NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

FACULTY OF COMMUNICATION AND INFORMATION SCIENCE

DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE

BACHELOR OF SCIENCE HONOURS DEGREE IN LIBRARY AND INFORMATION SCIENCE

DATABASE APPLICATIONS IN LIBRARIES, ARCHIVES AND PUBLISHING

ILI 2201

Supplementary Examination Paper

July 2016

This examination paper consists of 2 pages

Time Allowed: 3 hours

Total Marks: 100

Special Requirements: None

Examiner's Name: Mrs. A.R. Nyaku

INSTRUCTIONS

1. Answer any <u>four</u> (4) questions.
2. Give equal time to all questions you choose.
3. Each question carries 25 marks.
4. Importance is attached to clear presentation of ideas, good expression and legibility of handwriting.

MARK ALLOCATION

QUESTION	MARKS
1.	**25**
2.	**25**
3.	**25**
4.	**25**
5.	**25**
6.	**25**

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You have been tasked with designing a database for NUST student registration system

1. Explain the following terms with reference to this scenario

1.1 Attribute   [1 mark]

1.2 Entity   [1 mark]

1.3 Cardinality   [1 mark]

1.4 Concatenated key   [1 mark]

1.5 Relationship   [1 mark]

1.6 Draw an entity relationship diagram (ERD) for this scenario.   [14 marks]

1.7 Explain how you would convert this ERD to a relational database model. [6 marks]

2. Discuss the evolution of databases from the traditional filling system to object oriented
   databases.   [25 marks]

3. Justify the need to hire a database administrator in a digital library environment. [25 marks]

4. Assess the evaluation criteria that may be used on Integrated Library Management
Systems.   [25 marks]

5. Give a detailed analysis of security issues associated with Object Oriented Databases.
                                                                           [25 marks]

6. Assess challenges that may be associated with unnormalised databases, and suggest how
these challenges may be resolved.   [25 marks]