



ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF HEALTH, SCIENCE AND TECHNOLOGY

DEPARTMENT OF INFORMATION SYSTEMS

EXAMINATION PAPER

COURSE CODE : MIS212
COURSE TITLE : Object Oriented Programming
SPECIAL REQUIREMENTS : None
DURATION : 3 Hours
LEVEL : 2.1
DATE : 2022

05 JUL 2022

INSTRUCTIONS TO CANDIDATES:

1. Answer **ALL** Questions in Section A.
2. Answer any **THREE** Questions from Section B.
3. The mark allocation for each question is indicated in **BOLD** font.

Section A [40 marks]

Answer ALL the questions from this section.

Question 1

- (a) Identify and explain any three Java library classes. [6 Marks]
- (b) Distinguish between static polymorphism and dynamic polymorphism [6 Marks]
- (c) Explain why an interface instance variable is always final [4 marks]
- (d) What is an interface in Java? [4 Marks]

Question 2

- (a) Explain the following features of java;
 - i. Platform independence
 - ii. Portability
 - iii. Object oriented
 - iv. Distributed
 - (b) Describe any four types of java programs
- [8 Marks]
[12 marks]

Section B [60 marks]

Answer any THREE questions from this section.

Question 3

Write a java program that create an interface called **Dish** with member variables `monthly_subscription` and `amount_due` and a prototype of method **paySubscription()**. The program should implement a class called **KweseTv** with method **paySubscription()** which determines the new `amount_due` after paying monthly subscription. In your solution demonstrate sound knowledge of constructors.

NB $new_amount_due = monthly_subscription - amount_due$ [20 Marks]

Question 4

Write a program that allows the user to enter two numbers into two instance variables **Num** and **Dem** of a class called **Modulus**. A method called **rem()** is used to determine the remainder after integer division involving the two numbers. The program must handle an arithmetic exception and display the remainder.

[20 Marks]

Question 5

Write a java application program that creates a thread and start the thread running. The program should assign a priority to the thread and displays the thread priority.

[20 Marks]

Question 6

Write an application program to create a parent class called **Software** with member variables **totalCost** and **vat** and a virtual method called **calculateVat()**. A child class called **PurchasedSoftware** should redefine the super class method to determine the amount of vat that will be charged on total cost of software bought.

[20 Marks]

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