INTI International University & Colleges

FINAL
Examination Paper

(COVER PAGE)

Session	:	August 2016
Programme	:	Diploma In Information And Communication Technology (DICTN)
Course	:	**ICT1106: System Analysis And Design**
Date of Examination	:	09 December, 2016 (Friday)
Time	:	8:00am – 10:00am Reading Time : Nil
Duration	:	2 Hours

Special Instructions :

This paper consists of **SIX (6)** questions. Answer any **FOUR (4)** questions in the answer booklet provided. All questions carry equal marks.

Materials permitted :
Non-Programmable Calculator

Materials provided :
Graph paper

Examiner(s) : **Shahriman Mohd Said** and Tan Kok Cheng

Moderator : Professor Dr. Abdullah Gani

This paper consists of 6 printed pages, including the cover page

DIPLOMA IN INFORMATION AND COMMUNICATIONS TECHNOLOGY PROGRAMME (DICTN)
ICT1106: SYSTEM ANALYSIS AND DESIGN
FINAL EXAMINATION: AUGUST 2016 SESSION

Instruction: This paper consists of **SIX (6)** questions. Answer any **FOUR (4)** questions in the answer booklet provided. All questions carry equal marks.

Question 1

(a) Identify **TWO (2)** methods a company can obtain a new application software to replace the current one. Discuss **ONE (1)** advantage and **ONE (1)** disadvantage for each off the two methods proposed.

(10 marks)

(b) Explain the **THREE (3)** responsibilities of a system analyst. List any **FOUR (4)** skills a system analyst should possess.

(10 marks)

(c) List any **FIVE (5)** types of information system that will be used within an organization.

(5 marks)

(Total: 25 marks)

Question 2

(a) Define *technical feasibility*. List the **FIVE (5)** questions you would use to determine the technical feasibility of a proposed new system.

(7 marks)

(b) List **TWO (2)** examples of *intangible costs*. Explain the difficulty of justifying *intangible costs*.

(6 marks)

(c) What is *system requirement*? List the **FIVE (5)** categories of system requirement and provide **TWO (2)** examples for each of the category identified.

(12 marks)

(Total: 25 marks)

Question 3

(a) A *post implementation review* is conducted after a project has been completed. Identify **TWO (2)** purposes of a *post implementation review*? List any **FIVE (5)** items for review during a *post implementation review*.

(10 marks)

(b) How would you determine the people and the objectives for a fact-finding interview? List the **TWO (2)** reasons you may give for an unsuccessful fact-finding interview.

(10 marks)

(c) Give one example that will illustrate the concept of objects aggregation and composition. Sketch out this example.

(5 marks)

(Total: 25 marks)

Question 4

(a) Understand the following system requirements for a shop.

A manager must ensure the shop has products to sell. He normally orders his products from a selected group of suppliers.

Based on the above requirement statements, identify the **FOUR (4)** objects. Sketch these objects with at least 3 attributes and 1 method.

(12 marks)

(c) The following table describes the costs and benefits of developing and operating a new system for the next several years. Using this table information, determine the estimated payback period and the calculated return on investment (ROI) at Year 8.

The company will approve a new software development if the software's payback period is within 3 years and its ROI must exceed 89%. What can you conclude about this new software development?

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
COST (RM)	100k	15k	15k	17k	18k	20k	35k	30k	60k
BENEFIT (RM)	0	30k	150k	200k	200k	150k	120k	100k	50k

(note: k represents 1,000)

(13 marks)

(Total: 25 marks)

Question 5

(a) Explain **TWO (2)** reasons why documentation plays an important part in system development.

(5 marks)

(b) With the use of a diagram, explain the system changeover process named as the *parallel operation.*

(8 marks)

(c) Based on the description given below, draw a suitable use case diagram.

An owner of a cloud based Point of Sales company has to manage the inventory for his entire range of branches spread throughout the country.

As the owner, a person is entitled to add branches, edit branches. Once a new branch is added, the system will generate a new branch programmatically so that the specific branch is ready to use.

The manager of each branch on the other hand, will only be able to add, edit, and delete products from his branch's inventory. A branch will also have their own sales representative, who will be able to scan products, and print a receipt (optional). To scan a product, the sales representative will use a QR Code reader to scan the barcode on the item.

This can also be done by the manager of the particular branch. The manager of the branch will be able to see a sales report of his branch, but the owner will be able to see the sales report of all the branches

(12 marks)

(Total: 25 marks)

Question 6

(a) List the **FIVE (5)** steps you would use to implement in-house software training.

(5 marks)

(b) Explain the term *preventive maintenance* and *corrective maintenance*. Give **ONE (1)** example activity of each maintenance.

(6 marks)

(c) Consider the following network of activities as shown in Diagram 1.

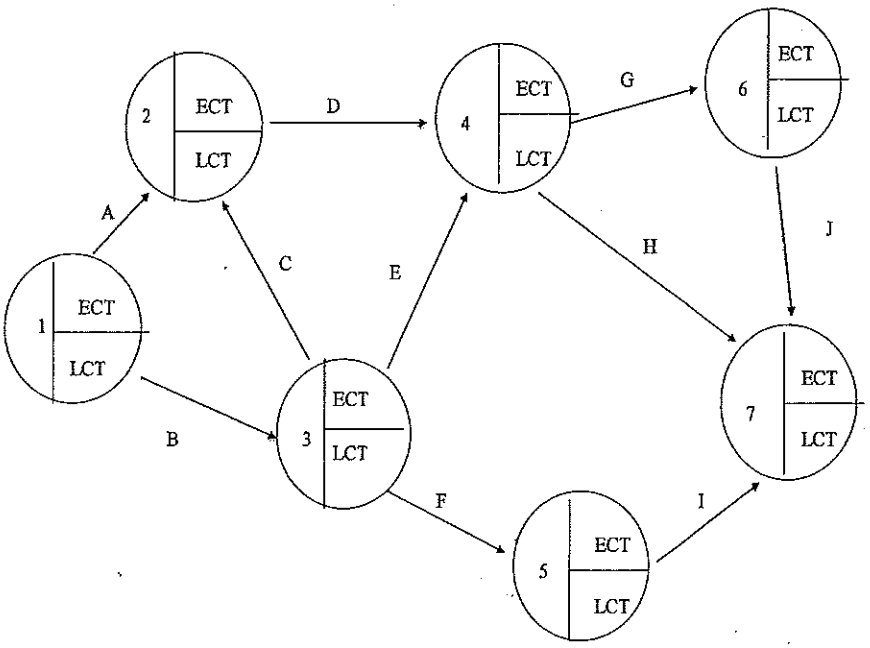

Diagram 1

Table 1

Activity	Best Time (B), weeks	Mean Time (M), weeks	Worst Time (W), weeks
A	1	2	3
B	2	3	4
C	4	5	6
D	9	10	11
E	10	11	12
F	7	8	9
G	3	4	5
H	8	9	10
I	6	7	8
J	5	6	7

Using the information given in Table 1 and in Diagram 1, you are required to do the following:

i. Determine the duration of all the activities
ii. Determine all the possible paths and decide on which path is the critical path for this project. Give a reason for your answer.
iii. Determine the Earliest Completion Time (ECT) and Latest Completion Time (LCT) for each node.

(14 marks)

(Total: 25 marks)

~ The End ~

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