

FINAL SEMESTER EXAMINATION

Student NRIC : _____
Student ID : _____

Programme	:	DIPLOMA IN COMPUTER SCIENCE (MQA/PA13808)
		DIPLOMA IN E-BUSINESS TECHNOLOGY (MQA/PA13807)
Intake	:	JAN 2021 (YEAR 1 SEMESTER 3)
Course	:	SYSTEMS ANALYSIS AND DESIGN
Course Code	:	DCS2213 / DEB2233
Duration	:	3 HOURS

INSTRUCTIONS TO CANDIDATES:

1. Please read the instructions given in the question paper **CAREFULLY**.
2. The question paper consists of **FOUR (4)** questions.
3. Answer **ALL** questions in the question paper.
4. Answers to the questions are to be written into the examination booklet.
5. Electronic dictionaries, lecture notes, files or any unauthorised materials except writing equipment are strictly prohibited.

This question paper must be submitted along with all used and/or unused rough papers and/ or graph papers (if any). Candidates are **NOT ALLOWED** to take any examination paper(s) used or unused out of the examination hall.

WARNING:

The Examination Board of Peninsula College Georgetown regards cheating as a most serious offence and will not hesitate to mete out the appropriate punitive actions according to the severity of the offence committed, and in the accordance with the clauses stipulated in the Students' Handbook, up to and including expulsion from Peninsula College Georgetown.

(This booklet contains 5 printed pages including this page)

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For examiner's use only

QUESTION NO.	MARKS
1	_____ / 25
2	_____ / 25
3	_____ / 25
4	_____ / 25

Answer **ALL** questions on the separate sheet provided.

[100 marks]

1. a) What should be taken into account when preparing the *System Requirements Document* (also known as *Software Requirement Specification*)? Describe any **FIVE (5)** considerations.

(10 marks)

- b) Peninsula Foods wants to introduce a new computer system for its perishable products warehouse. The costs and benefits are shown in Table 1.

Table 1: Costs and benefits of a new computer system for Peninsula Foods.

Year	Costs (RM)	Benefits (RM)
1	14,000.00	10,000.00
2	18,000.00	15,500.00
3	22,000.00	19,000.00

- i) Given a discount rate of 6 percent (0.06), perform *present value* (PV) analysis on the data for Peninsula Foods.

Hints: Compute PV factor and present value, then calculate the net present value (NPV).

(8 marks)

- ii) Solve (b) using Return on Investment (ROI) formulation.

(3 marks)

- iii) What is your recommendation to Peninsula Foods based on your findings of NPV and ROI? Briefly explain your answer.

(4 marks)

2. a) During the input design stage, the System Analyst develops source documents to facilitate data entry. Figure 1 depicts the layout of a typical source document. A good form layout makes the form easy to complete and therefore, improves users' productivity.

Provide **ONE (1)** example of content that usually appears in each source document zone marked from (i) to (vi) in Figure 1.

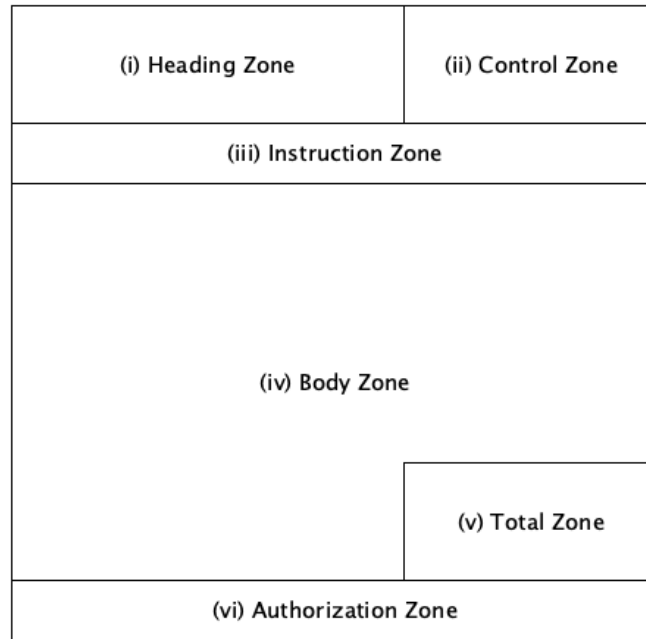


Figure 1: Source document zones.

(6 marks)

- b) Table 2 shows the partial data of the employees and the projects they are assigned to. Employees work on many projects, and projects have many employees.

Explain why Table 2 is an unnormalized table. Provide suitable examples to justify your answer.

Table 2: Partial record of a Project-Employee table.

Project_ID	Project_name	Project_description	Employee_ID	Employee_name
3424	Waterfront	Enhance user interface	W0123	Ong Kah Seng
			W0989	Hezri bin Halmi
			W1209	Susan Lim
0098	Phoenix	Develop an accounting system	W8907	Selena Wong
			W6622	Pavina Kaur
			W1001	Teh Choo Chim
			W1209	Susan Lim
etc.				

(5 marks)

c) During the development of a food ordering system, two groups of programmers separately work on different parts of the system. The groups completed development and testing of the individual modules, and are now ready for further testing.

i) Choose **ONE (1)** testing approach (i.e. unit testing, integration testing, or system testing), which you think is appropriate for the group.

(2 marks)

ii) Describe the chosen testing approach in (i).

(7 marks)

iii) Explain why you choose the testing approach in (i).

(5 marks)

3. a) List the missing phases and main deliverables (i.e. outputs) of a typical system development life cycle (SDLC) marked from (i) through (viii) in Figure 2.

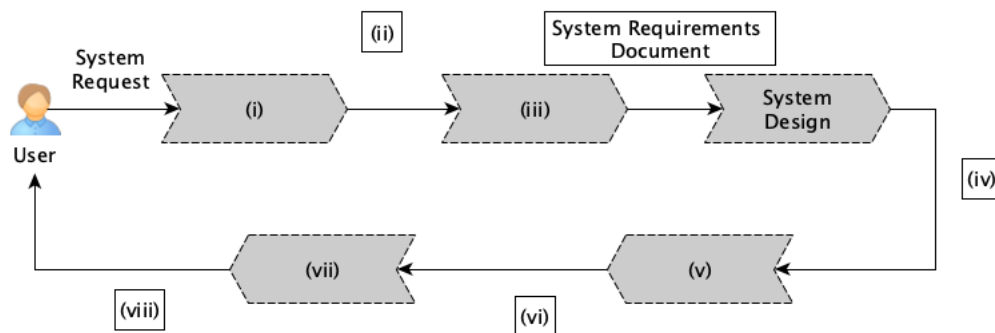


Figure 2: System development life cycle (SDLC).

(8 marks)

b) Contrast **THREE (3)** differences between adaptive maintenance and preventive maintenance.

(12 marks)

c) System changeover is the process of putting the new information system online and retiring the old system. A common approach is known as *direct cutover*.

Discuss **ONE (1)** scenario where *direct cutover* is possible.

(5 marks)

4. a) The total quality assurance effort requires that systems be documented properly. A common type of documentation is the *User Documentation*.

Discuss **FOUR (4)** reasons why good user documentation is important.

(8 marks)

- b) Suggest **FOUR (4)** tips for making good user documentation.

(8 marks)

- c) Suppose you are requested to design a training plan for a new Customer Relationship Management (CRM) system in your company. The employees in the company include managers, supervisors, sales executives, and marketing executives, among others.

Explain with examples how you prepare an effective training plan.

(9 marks)

– END OF QUESTIONS –