

FINAL
Examination Paper

(COVER PAGE)

Session : APRIL 2019

Programme : Diploma In Information And Communication Technology (DICTN)
Diploma In Information Technology (DITN)

Course : ICT1106: System Analysis And Design

Date of Examination : 29 July 2019, (Monday)

Time : 5:00pm – 7:00pm 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.

Materials permitted : Non-Programmable Calculator

Materials provided : Nil

Examiner(s) : Tan Kok Cheng and Koagella Utandy

Moderator : Professor Dr. Abdullah Gani

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 2019 SESSION

Instructions: 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) Describe the phases of a System Development Life Cycle (SDLC). Draw a suitable diagram to illustrate this SDLC. (15 marks)
- (b) Explain what is the *economic feasibility* of a new project? Predict any **SIX (6)** cost estimates a system analyst may use in the development of a project. (10 marks)

Question 2

- (a) What is a *system requirement*? Identify **FIVE (5)** categories of system requirements and illustrate each category with at least **ONE (1)** example. (12 marks)
- (b) Briefly explain the activities that are carried out in the following fact finding techniques: *interview*, *observation*, *document review*, and *survey*. Arrange these techniques in the best order of execution when you do your fact-finding. Explain your order of execution. (13 marks)

Question 3

- (a) Compare the difference between aggregation and composition. Give **TWO (2)** examples with suitable diagrams to illustrate your answer. (5 marks)
- (b) What is *polymorphism*? Give **TWO (2)** examples to illustrate polymorphism. You are required to show at least **THREE (3)** objects in each of your example. (10 marks)

- (c) Using the information described below, you are to sketch a class diagram. In this diagram, you are to identify the objects (only object names are required), show the relationships among the objects, and indicate the nature of the relationship using the UML notation (cardinality).

An academic course is taught by one or more lecturer(s). Each courses has its assigned textbooks. A course consists of lectures, coursework and examination.

(10 marks)

Question 4

- (a) What is a *chargeback method*? Briefly describe the **FOUR (4)** methods used in chargeback.

(9 marks)

- (b) The following table describes the costs and benefits of developing and operating a new computer system for the next six years. Using this table information, indicate when the payback period will occur and determine the return on investment (ROI) at Year 6. What can you conclude from this software investment based on its payback period and ROI?

| | YEAR 0 | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | YEAR 6 |
|---------------------|--------|--------|--------|--------|--------|--------|--------|
| COST (RM) | 70,000 | 6,000 | 6,000 | 7,000 | 10,000 | 12,000 | 15,000 |
| BENEFIT (RM) | 0 | 35,000 | 45,000 | 57,000 | 65,000 | 68,000 | 70,000 |

(16 marks)

Question 5

- (a) The following is a description of an online Bookshop System.

A browser can look, view and search for books in this shop. However, the browser needs to register with the shop if he/she wants to make an order.

Once the registered customer may place an order, the Sales Clerk will process the orders by checking the products ordered, adding the products into the delivery basket, and preparing a delivery list. When the delivery list is completed, the system generates the delivery order and assigns a delivery boy for the delivery of products. This system also allows a customer to check for the status of the order.

When the delivery boy delivered the products at the customer's home, the customer will make a cash-on-delivery payment. The delivery order boy will enter the amount received and confirms the payment into the system

Based on the above description, create a suitable *Use Case Diagram* for this online Bookshop System

(15 marks)

- (b) Sketch a proper Gantt chart with **FIVE (5)** activities and illustrate how these activities are monitored as the project is executed midway. (10 marks)

Question 6

- (a) List any **FIVE (5)** different types of testing that a programmer will carry out during the system development life cycle. (5 marks)
- (b) Give any **TWO (2)** reasons to support the importance of documentation. Briefly explain **FOUR (4)** basic facts about system documentation. (10 marks)
- (c) Briefly describe the guidelines a system analyst needs to follow when he/ she is conducting an in-house training (10 marks)

-THE END-

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