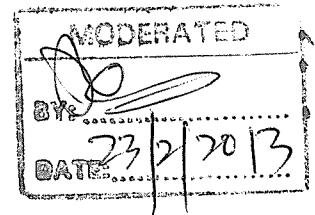


FINAL
Examination Paper
(COVER PAGE)



Session : January 2013

Programme : Diploma In Information And Communication Technology (DICTN)

Course : ICT1106 : System Analysis And Design

Date of Examination : _____

Time : _____ Reading Time: _____ Nil

Duration : 2 Hours

Special Instructions :

Answer any **FOUR (4)** questions.

Materials permitted : _____
Nil

Materials provided : _____
Nil

Examiner (s) : Mr. R.K. Krishnamoorthy, Kavi Sharma .

Moderator : Dr. Vincent Khoo Kay Teong

This paper consists of 5 printed pages, including the cover page.

INTI INTERNATIONAL COLLEGE SUBANG

DIPLOMA IN INFORMATION AND COMMUNICATION TECHNOLOGY PROGRAMME
CSC1106/ICT1106: SYSTEM ANALYSIS AND DESIGN
FINAL EXAMINATION: JANUARY 2013 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) Define System ^sDevelopment Life Cycle (SDLC) and list **THREE (3)** main activities that occur at each phase of SDLC (12 marks) ✓
- (b) Explain prototyping. List **THREE (3)** advantages and **THREE (3)** disadvantages of using prototyping to replace the traditional systems development life cycle. (9 marks) ✓
- (c) Give any **TWO (2)** points to explain systems requirement. (4 marks) ✓

Question 2

DHL Press works with several different authors who write the books it publishes. Some authors have written only one book, while others have written many; also, some books are co-authored by multiple authors. DHL also works with multiple printers, each book, though, is printed by only one printer. An editor at DHL Press works with several authors at a time, editing and producing their book projects; it is the editor's job to turn over the final camera-ready copy to the printer when the manuscript has been copy edited and typeset. DHL Press has a network of bookstores where their books are sold. Customers can place orders by mail or they can visit to the bookstore to get the books. ×

- (a) Construct a Class Diagram for the above scenario. (13 marks) ✓
- (b) Draw a use case diagram to model this system. A user can request a quiz for the system. The system picks a set of questions from its database, and composes them together to make a quiz. It rates the user's answers, and gives hints if the user requests it. In addition to users, we also have tutors who provide questions and hints. And also authorized board who must certify questions to make sure they are not too trivial, and that they make sense. (8 marks) ✓

- (c) Explain the following UML notations and the nature of the relationship and give suitable example for each

UML Notation	Nature of the Relationship
0..*	
0..1	
1	
1..*	

(4 marks)

Question 3

- (a) Draw a Context diagram for the following scenario.

Video-Rental LTD is a small video rental store. The store lends videos to customers for a fee, and purchases its videos from a local supplier. A customer wishing to borrow a video provides the empty box of the video they desire, their membership card, and payment – payment is always with the credit card used to open the customer account. The customer then returns the video to the store after watching it.

If a loaned video is overdue by a day the customer's credit card is charged, and a reminder letter is sent to them. Each day after that a further chard is made, and each week a reminder letter is sent. This continues until either the customer returns the video, or the charges are equal to the cost of replacing the video.

New customers fill out a form with their personal details and credit card details, and the counter staff gives the new customer a membership card. Each new customer's form is added to the customer file.

The local video supplier sends a list of available titles to Video-Rental LTD, who decide whether to send them an order and payment. If an order is sent then the supplier sends the requested videos to the store. For each new video a new stock form is completed and placed in the stock file.

(15 marks)

- (b) Identify and explain **THREE (3)** financial analysis tools used in system development.

(6 marks)

- (c) Explain why user involvement is important in system development process.

(4 marks)

Question 4

- (a) Describe any **THREE (3)** types of information systems and provide an example of each. (9 marks)
- (b) Give **FOUR (4)** differences between object-oriented analysis and structured analysis (8 marks)
- (c) Describe **FOUR (4)** responsibilities of system analyst (8 marks)

Question 5

- (a) An IT project has been defined to contain the following list of activities along with their completion time and dependencies:

Activity No	Completion Time (weeks)	Dependency
A	5	--
B	6	--
C	4	A
D	3	A
E	1	A
F	4	E
G	14	D,F
H	12	B,C
I	2	G,H

- i. Draw a *PERT* chart for the project (4 marks)
- ii. Calculate the earliest start time and the earliest finish time for the project. (4 marks)
- iii. Show the critical path (2 marks)
- (b) Discuss the first **FOUR (4)** steps in conducting a preliminary investigation study. (8 marks)
- (c) Explain the importance of testing in system development. Identify and briefly explain **THREE (3)** types of testing conducted during implementation phase. (7 marks)

Question 6

- (a) Define the term feasibility study. List and briefly describe **FOUR (4)** types of feasibility studye § (9 marks) ..
- (b) Describe the **FOUR (4)** classifications of maintenance and provide an example of each type. (12 marks) ✓
- (c) Briefly explain the following terms. (4 marks) ✓
- (i) Attributes
 - (ii) Methods
 - (iii) Classes
 - (iv) Instances

-THE END-

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