



THE STATE UNIVERSITY OF ZANZIBAR
SCHOOL OF COMPUTING AND COMMUNICATION MEDIA
DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY
MID TERM EXAM - 2023/2024

SEMESTER 1

IS DEVELOPMENT METHODS AND FRAMEWORKS (INF 2108)

This paper carries 20 Marks. Answer all questions.

1. a) What is cloud computing (1 Mark)
b) Differentiate between IaaS, PaaS, and SaaS (4 Marks)
2. Consider the operations of online Banking System to create the dataflow diagrams as described below.
 - a) Think through the activities for online banking and draw the context diagram for the system (4 Marks).
 - b) Next, think of the additional activities needed to support the basic activities to expand the context diagram to DFD level 1 (4 Marks).

3. Case Study: Library Management System

A User registers himself as a new user initially is regarded as staff or student for the library system. For the user to get registered as a new user, registration forms are available that is needed to be fulfilled by the user. After registration, a library card is issued to the user by the librarian. On the library card, an ID is assigned to cardholder or user.

After getting the library card, a new book is requested by the user as per their requirement. After requesting, the desired book or the requested book is reserved by the user that means no other user can request for that book.

Moreover, the user can renew a book that means the user can get a new due date for the desired book if the user has renewed them. If the user somehow forgets to return the book before the due date, then the user pays fine. Or if the user forgets to renew the book till the due date, then the book will be overdue and the user pays fine. Finally, the User can fill the feedback form available if they want to.

Note that, Librarian has a key role in this system. Librarian adds the records in the library database about each student or user every time issuing the book or returning the book, or paying fine. Librarian also deletes the record of a particular student if the student leaves the college or passed out from the college. If the book no longer exists in the library, then the record of the particular book is also deleted. Updating database is the important role of Librarian.

- a) Identify all actors for Library management system (3 Marks).
- b) Describe Library management system using sequence diagram notation to show how actors perform their tasks (4 Marks).