

SECTION A: COMPULSORY QUESTION {30 MARKS}

QUESTION 1

- a) Define the term "Object-Oriented Paradigm" [2 Marks]
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- b) Discuss two reasons that necessitated the shift from Structured System Analysis and Design to Object-Oriented Analysis and Design. [4 Marks]
- c) Discuss any four advantages of Object-Oriented Paradigm. [4 Marks]
- d) Using the example of a "bank account" and with the help of a UML diagram describe the following. [8 Marks]
- i. An object
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- ii. A class
- e) Describe UML and the relevance of modeling in Object-Oriented. [6 Marks]
- f) A customer makes an order for a product in the inventory. There are two types of customers in the inventory system: "corporate customers" as well as "Personal customers".
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- Required, from the narrative above
- i. State the two relationships [1 Mark]
- ii. Draw a class diagram [5 Marks]

SECTION B: ANSWER ANY TWO QUESTIONS {20 MARKS EACH}

QUESTION 2

- a) Define the following terms [3 Marks]
- i. Attribute
- ii. Method
- iii. Behavior
- b) Differentiate between an activity and an action [4 Marks]
- c) Using an appropriate example, and in UML describe the concept of overriding [6 Marks]
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- d) The terms visualization and documentation are some of the elements achieved via the use of UML. Explain what the meaning of these two terms. [4 Marks]
- e) By use a suitable example, describe the concept of multiple inheritance. [3 Marks]



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

**SECOND YEAR SECOND SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF SCIENCE IN INFORMATION
TECHNOLOGY**

MAIN CAMPUS

CIT 206: RESEARCH METHODS AND TECHNICAL WRITING

Date: 14th June, 2017

Time: 8.30 - 11.30 am

INSTRUCTIONS:

- Answer ALL questions in SECTION A and any other THREE from SECTION B
- Use a NEW PAGE FOR EVERY QUESTION attempted, and indicate number on the space provided on the page of the answer sheet.
- Fasten together all loose answer sheets used.
- Mobile phones and PDAs are NOT allowed in the examination room.

Instructions: There are **THIRTEEN** (13) questions in this paper. Answer **ALL** questions in **PART A**, and any **THREE** (3) questions in **PART B**.

TIME: 3 HOURS

PART A: (40 MARKS)

QUESTIONS

1. Define research and state any three purposes of research. (5 Marks)
2. Highlight any five characteristics of a good sample design. (5 Marks)
3. Define research problem. (5 Marks)

4. Briefly explain five reasons for report writing in a research project. (5 Marks)
5. Define statistics. Differentiate between descriptive statistics and inferential statistics. (5 Marks)

6. State any three techniques of data collection used in research. Give two example in each case. (5 Marks)
7. Differentiate independent variables and dependent variables. (5 Marks)
8. Describe any five situations where technical writing is preferable to other forms of communication (5 Marks)

PART B: (60 MARKS)

9. Identify any five (5) ethical issues that a researcher is likely to encounter during a research process. Discuss how the researcher should deal with each of the issues identified. (20 Marks)
10. Describe systematically the different steps involved in a research process. (20 Marks)
11. What is probability sampling? Discuss the advantages and disadvantages of random sampling. (20 Marks)

12. Describe four factors a researcher should consider in selecting research problem (20 Marks)
13. Define technical writing. Briefly explain any five characteristics effective of technical writing. (20 Marks)

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