



Semester Two 2020 Sample Examination Period

Faculty of Information Technology

EXAM CODES: FIT2090
TITLE OF PAPER: Business information systems and processes
EXAM DURATION: 2 hours 10 mins

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Authorised Materials

CALCULATORS	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	Calculator
DICTIONARIES	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
NOTES	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	
PERMITTED ITEM	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	

if yes, items permitted are:

Instructions

Answer all questions in this exam.

This paper contributes to 60% of the unit assessment

This exam consists of three sections:

Section A: 12 multiple choice questions worth 1 mark each. Subtotal 12 marks

Section B: 4 short answer questions worth 10 marks each. Subtotal 40 marks

Section C: Mini case. Subtotal 18 marks

Total 70 marks

Section A

Question 1

A business process _

1

Mark

Select one:

- ☐ a. is a network comprising activities that have precedence relationships
- ☐ b. can affect the efficiency of operations in the organisation
- ☐ c. that cuts across functional areas of an organisation may need to be re-designed
- ☐ d. All of the above

Question 2

A symbol used in data flow diagrams (DFDs) to depict an entity or process within which incoming data flows are transformed into outgoing data flows is a(n):

1

Mark

Select one:

- ☐ a. data flow symbol
- ☐ b. external entity symbol
- ☐ c. bubble symbol
- ☐ d. data store symbol

Question 3

A transaction processing system (TPS) is the basic business system that assists operational level analysts when making structured decisions. Which of the below is not an example of a TPS?

1

Mark

Select one:

- ☐ a. Target's internal company payroll system
- ☐ b. Comfort Dental patient diagnosis system
- ☐ c. First Bank's overall accounting system
- ☐ d. Stewart Sport's order entry system

Question 4

Data is useful for understanding individual sales, but to gain deeper insight into a business data needs to be turned into information. Which of the following offers an example of turning data into information?

1
Mark

Select one:

- ☐ a.
Who are my best customers?
- ☐ b.
What is my best-selling product?
- ☐ c.
What is my worst-selling product?
- ☐ d.
All the answers are correct

Question 5

Jenny Lim works as the Chief Knowledge Officer for Bright Star Company. She has been given the responsibility to create a product or service that will bring an added value to its customers to increase the company's revenue. Jenny determines that the best value she can add is by creating a service that offers free next day shipping on any order over \$50. Where in the value chain is Jenny adding value?

1
Mark

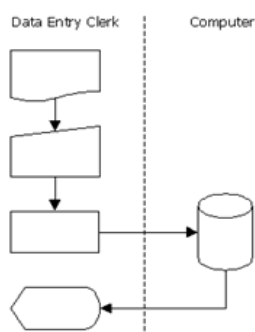
Select one:

- ☐ a.
The primary value activity outbound logistics.
- ☐ b.
The primary value activity inbound logistics.
- ☐ c.
The primary value activity marketing and sales.
- ☐ d.
The primary value activity operations.

Question 6

The following systems flowchart segment depicts a data entry clerk keying data from a source document into a business event data store. Which statement is correct?

1
Mark



Select one:

- ☐ a.
The systems flowchart was created properly.
- ☐ b.
The arrow between the computer process and the data store should be bi-directional.
- ☐ c.
The computer process should be shown in the computer column.
- ☐ d.
The second symbol in the data entry clerk column should be a square.

Question 7

Those entities which perform no information processing activities for the system are called:

1
Mark

Select one:

- ☐ a. environmental entities
- ☐ b. internal entities
- ☐ c. boundary entities
- ☐ d. external entities

Question 8

Which data flow diagram (DFD) symbol portrays a source or destination of data outside the system?

1
Mark

Select one:

- ☐ a. data flow symbol
- ☐ b. external entity symbol
- ☐ c. bubble symbol
- ☐ d. data store symbol

Question 9

Which of the following data flow diagram (DFD) guidelines is correct?

1
Mark

Select one:

- ☐ a. Include within the system context any entity that performs one or more information processing activities.
- ☐ b. Read computer data stores from the bubble that requires the data
- ☐ c. Include within the system context any entity in the system narrative
- ☐ d. Data flows should never go from higher- to lower-numbered bubbles

Question 10

Which of the following data flow diagram (DFD) guidelines is incorrect?

1
Mark

Select one:

- ☐ a. include within the system context any entity that performs one or more information processing activities
- ☐ b. read computer data stores from the process bubble that requires the data
- ☐ c. include within the system context any entity in the system narrative
- ☐ d. data flows should never go from higher- to lower-numbered bubbles

Question 11

Which of the following is considered information?

1
Mark

Select one:

- ☐ a.
Date Sold
- ☐ b.
Quantity Sold
- ☐ c.
Best selling item by month
- ☐ d.
All the answers are correct

Question 12

Which of the following is not a typical way that a company would duplicate a competitive advantage?

1
Mark

Select one:

- ☐ a.
Acquiring the new technology
- ☐ b.
Copying the business operations.
- ☐ c.
Hiring away key employees
- ☐ d.
Carrying large product inventories

Section B

Question 13

Question B1

10

Marks

13a)

Would you agree that most organisations tend to make IT outsourcing decisions based on an economic perspective? Present your views.

2

Marks

13b)

Why do some organisations prefer selective IT outsourcing? Discuss.

3

Marks

13c)

ABC Credit receives an average of 1,200 credit applications per day. ABC’s advertising touts its efficiency in responding to all applications within hours. Daily application-processing activities, average times, and required preceding activities (activities that must be completed before the next activity) are listed in Table 1. The precedence diagram is shown in Figure 1.

5

Marks

Table 1: Activity Table

Activity	Time (minutes)	Immediate predecessor
A	0.18	None
B	0.22	A
C	0.15	A
D	0.11	A
E	0.25	C and D
F	0.29	B and D
G	0.40	E and F
Total	1.60	

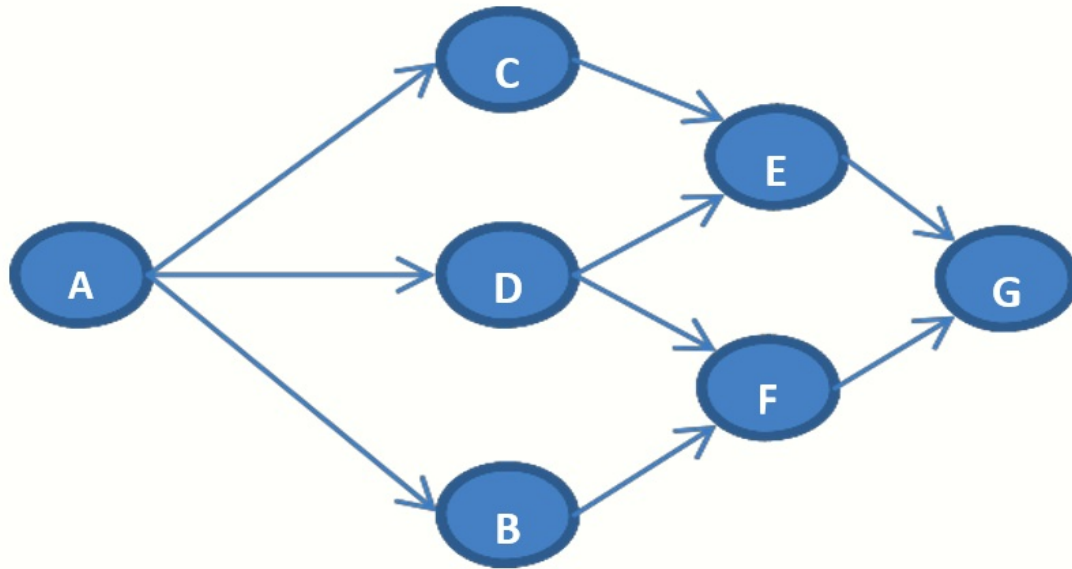


Figure 1: Precedence Diagram

Assuming an 8-hour day and using the longest activity rule as the primary rule to assign activities to stations (you can use the given template).

Station	Activities	Total time	Idle time

Compare the efficiency of the line with the theoretical maximum efficiency.

Question 14

Question B2

10

Marks

14a)

Describe how plant layout impacts material flow.

2

Marks

14b)

Load distance analysis is often used to design facilities layout. Define the load distance score.

3

Marks

14c)

A company with 4 departments has the load matrix in Table 1 and the current layout is shown in Figure 1.

5

Marks

Table 1: Load Matrix

From/To	B	C	D
A	12	10	8
B		20	6

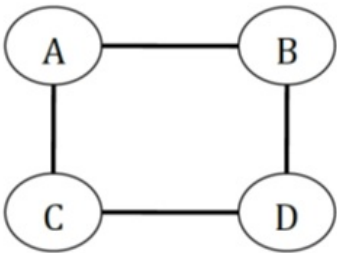


Figure 1: Current Layout of the four departments.

- i. What is the load-distance score for the current layout? Assume rectilinear distance.
- ii. Find a better layout for the company giving its total load-distance score.

You can use the following template:

		i. Current Design		ii. New Design	
Centers	Load	Distance	LD score	Distance	LD score
		Total			

Question 15

Question B3

10

Marks

15a)

What are the charts that are typically used for process flow analysis?

2

Marks

15b)

Describe the meaning of quality.

2

Marks

15c)

Why is it important to continually monitor process performance?

3

Marks

15d)

A branch office of the University Federal Credit Union processes 3,000 loan applications per year. On average, loan applications are processed in 2 weeks. Assuming 50 weeks per year, how many loan applications can be found in the various stages of processing within the bank at any given time?

3

Marks

Question 16

Question B4

10
Marks

16a)

What is the relationship between WIP and the input and output rates over time?

5
Marks

16b)

Consider the process flow chart in Figure 2. The estimated waiting time and processing time for each activity in the process are shown in Table 2. All times are given in minutes.

5
Marks

Assuming a job is never reworked more than once in the same rework loop.

- Calculate the average CT for this process.
- Calculate the CT efficiency.

Table 2: Activity Time

Activity	Waiting Time (min)	Processing Time (min)
A	7	3
B	5	8
C	4	2
D	10	5
E	7	2
F	0	3
G	2	5
H	8	9
I	2	8

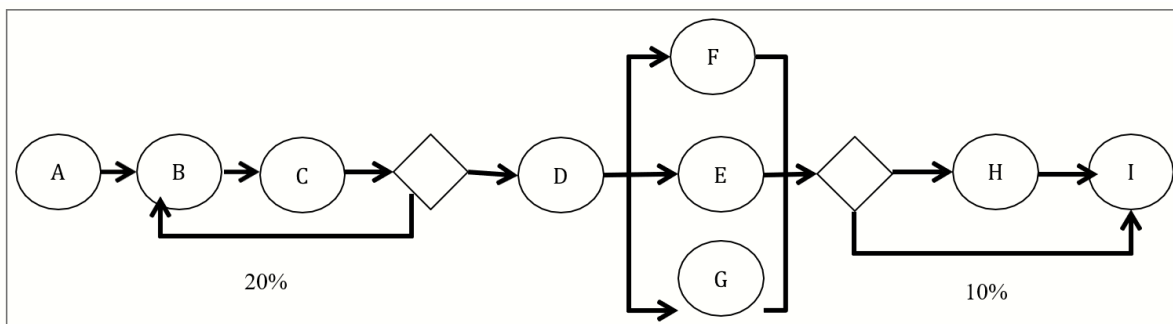


Figure 1: Process flow chart

Question 17

From Stand-Alone to Integrated Applications

18
Marks

YIOULA Group is the largest glass manufacturer in the Balkan, producing over 625,000 glass

containers annually as well as over 30,000 tons of tableware. Starting in the 1990s in Greece, the company expanded by acquiring other glassmaking forms in Romania, Bulgaria and Ukraine. The company has 7 factories in 4 countries, about 2,100 employees, and net annual sales of about €180 million (about AUD\$280 million).

As a result of its growth through acquisition, YIOULA Group found itself with a confusing variety of information systems. The group was unable to compare production costs for the same item across factories, could not improve efficiencies by coordinating purchasing and financial management across its plants, and was not positioned for continued growth or expansion into new market areas. Clearly, its legacy stand-alone applications needed to be replaced.

YIOULA Group CIO Zacharias Maridakis had previous experience using integrated enterprise software when he worked at Mobil Oil's Greek subsidiary, Mobil Oil Hellas S.A., in the 1990s. Therefore he was well acquainted with the advantages of the software. Under his direction, YIOULA Group investigated various software packages. They selected JD Edwards EnterpriseOne, named for a company that had become part of Oracle Corporation in 2005. Part of the reason for this choice was that most other ERP packages, including the SAP software with which Maridakis had worked at Mobil, are designed primarily for much larger organisations. EnterpriseOne was always intended to medium-sized firms.

Because YIOULA Group had little experience with EnterpriseOne, it enlisted the help of Oracle partner Softecon to help configure the software to the company's needs, meet the legal requirements of each region in which it operates, and manage implementation in each area. Support for the Greek language (as well as English and 18 others) is a standard JD Edwards EnterpriseOne capability available from Oracle; Softecon added the other languages that YIOULA Group needed to the user interface. YIOULA Group also added a specialised cost comparison module from Softecon to the basic EnterpriseOne package. This module helps the group choose the lowest cost facility to manufacture a product.

The conversion to a single enterprise package gave YIOULA Group the expected benefits. Times from order to invoice, delivery time, and cash collection have all been accelerated. Financial data is now available two weeks after the end of a period versus one month previously. A consolidated view of inventory across all plants has enabled the group to manage inventory more efficiently and comprehensively and to use just-in-time purchasing methods.

Perhaps even more importantly, YIOULA Group is now positioned to grow. As Maridakis puts it, "Oracle's JD Edwards EnterpriseOne is a key enabler of our strategy to enhance market leadership in the Balkans, grow our business in the Ukraine, and continue to improve productivity, efficiency, and profitability as we expand into new markets."

17a)

What an enterprise system is? Discuss the advantages of an enterprise system.

3

Marks

17b)

Discuss the problems the YIOULA Group's stand-alone legacy software created for the company?

3

Marks

17c)

Describe the advantages of Enterprise Resource Planning (ERP) systems over stand-alone software packages?

3

Marks

17d)

What immediate and long-term needs did EnterpriseOne fill for the YIOULA Group?

3

Marks

17e)

What are the challenges of implementing ERP? Discuss how organisations such as YIOULA, could overcome these issues or challenges.

6

Marks