Universiti Malaysia PAHANG

Engineering • Technology • Creativity

FACULTY OF COMPUTER SYSTEMS & SOFTWARE ENGINEERING

FINAL EXAMINATION

COURSE	:	SYSTEMS ANALYSIS & DESIGN
COURSE CODE	:	DCS 1093
LECTURER	:	WAN MASERI BINTI WAN MOHD
DATE	:	26 APRIL 2010
DURATION	:	2 HOURS 30 MINUTES
SESSION/SEMESTER	:	SESSION 2009/2010 SEMESTER II
PROGRAMME CODE	:	DCS

INSTRUCTIONS TO CANDIDATE:

1. This question paper consists of **TWO (2)** sections. Answer **ALL** questions.
2. Write your answers in the answer booklet provided.
3. Answer EACH question on a new page.
4. All calculations and assumptions must be clearly shown.

EXAMINATION REQUIREMENTS:

NONE

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

This examination paper consists of **EIGHT (8)** printed pages including front page.

SECTION A: STRUCTURED QUESTIONS   **[40 Marks]**

Instruction: Answer all questions.

QUESTION 1

There are several software development approaches available to structure, plan, and control the process of developing an information system such as Prototype, Joint Application Design (JAD), Agile Methodologies, Rapid Application Development (RAD) and SDLC.

(a) What is Rapid Application Development (RAD)? Compare and contrast RAD to the traditional SDLC.

[7 Marks]

(b) What are the **THREE (3)** necessary components of RAD?
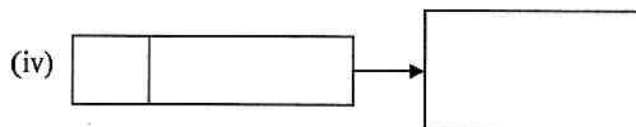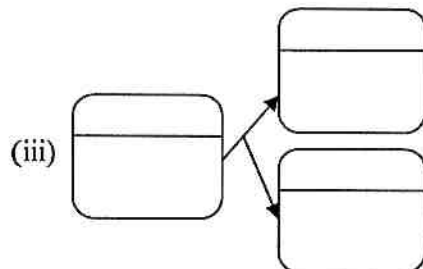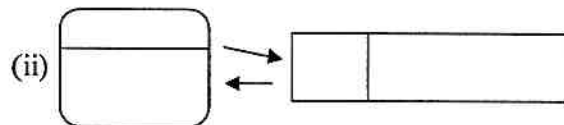
[3 Marks]

QUESTION 2

Data Flow Diagram (DFD) shows the data flows, structure, and functional requirements of a system. There are standard symbols used to describe those components.

(a) Draw a DFD symbol to represent the **process** and **data source** for each component.

[2 Marks]

(b) Identify whether each of the following drawings are correct or incorrect:

(i)

(ii)

(iii)

(iv)

[4 Marks]

(c) Describe **FOUR (4)** different types of Data Flow Diagrams.

[4 Marks]

(d) Explain the procedures for creating Decision Tables.

[5 Marks]

QUESTION 3

Support System is extremely important during system implementation. It involves an ongoing educational and problem solving assistance to the system users. There are various approaches in giving the support either in a manual or an automated environment.

Explain and list **FOUR (4)** approaches of automating the support.

[10 Marks]

QUESTION 4

One of the standardized general purposes modeling language is Unified Modeling Language (UML).The standard is managed, and was created by the Object Management Group.

(a) Define what is UML?

[2 Marks]

(b) What are the three major elements of UML?

[3 Marks]

SECTION B: ESSAY QUESTION [60 Marks]

Instruction: Answer all the questions.

QUESTION 5

Scenario: Loan Application

1. The applicant apply for the loan using loan application form
2. After filling in the application form, the applicant submits the form to the bank officer
3. Upon receiving the application form, the bank officer will register the application information into a log book.
4. Then, the officer will process the application based on the following rules:
5. If the loan less than RM2000:
   a. The loan officer will check the applicant credit report. If the credit report is rated good or excellent, the loan officer approves the loan.
   b. If the credit report is rated fair, the officer checks whether the applicant has account at the bank. If the applicant has an account, the loan is approved, otherwise the application is rejected.
   c. If the credit report is rated poor, the application is rejected.
6. If the loan is more than RM2000,
   a. The officer will check the applicant credit report and the salary.
   b. If the credit report is rating poor, then the loan is rejected
   c. If the loan is fair, good or excellent, the salary is verified
   d. If the salary is verifiable, the loan is approved
   e. If the salary is not verifiable, the n the loan is rejected

Based on the above information, answer the following questions:

(a) Draw the Context Diagram

[5 Marks]

(b) Draw the Data Flow Diagram (DFD).

[10 Marks]

(c) Write the Structured English to represent the approval rules

[7 Marks]

(d) Write the Decision Table to represent the approval rules

[8 Marks]

QUESTION 6

You are given the following information to design a Cyber-cafe Booking System

1. User Profile
    a. User name
    b. User IC No
    c. User home address
    d. User school address
    e. User telephone number

2. Booking information
    a. Booking Date
    b. Booking Time duration
    c. Booking Purpose

3. Booking Daily Report
    a. Booking Date
    b. List of Users (Name, IC No and Home address)
    c. Booking Information for each user (time duration and purpose)

Based on the above information, answer the following questions:

(a) Describe **FOUR(4)** general guidelines for designing Forms and Reports.

[8 Marks]

(b) Design the User Profile Form based on the guidelines given in **Question 6(a)**.

[10 Marks]

(c) Design the Booking Form based on the guidelines given in **Question 6(a)**.

[5 Marks]

(d) Design the Booking Report based on the guidelines given in **Question 6(a)**.

[7 Marks]

END OF QUESTION PAPER