



ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF SCIENCE, TECHNOLOGY, AGRICULTURE AND FOOD
SYSTEMS DEVELOPMENT

DEPARTMENT OF INFORMATION SYSTEMS

EXAMINATION PAPER

COURSE CODE : BIS 211
COURSE TITLE : Systems Analysis and Design
SPECIAL REQUIREMENTS : None
DURATION : 3 Hours
LEVEL : 2.1
DATE : May 2025 11 APR 2025

INSTRUCTIONS TO CANDIDATES:

1. This paper consists of 2 sections
2. Answer ALL Questions in SECTION A and ANY THREE Questions from SECTION B in booklet provided.
3. Start each Question on a new page

There are 3 printed pages for this question paper

SECTION A.

Answer ALL questions from this section

Question 1

- a. A bank wishes to introduce a new computer system to manage its accounts. The systems analyst decides to carry out a cost benefit study. Explain what is meant by a "cost benefit study" [4]
- b. Explain how CASE (Computer-Aided Software Engineering) tools can help during systems development. [6]
- c. What are the differences between systems analysis and system design? [10]
- d. Define the following terms with regards to a system
 - i. Organization
 - ii. Interaction
 - iii. Interdependence
 - iv. Integration
 - v. System feedback [5]

Question 2

The registration process at Trust Academy includes the following processes:

- ❖ Competing registration forms and getting appropriate signatures and stamps from departments.
- ❖ Processing of the clearance form
- ❖ Registering with library
- ❖ Payment of fees
- ❖ Processing student ID cards
- ❖ Processing of accommodation for selected students.

The college offers limited accommodation facilities for both male and female students and give priority to final year students. The hostels have several room categories eg single rooms, double rooms, open rooms and ground floor rooms for disabled students. It has also been realized that some senior students are taking advantage of the current manual system and end up being allocated two rooms more, which they sublet at a monthly charge to desperate students who seek

accommodation on campus. The students have to be cleared at the end of the semester after which they get a refund of their accommodation deposit.

- a. Construct a Context Diagram for the above case study [5]
- b. Construct a Dataflow Diagram for the above processes. [10]

SECTION B

Answer any **Three** questions from this section

Question 3

- a. Systems analyst may use several approaches to obtain information about the existing system and its environment. The four main approaches are questionnaires, interviews, observations and documentation. Explain the advantages and disadvantages of each approach [12]
- b. Clearly highlight and explain on any five major attributes that a system analyst should possess [8]

Question 4

- a. What are the strengths and weaknesses of the waterfall SDLC methodology? [12]
- b. Explain the following process specification tools used in system analysis and design.
 - i. Activity Diagram
 - ii. Decision Tree
 - iii. Decision table
 - iv. Class Diagram [8]

Question 5

- a. Explain the following change over strategies
 - i. Parallel run [3]
 - ii. Direct changeover [2]

b. User participation is important at every stage of the SDLC. Describe how users might contribute to any three stages of SDLC and how the project might benefit from this involvement [9]

c. Describe three system testing techniques used in system analysis and design [6]

Question 6

a. A proposed system was given in the feasibility study along with its associated costs and benefits. It is a waste of time and money to present an alternative at analysis stage when a system has already been agreed. How would you answer to this criticism? Explain.

[10]

b. Define prototyping and describe its advantages and disadvantages in system development. [10]

End of paper!!!!!!

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