FINAL
ALTERNATIVE ASSESSMENT

(COVER PAGE)

Session	:	**April 2020**
Programme	:	Diploma In Information And Communication Technology (DICTN) Diploma In Information Technology (DITN)
Course	:	**ICT1106: System Analysis And Design**
Date of Examination	:	August 3, 2020 (Monday)
Time	:	12:00noon – 2:30pm Reading Time : Nil
Duration	:	2 Hours : 30 Minutes

Special Instructions :

Section A: This section consists of **FOUR (4)** questions. Answer **ALL** the questions
Section B: This section consists of **FOUR (4)** questions. Answer **ALL** the questions.

Materials permitted :
Non-Programmable Calculator

Materials provided :
Nil

Examiner(s)	:	**Tan Kok Cheng**, Nor Athirah Azlan and Christine Retnabai Rethinam Paul
Moderator	:	Melisa Kaur Narjan Singh

*This paper consists of **4** printed pages, including the cover page*

DIPLOMA IN INFORMATION AND COMMUNICATIONS TECHNOLOGY PROGRAMME (DICTN)
DIPLOMA IN INFORMATION TECHNOLOGY PROGRAMME (DITN)
ICT1106: SYSTEM ANALYSIS AND DESIGN
FINAL EXAMINATION: APRIL 2020 SESSION

SECTION A: (20 marks)

Instructions: This section consists of **FOUR (4)** questions. Answer **ALL** the questions. in. All questions carry equal marks.

Question 1

Sketch a *Risk versus Cost* graph to show how the **FOUR (4)** system changeover methods relate to each other.

(5 marks)

Question 2

What is a maintenance activity? Provide any **FOUR (4)** examples of an adaptive maintenance.

(5 marks)

Question 3

Compare the difference between aggregation and composition. Give **TWO (2)** examples with suitable diagrams to illustrate your answer.

(5 marks)

Question 4

Explain the term *inheritance*. Provide **ONE (1)** suitable example to illustrate your answer.

(5 marks)

SECTION B (80 marks)

Instructions: This section consists of **FOUR (4)** questions. Answer **ALL** the questions.

Question 1

(a) Explain the **FOUR (4)** characteristics a system analyst can learn by asking questions about the information systems

(10 marks)

(b) Briefly explain any **FIVE (5)** external factors that may influence an ongoing system project.

(10 marks)
(Total: 20 marks)

Question 2

(a) Understand the following system requirement for an online shopping system.

A customer uses the system shopping cart to shop for the various items online. Upon checkout, the customer pays for the items with his credit card.

Based on the above requirement statements, identify at least **FOUR (4)** objects. Sketch these objects with at least 2 attributes and 1 method.

(8 marks)

(b) The following table describes the projected costs and benefits for the next five years of a proposed software development project.

Year	**0**	**1**	**2**	**3**	**4**	**5**
Costs (RM)	130,000	11,000	9,000	9,000	15,000	30,000
Benefits (RM)	0	25,000	35,000	55,000	60,000	65,000

Using the information from above, you are required to answer the following:

(i) Calculate the cumulative values of its cost and of its benefits for all the five years.

(ii) Determine when the payback will occur for this new system.

(iii) Determine the Return of Investment (ROI) for this new system at Year5.

(iv) What can you conclude about this proposed software project?

(12 marks)
(Total: 20 marks)

Question 3

(a) Briefly explain any **FIVE (5)** fact finding techniques used by a system analyst to gather user requirements for a new system development.

(10 marks)

(b) Explain the terms, *Middle Management* and *Operational Management***.** Briefly explain the systems used by these two layers of management.

(10 marks)
(Total: 20 marks)

Question 4

(a) The following is a description of an E-Kitchen Management System operated by FabFood (M) Sdn. Bhd.

A customer enters the FabFood website and begins a search in the menu for the various food offered by FabFood. Once the customer has made his choice, he begins to place an order. He is required to make a payment before he completes his order. He can choose to pay either by using his e-wallet or by using his credit card.

The administration clerk from FabFood will create a route order once the food ordered is cooked and is ready for delivery. FabFood has a group of dedicated delivery men. Each of its assigned delivery man will accept a route order, pick up the food from the kitchen and find his way to deliver the food to its customer.

At the end of the business day, the manager will generate a route order report and analyzes it.

Based on the above description, create a suitable *Use Case Diagram* for this system.
(10 marks)

(b) Consider the following software development project with the following network.

Activity Name	Activity Duration (months)	Immediate Preceding Activity
A	1	None
B	2	None
C	1	A
D	2	A
E	2	B, C
F	1	B, C
G	4	D, E
H	3	F

You are to do as follows:
(i) Draw the PERT/CPM diagram that fits the table of description above
(ii) Determine the critical path of this project.
(iii) Determine the Earliest and Latest Completion Times (ECT/LCT) for every node.

(10 marks)
(Total: 20 marks)

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