



ACCRA INSTITUTE OF TECHNOLOGY

The University of the Future

MID TRIMESTER EXAMINATIONS

MAY 2022 TRIMESTER

DATE: AUGUST 2022

COURSE CODE: CS456

COURSE TITLE: ADVANCED SYSTEM ANALYSIS & DESIGN

LECTURER'S NAME: FERDINAND HIAGBE

COURSE OUTLINE (MAIN TOPICS)		QUESTION NO.
MajorTopic-1	Review of SAD concepts Roles and Responsibilities	
MajorTopic-2	Understanding and Modeling Organizational Systems	
MajorTopic-3	Approaches to Information Gathering	
MajorTopic-4	Using Data Flow Diagrams	

PART A

THREE QUESTIONS ANSWER TWO

Question 1

- a) TTFU is a university that has operated for close to 40 years using manual methods of doing things. They now want to go digital and have hired you as a systems analyst to oversee the project. Discuss what your primary roles will be as the main systems analyst.

Major Topic	Blooms Designation	Score
Review of SAD concepts Roles and Responsibilities	UN	7

- b) In relation to the project in Question 1a, discuss three personal yet relevant qualities that you must possess to oversee such a very important project.

Major Topic	Blooms Designation	Score
Review of SAD concepts Roles and Responsibilities	AP	6

- c) One of the initial phases of the project in Question 1a, involves identifying problems, opportunities and objectives. As the main systems analyst, what are some of the important activities you would perform in this phase/stage.

Major Topic	Blooms Designation	Score
Review of SAD concepts Roles and Responsibilities	RM	6

d. In the implementation stage of the project (Q1a), what activities would you carry out with the development team and what will be your role.

Major Topic	Blooms Designation	Score
Review of SAD concepts Roles and Responsibilities	EV	6

TOTAL SCORE:25

Question 2

a) For Question 1a, one of the Board Members of the university suggested using an Agile Method/Approach to develop the system for the school. In your view, would this be ideal in this context? Justify your answer with relevant discussions.

Major Topic	Blooms Designation	Score
Review of SAD concepts Roles and Responsibilities	EV	6

b) If the agile method/approach is to work, discuss at least three things that would be required?

Major Topic	Blooms Designation	Score
Review of SAD concepts Roles and Responsibilities	AN	6

c) In a project where there is one focal/champion user who has been designated to provide you all the information you need, what would be the best information gathering methods you would adopt and why?

Major Topic	Blooms Designation	Score
Approaches to Information Gathering	EV	7

d) ‘Context’ matters in the creation of data flow diagrams. Using a relevant example, analyze this statement.

Major Topic	Blooms Designation	Score

Understanding and Modeling Organizational Systems	EV	6
--	-----------	----------

TOTAL SCORE: 25

Question 3

a) If you were faced with a large project such as a hospital information system where you have to interview target user groups with questions, what approaches will be useful in your arrangement of questions.

Major Topic	Blooms Designation	Score
Approaches to Information Gathering	EV	7

b) Assuming your client has asked to be involved in all aspects of a system you were building as part of a Joint Application Design, discuss three potential benefits of this.

Major Topic	Blooms Designation	Score
Approaches to Information Gathering	AN	6

c) For Question 3b, what could be the potential drawbacks of such an approach.

Major Topic	Blooms Designation	Score
Approaches to Information Gathering	AN	6

d) Discuss why a use of a prototype may or may not be suitable for such a project in Question 3a.

Major Topic	Blooms Designation	Score
Approaches to Information Gathering	EV	6

TOTAL SCORE:25

PART B

TWO QUESTIONS ANSWER ALL

Question 4

- a) The Mobile Money platform in Ghana is operated by the telcos such as MTN, Vodafone and AirtelTigo. In MTN's case for instance, customers need to register for a mobile money account at any MTN office in Ghana. They can then carry out basic transactions such as transferring funds, depositing money at merchant point, withdrawing money, changing PIN, checking balance and generating mini

statements. The Government of Ghana has developed an interoperability platform where moneys can be transferred from one network to the other. MTN has been able to integrate its platform with that of banks and utility providers like ECG and GWSC. Using this information provided create a context diagram assuming you were working for MTN only.

Major Topic	Blooms Designation	Score
Understanding and Modeling	CR	7
Organizational Systems		

- b) With the same information provided, create use case diagram involving subscribers only and the relevant transactions they perform.

Major Topic	Blooms Designation	Score
Understanding and Modeling	CR	7
Organizational Systems		

- c) Prepare a simple use case scenario for the function: **Transfer Money** using relevant assumptions,

Major Topic	Blooms Designation	Score
Understanding and Modeling	CR	6

Organizational Systems		
------------------------	--	--

d) Discuss at least three reasons why use case modeling is important in software analysis, design and development.

Major Topic	Blooms Designation	Score
Understanding and Modeling Organizational Systems	EV	5

OTAL SCORE:25

Question 5

a) In a school grading system for administering types of activities such as Classwork, Homework, Group work, a lecturer prepares an actual activity and posts on the school assignment platform. Students log in to see their assignments and submit their answers. The lecturer then awards marks for the activity. Using this information provided, create an entity relationship diagram.

Major Topic	Blooms Designation	Score
Understanding and Modeling Organizational Systems	CR	7

b) For all the entities used, explain the types of relationships between them.

Major Topic	Blooms Designation	Score
Understanding and Modeling Organizational Systems	AN	7

c) Assuming you as the systems developer had to gather information for this kind of project, discuss two top level interactive information gathering methods you would use and how you would approach.

Major Topic	Blooms Designation	Score
Approaches to Information Gathering	AP	6

d) Create a simple Level 0 logical Data Flow Diagram for the solution in Question 5a using relevant assumptions.

Major Topic	Blooms Designation	Score
Using Data Flow Diagrams	CR	5

TOTAL SCORE: 25