the following is an IT system that supports the capture, organization and dissemination of knowledge
	   a) Knowledge management system
	   b) Workflow system
	   c) Automatic workflow sytem
		2	CO4

	d) Business process management system		

<div align="center">SECTION B</div>

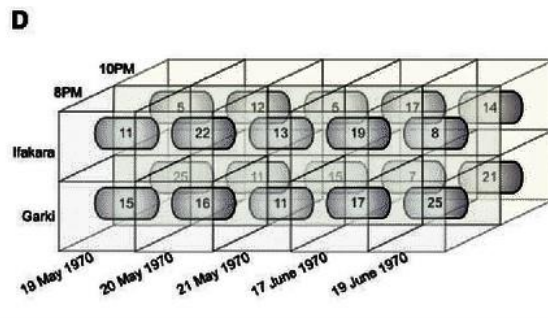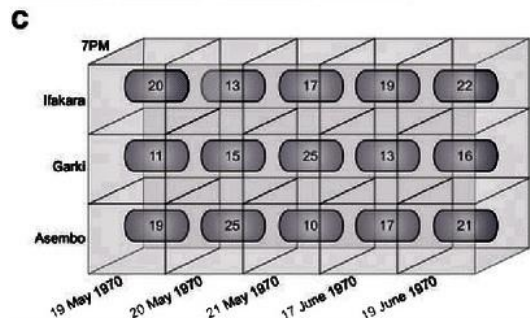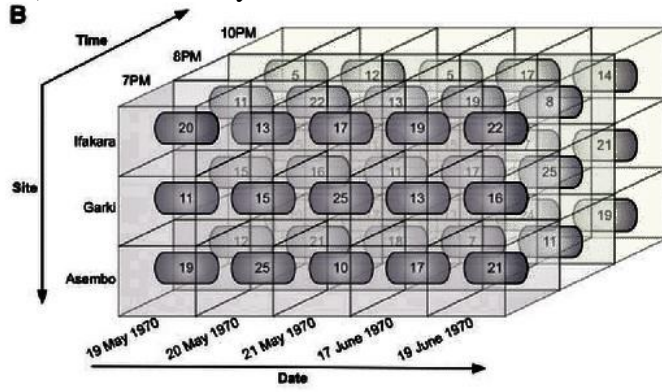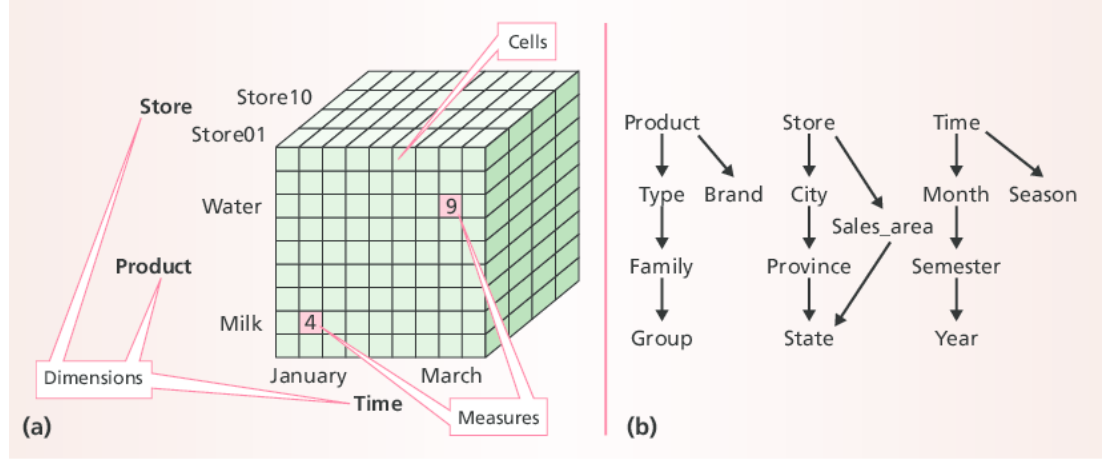| Q 31	What do you mean by analytics? What are its kinds? OR Consider the figure given below: Here Table: A represents a data set and Table: B its corresponding data cube. What does Table: C and Table: D represent? Explain how are the Tables(C and D) are created in your own words. 	10	CO1
Q 32	Suppose you have been given the following data cube(a) from a company and hierarchies on dimensions(b): 	10	CO2

Explain how cross tabulation can help to deal with the different hierarchies?

OR

Discuss the Gestalt's dashboard design principles. Which graphs should be avoided and which should be used when and how.

SECTION-C

| Q 33 | Suppose an institute offers only one diploma course on machine learning of duration 1 year. They collected some data for the past few years as given below: | 10 | CO3 |

	2016	2017	2018	2019
Students admitted	104	116	120	100
Students graduated	87	92	100	75
Research Grants applied	3	7	6	9
Research Grants received	0	3	5	4
Total Classes	72	65	64	70
Total Cost	54000	60000	64000	60000
Faculty Training Sessions	9	7	2	5

To measure the institute's performance, the management decided on some 'Key Performance Indicators' (KPIs) defined as:
1) Graduation Rate: How many students graduating in that year.
2) Research Grant: Percentage of research grant received over applied.
3) Cost per Student: The amount of money required to educate one student.

Compute the KPIs for each year. Where do you think these KPIs will be used in the Kaplan-Norton Balanced Scorecard?
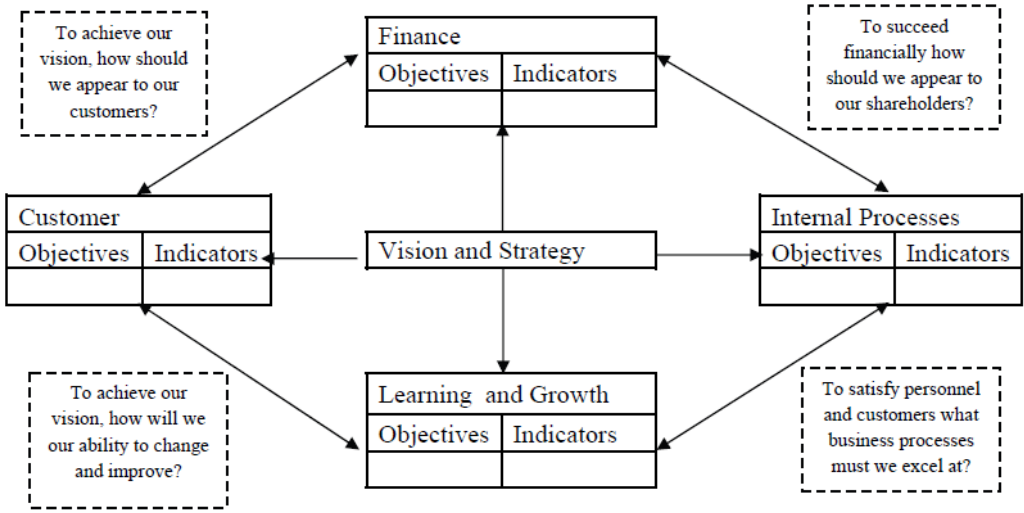
| Q 34 | A graphic novel company named 'Marvel' looked at its data as shown as below: | 10 | CO4 |

Customer complaints	100
Customer complaints resolved	70
Total Customers till last year	10000
Total Customers till today	98000
Printing Cost last year	8000
Printing Cost this year	7000
New characters introduced last year	12
New characters introduced this year	7
Incentives given to cartoonist last year	10000
Incentives given to cartoonist this year	12000
Average cost of one comic last year	95
Average cost of one comic this year	105

Based on the data, you are now asked to fill up the Objectives and Indicators in each of the four sections given below:

What kind of initiatives could you take to increase your target in each section? (Mention creating another column named Target in each section of the balanced scorecard)