


National University of Computer and Emerging Sciences, Lahore Campus

	Course Name:	Enterprise Information Systems	Course Code:	CS-3011
	Degree Program:	BSE	Semester:	Spring 2023
	Exam Duration:	180 Minutes	Total Marks:	68+20
	Paper Date:	01-06-2023	Weight	40
	Sections:	ALL	No of Page(s):	8
	Exam Type:	Final		

Student : Name: _____ Roll No. _____ Section: _____

Instruction/Notes: Attempt all questions on question paper in the space given below each question.

Q1: This exercise tests your understanding of the information needed to trace a sale through a multistep ERP sales cycle: sales order, inventory sourcing, delivery, billing, and payment. Assume that an order has been placed with your company and entered into your ERP system. The following events then take place:

a. The system automatically checks the customer's credit and finds it to be acceptable. The order is recorded for the delivery date requested.

No change in wealth

Obligation increased by company to customer

Obligation increased for customer to pay against order

b. The system schedules the production of the goods. (There is not enough inventory to ship from stock.)

No change in wealth

No change

No change

c. The system schedules raw material orders from the vendors to produce the goods ordered.

No change in wealth

Obligation increased for company to supplier

Obligation increased for supplier to company

d. The raw materials are received and stored.

Wealth increased

Obligation increased/no change for company to supplier

Obligation decreased for supplier to company

e. The goods are produced and reserved for shipment to the customer.

No change in wealth

No change

No change

f. The system schedules the delivery, and an invoice is printed and included with the shipment. The goods are then put on the delivery truck

Wealth decreases

Obligation for company to customer decreases

No change

g. Shipping notifies Accounting of the shipment's details.

No change

Obligation for company to shipment company increase

Obligation for shipment company to company increases

h. A month later, the customer sends in payment, which is recorded in accounting.

Wealth increases

No change

Obligation for customer to company decreases

For each of these events, list the information that must be recorded in the common database. You do not need to know how to use a database to do this, nor do you need to understand bookkeeping. For example, for the credit-check step, think about what information is needed to perform a credit check on a given customer.

At each step, did the wealth of the company increase or decrease?

At each step, how did the company's obligations to outside entities change?

At each step, how did the obligations of outside entities to the company change? [24 Points]

a.
b.
c.
d.
e.
f.
g.
h.

a. Customer data, sales data No change in wealth Obligation increased by company to customer Obligation increased for customer to pay against order
b. Sales order data and raw material/inventory data No change in wealth No change No change
c. Supplier/vendor data, sales order data, raw material data No change in wealth Obligation increased for company to supplier Obligation increased for supplier to company
d. raw material data Wealth increased Obligation to vendor/supplier of raw material increased No change
e. Customer data, warehouse data, inventory data No change in wealth No change No change
f. Customer data, warehouse data, Sales data Wealth decreases Obligation for company to customer decreases No change
g. Sales data / Shipment No change Obligation for company to shipment company increase Obligation for shipment company to company increases
h. Customer data, sales data Wealth increases No change Obligation for customer to company decreases

Q2: Develop a MRP record (complete the following figure), similar to the one in Figure 4-17 (provided below), for wheat germ for the five weeks of January. Wheat germ must be ordered in bulk-container

quantities, so the planned orders must be in multiples of 2,000 pounds. Use a lead time of one week and an initial on-hand inventory of 3,184 pounds; assume that an order of 8,000 pounds is scheduled for receipt during Week 1. Use BOM (bill of material) (Figure 4-16 provided below) for one batch of each bar. **[10 Points]**.

Complete the following figure to answer the question.

Lead time = 1 week		Week 1	Week 2	Week 3	Week 4	Week 5
MPS (cases)	NRG-A	984	984	984	984	1037
	NRG-B	422	422	422	422	444
MPS (500 lb. batches)	NRG-A	142	142	142	142	149
	NRG-B	61	61	61	61	64
Gross requirements (lb)						
Scheduled receipts						
Planned receipts						
On hand						
Planned orders						

Source Line: Course Technology/Cengage Learning.

The MRP record for **Wheat germs in NRG bars, Weeks 1 through 5**

Oats Lead time = 2 weeks		Week 1	Week 2	Week 3	Week 4	Week 5
MPS (cases)	NRG-A	984	984	984	984	1037
	NRG-B	422	422	422	422	444
MPS (500 lb. batches)	NRG-A	142	142	142	142	149
	NRG-B	61	61	61	61	64
Gross requirements (lb)		57,850	57,850	57,850	57,850	60,700
Scheduled receipts		44,000	44,000			
Planned receipts				88,000	44,000	44,000
On hand	29,650	15,800	1,950	32,100	18,250	1,550
Planned orders		88,000	44,000	44,000		

Source Line: Course Technology/Cengage Learning.

FIGURE 4-17 The MRP record for oats in NRG bars, Weeks 1 through 5

Ingredient	Quantity	
	NRG-A	NRG-B
Oats (lb.)	300	250
Wheat germ (lb.)	50	50
Cinnamon (lb.)	5	5
Nutmeg (lb.)	2	2
Cloves (lb.)	1	1
Honey (gal.)	10	10
Canola oil (gal.)	7	7
Vit./min. powder (lb.)	5	5
Carob chips (lb.)	50	
Raisins (lb.)	50	
Protein powder (lb.)		50
Hazelnuts (lb.)		30
Dates (lb.)		70

Source Line: Course Technology/Cengage Learning.

FIGURE 4-16 The bill of material (BOM) for Fitter's NRG bars

Wheat lead time: 1 week	Week 1	Week 2	Week 3	Week 4	Week 5
MPS NRG-A	984	984	984	984	1037
(cases) NRG-B	422	422	422	422	444
MPS NRG A	142	142	142	142	149
(500lb batches) NRG B	61	61	61	61	64
Gross Requirements (lb)	10150	10150	10150	10150	10650
Schedule Receipt	8000				
Planned Receipt		10,000	10,000	10,000	12,000
On hand 3184 pounds	1034	884	734	584	1934
Planned Order	10,000	10,000	10,000	12,000	

Q3: Fitter's current sales order accounting processes involves recording sales in each division and then periodically sending certain sales data to Accounting for invoicing and financial reporting. Complete sales order data are retained in each sales division for business analysis purposes.

Assume that different divisions of the Yummy Foods Company buy NRG-A and NRG-B bars from each of Fitter's sales divisions. To complicate matters, some divisions of Yummy buy store-brand bars from Fitter. (Yummy owns

convenience store outlets.) Fitter management has asked for an analysis of the Yummy Foods account. They want to determine if there are opportunities to expand the company's relationship with Yummy; however, they want to assess the profitability of the relationship before proceeding. The management team wants to see what products each division sells to Yummy, how much is sold, and on what terms. Assume that in Fitter's current system, all the required data are available only at the sales division level. **[4+2]**

What steps will be needed to pull this companywide analysis together? (Review how each division sells its products.)

Steps starting from checking the sales division that sells products to Yummy Foods Company....

Do you think a sales division manager will be enthusiastic about sharing all data with his or her counterpart in the other division? Do you think there might be some reluctance? Why?

He wont be enthusiastic because of different reasons.

Q4: Fill each row with any of the given 3 options (from SAP ERP HR module). **[7 Points]**

- a. Position
- b. Tasks
- c. Job

Item	Option
Engineer	C Job
Trainee Engineer	A Position
Senior Cost Accountant	A Position
Accountant	C Job
Manager	C Job
Prepare Sales Reports	B Task
Review Expense Reports	B Task

Q5: Complete the following table by applying data migration concepts. **[8 Points]**

Transactional approach	Table driven approach
– Outage duration	– Outage duration
Less	More
– Data volume	– Data volume
Less	More
– Data retention	– Data retention
More	Less Or No

Enablement of new system functionality	Enablement of new system functionality
Quick	Late

Q6: Identify at least three advantages of SAP NetWeaver tool that any employee working in any of the divisions/departments can have if SAP ERP is implemented in Fitter's. Clearly mention the position/designation of the employee and also how NetWeaver can help him/her function in the company (you can use same position to identify more than one advantage separately). **[9 Points]**

For each position employees using either of the following functionalities to perform their jobs.

Enterprise Portal, Mobile

Infrastructure, Business Intelligence, Master Data Management, and Exchange

Infrastructure.

1: Position: _____

Advantage of NetWeaver:

2: Position: _____

Advantage of NetWeaver:

3: Position: _____

Advantage of NetWeaver:

Q7: In-memory computing technology is changing the face of BI (business intelligence). Please identify at least two ways how in-memory computation is better than traditionally doing BI. **[4 Points]**

1. Allow for relationships in the data to be analyzed quickly

2. Data compression provided by column storage

a. Makes it possible to store large volumes of data in memory without aggregation

b. Multidimensional cubes are not required

3. No limitation on analysis

Q8: MCQs: Encircle correct option (more than one can apply). [20 Points]

1. Successful business managers view their business operations from the perspective of a(n):

A) satisfied customer

- B) positive cash flow
 - C) profitable sale
 - D) accurate sales forecast
2. Information systems that are designed so functional areas share data are called integrated information systems.
- A) True
 - B) False
3. Today's managers are beginning to think in terms of business process. A business process cuts across which functional areas of operation?
- A) Marketing and Sales
 - B) Supply Chain Management
 - C) Accounting and Finance
 - D) Human Resources
 - E) All of the above
4. Which of the following describes an ERP system?
- A) ERP systems provide a foundation for collaboration between departments
 - B) ERP systems enable people in different business areas to communicate
 - C) ERP systems have been widely adopted in large organizations to store critical knowledge used to make the decisions that drive the organization's performance
 - D) All of the above
5. Customer specific products are also known as _____.
- A) make-to-stock.
 - B) make-to-order.
 - C) goods.
 - D) expected products.
6. Functions are highly structured at
- A) Operation Level
 - B) Management Level (middle level)
 - C) Strategic Level
7. Resources are predefined at
- A) Operation Level
 - B) Management Level (middle level)
 - C) Strategic Level
8. Less quantitative requirements at C level and more on A level
- A) Operation Level
 - B) Management Level (middle level)
 - C) Strategic Level
9. More quality of information at C level and less quality of information at A level
- A) Operation Level

- B) Management Level (middle level)
- C) Strategic Level

10. If you order a company some product, it is not production or materials or sales function that deliver you the product, but the order fulfillment process that delivers you the product.

- A) True
- B) False

11. During business process redesign, ERP driven approach is recommended.

- A) True
- B) False

12. During ERP system design process, configure the system, data migration, develop interfaces activities belong to

- A) Requirement analysis
- B) Design
- C) Planning
- D) Detailed design
- E) Implementation
- F) Maintenance

13. During ERP system design process, Re-engineering business process or customize the software activities belong to

- A) Requirement analysis
- B) Design
- C) Planning
- D) Detailed design
- E) Implementation
- F) Maintenance

14. During ERP system design process, analyze current business processes and specify the processes to be supported, select the ERP system activities belong to

- A) Requirement analysis
- B) Design
- C) Planning
- D) Detailed design
- E) Implementation
- F) Maintenance

15. In the context of process improvement value analysis, value for which the customer is willing to pay is

- A) Business value
- B) Real value
- C) No value

16. "Mail expense report" process in Fitter's to be initiated by a sales person adds

- A) Business value

- B) Real value
- C) No value

17. Manufacturing firms are more likely to see a positive ROI (return on investment) than government or educational organizations.

- A) True
- B) False

18. It is much easier to customize an ERP program during system configuration , before any data have been stored

- A) True
- B) False