Time allowed: 2 Hrs 30 Min
Max Marks: 50

Roll No: _____

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means.** All other instructions on the reverse of Admit Card should be followed meticulously.

Sections	No. of Questions to attempt	Marks	Total Marks
A	Attempt 2 long questions (from internal choices given in question 1 and 2)	2*10	20
	And	And	
	Attempt 2 short questions (from internal choices given in question 3 and 4)	2*5	10
B	Compulsory Case Study with minimum of 2 questions	20	20
			50

SECTION-A

Long Answers – 2X10 marks

1 A. Why is behavioral tracking such an important ethical dilemma today? Identify the stakeholders and interest groups in favor of and opposed to behavioral tracking. How do businesses benefit from behavioral tracking? Do people benefit? Explain your answer. What would happen if there were no behavioral tracking on the Internet? **CILO 3**

OR

1B. Explain how security and control provide business value? Describe different types of general and application control. **CILO 3**

2A. For Domino's Pizza, answer the questions given below
   a. Does the company need data warehousing or data mining and for what benefits
   b. What typical possible patterns would you like to extract by data mining. How could Domino's benefit from text mining?

CILO2

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OR

2B. Ace hardware store is a family owned business. The owners have never kept detailed inventory or sales records. As soon as a shipment of goods arrives, the items are immediately placed on store shelves. Invoices from suppliers are kept only for tax purposes. When an item is sold, the item number and price are rung up at the cash register. The owners use their own judgement in identifying items that need to be recorded. What is the business impact of this situation? How could information systems help ace hardware? What data should these systems capture? What decisions could the system improve?   **CILO 2**

Short Answers - 2X5 marks

3A. If you are setting up a website for an educational institution, what management, technology and organizational issues you may encounter?   **CILO 1**

OR

3 B Describe any three information systems trends and how they are transforming businesses   **CILO 1**

4A. What is an information system? What are its management, technology and organization components?   **CILO 1**

OR

4B. Information systems are too important to be left to computer specialists. Do you agree? Why or why not?   **CILO 1**

SECTION-B
Compulsory Case Study – 20 Marks

CRM Tools Aid Airtel in the Efficient Handling of Customer Support Processes

Bharti Airtel is a leading global telecommunications company with operations in 20 countries. The firm currently operates in 22 circles in India, providing GSM services that cover 82% of the population. It also has a wide rural reach. Bharti Airtel's Convergence Project attempts to understand the evolving needs of the different customer segments. The aim is to offer converged capabilities to customers irrespective of where they are. This means that no matter which part of the country is in, or what service they are subscribed to (GSM or broadband), their experience of interacting with the company should be consistent throughout.

When Airtel started its operations, all customer support processes were manual and complaint resolution stood at 40%. The subscriber base was growing at a rate of 15% to 20% at that time. The inability of the firm to provide a common brand experience and centralized service to all customers, irrespective of their location, put additional pressure on

the firm. There was no process in place to manage billing operations. As a result, customer retention was low and so was the quality of service compared to that of the competitors. Each process at Airtel (call centre, direct marketing, sales, billing and so on) had its own application, each of which functioned independently of the others. This did not allow the management to have a unified view of the customer data.

To tackle this problem, Airtel conducted a gap analysis by evaluating its current technology in light of problems it faced. Several processes were reengineered and the company decided to establish a centralized system for customer relationship management (CRM). Oracle e-business CRM suite was adopted, which offered services in the area of campaign management, order entry and management, and customer service. These applications were deployed for all touch points through a variety of interaction media.

As a first step, WAN was installed at all the major locations. Extranet was established at vendor and dealer outlets. This enabled easy communications among the company, vendors, dealers, and customers. Airtel then implemented its business intelligence solution that would allow for the querying of the OLTP (transaction database) and OLAP (data marts and warehouses) systems to meet the day-to-day reporting and analysis requirements. However, the turnaround time for these queries was quite high because of the heterogeneous nature of the databases, each having a different underlying database schema, dependent relations, size and technology. To address this issue of a high response time, Oracle decided to create another central database to serve as a common dedicated reporting database. It did so by implementing the Oracle Streams Replication (OSR). With the help of OSR, a replication environment (RE) was created for the various types of databases in operation at Airtel. The new database allowed for the sharing of data for the individual application-specific databases. So, any change occurring in the underlying objects in the source database would keep replicating in the destination database. The synchronized database environment now served the purpose of reporting on operational and analytical CRM queries.

Airtel also uses CRM feature called Oracle Discoverer that allows users to retrieve reports from the synchronized dedicated database. This make real-time data available to users. Both Airtel and Oracle discourage the use of online reporting to prevent the unnecessary loading of the CRM system. Consequently, the firm is able to achieve a unified view of its customer data across all products and services. This has enabled Airtel offer special loyalty programs and incentive schemes in a targeted manner. It utilizes data to cross-sell and up-sell relevant products and services to customers. For example, offers are made to customers based on their usage of a certain services. If a customer reaches a threshold, discounts and other perks are offered. Airtel also generates leads from the customer data for the purposes of SMS campaigns. This has not only reduced the number of calls made to the customer but also increased the number of services availed by the users.

Airtel's electronic billing service enables customers make payment from anywhere. It also provides customers with an option to customize their bills and simplify the process of payment. The CRM segregates applications from consumer complaints. This has led to an 8% faster resolution of customer faults. Besides, there has been a 3% reduction in fault re-occurrence and multiple failures. The system automatically escalates the complaint to a higher authority if it is not resolved within the set period of time. To aid in customer retention, the system automatically generates product suggestions to a leaving customer. An added advantage is that the current system is scalable, which means that it can accommodate the growing base of customers.

The Airtel CRM is divided into two kind of solutions: operational CRM and analytical CRM. The operational CRM looks after the day-to-day call centre activities. The customer care cell at Airtel is divided into four departments: Hotline (handles new customers), Care Touch (deals exclusively with corporates and the executive class), Retention (handles churn and retains existing customers on the verge of leaving), and Outbound (takes care of backened processing at customer care). The analytical CRM is largely used for business development activities. For example, it is utilized by Airtel to measure the success of its products and services in the market by tracking customer acquisition costs, conversion rates, retention or churn rates and loyalty measures. Application of the analytical CRM enables Airtel to answer

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several questions such as: which are the best customers? Who are likely to leave? What can be done to retain them? What is the likelihood that the customer will churn? The answers to these questions are achieved by tracking several parameters like average bill value, payment pattern, and usage among others. A rating is then assigned to the customer between 0 and 1, where 1 indicates the highest probability of leaving. Analytics also aids in fraud detection by monitoring customer transactions.

The current CRM application at Airtel has the following modules: marketing, planning, campaign management, lead management, sales activity management, knowledge management for FAQs and user guides, call centre support, and opportunity management. In a nutshell, the CRM tool has enabled the firm develop its retention and loyalty plans, provide accurate bills, and take feedback on all services.

Case study questions   **5* 4= 20 Marks**   **CILO 1, CILO 2**

Q1. What were the problems faced by Airtel prior to the implementation of a CRM application?

Q2. What was the need for a central database at Airtel? What function has OSR provided in Airtel's CRM tool?

Q3. How has the CRM application at Airtel helped in market segmentation?

Q4. What is the difference between the operational and analytical CRM at Airtel?