UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2023/2024

COURSE NAME	:	SYSTEM ANALYSIS AND DESIGN
COURSE CODE	:	DAT 10803
PROGRAMME CODE	:	DAT
EXAMINATION DATE	:	JULY 2024
DURATION	:	3 HOURS
INSTRUCTIONS	:	1. ANSWER ALL QUESTIONS
		2. THIS FINAL EXAMINATION IS CONDUCTED VIA
		☐ Open book
		☒ Closed book
		3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **FIVE (5)** PAGES

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PART A

Q1   Answer the questions either **TRUE** or **FALSE**.

(a)   A designer is responsible for modelling system data and process.

(b)   A programmer is responsible for designing system's user interface.

(c)   Information System is a collection of interacting components which produce information.

(d)   Transaction processing system produce report periodically for tactical information.

(e)   Information System create opportunities for organisation to engage in business.

(f)   SDLC represent systematic approach to system analysis and design.

(g)   Each SDLC stage has clearly defined input and output.

(h)   Each SDLC phase is relies on techniques that produces deliverables.

(i)   Making a system operational is called conversion.

(j)   A methodology may incorporate several techniques in different phases.

(k)   Prototyping approach delivers development results faster than agile approach.

(l)   Adopting Waterfall methodology is appropriate for developing Facebook application.

(m)   System development is not possible without using CASE tool.

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(n)   Failure of system development are caused by failing to determine correct requirement.

(o)   A system produces results that could not be achieved by its component individually.

(p)   Data Flow Diagram are drawn at different levels of details.

(q)   A system may be divided into subsystems at a different level of detail.

(r)   A Context diagram contain zero process.

(s)   An Entity Relationship Diagram depicts flow of data in an information system.

(t)   An interview can be conducted as direct or indirect.

(20 marks)

PART B

Q2   System Development Life Cycle consist of the planning, analysis, design, implementation, and maintenance phase.

(a)   Define the main purpose of system analysis phase.

(2 marks)

(b)   Compare functional and non-functional requirement.

(2 marks)

(c)   Identify **TWO (2)** possible functional requirements for Tik Tok application.

(4 marks)

(d)   List **TWO (2)** advantages and disadvantages of observation.

(4 marks)

(e)   List **TWO (2)** advantages and disadvantages of survey.

(4 marks)

(f)   List **TWO (2)** advantages and disadvantages of interview.

(4 marks)

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Q3   *PaediatriX is an online application that diagnose child disease based on given patient input. As some diseases are gender or age-specific, the application would firstly assess the patient profile before finding matching disease in the database. The application works by querying possible disease based on the given list of symptoms. Based on the returned matching disease, the application further filter for matching disease for top matching diagnose. The application analyses given symptom and diagnoses possible disease. In cases of new disease outbreak, doctors could record relevant treatment for the disease through the application.*

Based on the above scenario, answer the following question.

(a)   Construct context diagram for the online system.

(7 marks)

(b)   Construct Data Flow Diagram Level 0 for PATIENT data flow.

(9 marks)

(c)   Construct Data Flow Diagram Level 1 for find match disease process in **Q3(b)**.

(4 marks)

Q4   *Hatake Legacy software house won a tender from Ministry of National Council (MNC) for an online flood disaster management project. The online system enables flood victim registration on evacuation centre. At the same time, it enables MNC to monitor updates on evacuation centre capacity in each district, categories of victim (toddler, old citizen, youngsters) on each evacuation centre, and adequacy of supplies provision (stock quantity, stock category)*

Based on the above scenario, answer the following question.

(a)   Construct Entity Relationship Diagram for VICTIM, SUPPLIES AND CENTRE with necessary relationship and attributes for the online system.

(15 marks)

(b)   Identify relationship between the entities.

(2 marks)

(c)   Identify primary key for each entity.

(3 marks)

Q5   Training for business systems focus on helping the users to accomplish their jobs.

(a)   Suggest **ONE (1)** appropriate system architecture for an online application.

(1 marks)

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(b)   List **TWO (2)** input design issues.

(2 marks)

(c)   Explain **TWO (2)** types of system testing.

(4 marks)

(d)   Compare the focus of user training and operator training.

(4 marks)

(e)   List **THREE (3)** purpose of system maintenance.

(3 marks)

(f)   Explain **THREE (3)** categories of system maintenance.

(6 marks)

- END OF QUESTIONS -

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