BBA in TM, 6th Sem. Date: May 24, 2024

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination	Summer Semester, A. Y. 2022-2023
Course No: BTM 4627	Time : 3 hours
Course Title: Enterprise Resource Planning	Full Marks : 150

Answer **all 6 (six)** questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin within brackets.

1. KFC Singapore is the local chapter of the global restaurant group specializing in serving chicken meals seasoned with a unique blend of 11 herbs and spices. Tracing its roots back to 1977, KFC Singapore is one of the first restaurant chains to open in the country and celebrated its 35th anniversary in 2012. In 2011, the restaurant chain decided to invest in an infrastructure that would not only serve as its accounting solution, but also provide workflow processes that could be used by all its HQ (Headquarters) employees from any device, at any time, from anywhere.
Based on the above statement answer the following questions:

a) In which infrastructure do you think KFC Singapore invested? Explain major   13   (CO2)
advantages they will get from their investment.   (PO2)

b) To manage this transition, what kinds of common pitfalls should you consider?   07   (CO2)
Explain how you can avoid them with examples.   (PO2)

c) A lack of skilled talent in hot technology areas makes resignations, sicknesses, and   05   (CO2)
geopolitical travel barriers harder to manage. To tackle these challenges, what   (PO2)
solutions do you suggest? Justify it with examples.

2. Once upon a time, two friends launched a candy wholesale business. Then, they ran into a problem: shipping melt-prone chocolate bars during summer months. After the pals designed a heat-sensitive supply chain, other food companies turned to them for help. The duo rebranded as Green Rabbit, a supply chain logistics provider specializing in fast delivery of perishable goods. That shift in strategy tested the company's current processes, which relied on QuickBooks, Excel and email. Green Rabbit's multiple databases couldn't communicate with one another, making real-time data analysis impossible. The warehouse was often waiting on help from the IT team, too.
Based on the above statement answer the following questions:

a) As an IT consultant, do you think that ERP software is inflexible? Justify your   05   (CO2)
opinion.   (PO2)

b) Based on your company's current situation, from which vendor do you suggest to   12   (CO2)
buy ERP systems. Discuss advantages and disadvantages of your recommended   (PO2)
systems.

c) What return can a company expect from ERP investment? How long does it take   08   (CO2)
to see a return on an ERP investment?   (PO2)

3. Ranbaxy Laboratories Ltd is one of the leading pharmaceutical companies in India, which was established in 1961. The company had used legacy systems such as Tallyon financial department. MRP-I for inventory and product planning departments and MRP-II for material requirement planning, product planning, inventory management and manufacturing. However, there were many issues with this legacy system because they were not connected among each other. Therefore, it was complex for managers to avail a streamlined flow of information. However, Ranbaxy decided to use the SAP ERP package, which was implemented to increase organization efficiency, inventory control, cost reduction, increased profit and proper business flow. Hence, with the help of SAP, all the departments generate information more accurately and available in real time. First, SAP divides a single process into smaller sub-process, and then after keeping track of every process and coordinated between various departments, as a result departments will identify performance earlier and appropriate decisions are made to enhance the efficiency of departments. Besides this SAP helped to reduce costs and enhanced organizational productivity by reducing labor cost, transportation cost and integration with various suppliers and vendors. The process flows after the implementation of SAP ERP system are given below:

• Project planning and forecasting	• Creation of purchase orders (Pos)
• Raising indent, Invoice creation	• Receiving and delivering materials
• RFQ (Request for Quotation)	• Manufacturing request

At the First step, SAP helps to know the required quantity of medicines to be manufactured along with the date of exhaustion of stocks. In the second step, SAP is used to indent for requisitioning of materials and identify the location where materials are needed. In the third step, SAP sends requests for quotations to the various approved vendors, then after procurement departments compare and select the best suppliers based on cost, quality, time, shipment, and other factors. Finalized quotations are sent to the purchase department, then after purchase order contains the terms and conditions which is laid out by the legal department and a copy of purchase order is sent to the finance department. SAP helps to acknowledge the successful delivery of materials through its receipts. SAP gives information about materials which are required by the manufacturing personnel through its move-indent request. Finally, invoices are generated by SAP for the finance department and they are recorded in the General Ledger. Therefore, SAP ERP has been successfully implemented to achieve integration and increase the efficiency of the business process at Ranbaxy.

Based on the above statement answer the following questions:

a) Discuss the flow of information before the implementation of the ERP system at Ranbaxy   08   (CO3)(PO4)

b) Describe how the SAP has helped Ranbaxy overcome its previous Problems.   08   (CO3)(PO4)

c) Explain the process flow after the implementation of the SAP system.   09   (CO3)(PO4)

4. a) How do databases play a critical role in the functionality of ERP systems? Explain how programming technologies are used to customize and extend ERP software to meet specific business needs.   09   (CO1) (PO1)

   b) How do OLAP, OLTP, and ETL processes contribute to the functionality and data management of an ERP system?   08   (CO1) (PO1)

   c) **Scenario 1:**   08   (CO3) (PO4)
   GizmoZone, an electronics retailer, wants to analyze its customer data to identify groups of customers with similar purchasing behavior. By examining patterns in customer demographics, product preferences, and purchase history, GizmoZone aims to segment its customer base into distinct groups. This segmentation will enable GizmoZone to personalize marketing campaigns, recommend products more accurately, and enhance customer satisfaction.

   Scenario 2:
   MediCareFirst, a healthcare provider, seeks to develop a predictive model to identify patients at risk of developing a particular medical condition. By analyzing patient data, including medical history, diagnostic tests, and lifestyle factors, MediCareFirst aims to categorize patients into different risk categories. This predictive modeling will help MediCareFirst intervene early with preventive measures, improve patient outcomes, and optimize resource allocation within the healthcare system.

   Based on the above scenarios, identify the types of machine learning techniques used for each scenario, and provide explanations for each. How does Artificial Intelligence connect with Machine Learning?

5. Our first successful ERP implementation case study focuses on Cadbury, a 123-year-old confectioner currently owned by American snack foods conglomerate Mondelēz International. The company was on an accelerated growth track while facing problems meeting its production and distribution requirements.
   Subsequently, SAP was engaged to resolve these concerns. Along with other significant changes triggered by the ERP implementation, multi-node resources management was extended throughout its supply chain, along with a complete revamping of existing warehouse and distribution processes.
   The consequent impacts allowed Cadbury to reduce overall operating costs, while its newly engaged supply chain produced significantly better production efficiencies throughout its manufacturing chain.
   Based on the above statement answer the following questions:

   a) ERP serves as a platform to support business processes & business strategy, not a technical improvement. Explain it.   05   (CO2) (PO2)

   b) Why is it important to calculate Cost benefit analysis for ERP implementation? Explain it with examples.   08   (CO2) (PO2)

   c) Discuss different phases of ERP implementation life cycle.   12   (CO2) (PO2)

6. A retail chain 'ABC' places an order with Bicycle Manufacturing Co. for a shipment of bicycles to restock their stores ahead of the upcoming cycling season. The sales department verifies the order details, ensuring the correct models and quantities are requested. The warehouse team then selects the bicycles from inventory, packages them securely, and arranges for shipment via the company's trusted logistics partner. Meanwhile, the accounting department generates the invoice for the order, including applicable taxes and shipping charges. Upon receipt of the shipment, the retail chain processes the invoice and initiates payment to Bicycle Manufacturing Co. The accounting department records the payment receipt, ensuring accurate financial reporting.

Based on the above statement answer the following questions:

a)	Distinguish between business process and business function with examples.	08	(CO1) (PO1)
b)	Discuss the types of inefficiencies (delays, etc.) associated with the manual execution of this process.	08	(CO3) (PO4)
c)	To overcome current inefficiencies, what do you suggest to Bicycle Manufacturing Co. Explain how your suggested systems solve the problem of the current fulfillment process.	09	(CO3) (PO4)