



**SCHOOL OF PRE-UNIVERSITY STUDIES
FOUNDATION PROGRAMMES**

**WRITTEN TEST 1 (SET 7)
AUGUST 2022 SEMESTER**

MODULE NAME : INTRODUCTION TO ALGORITHM

MODULE CODE : ITS30705

TIME : 1 HOUR

This paper consists of FOUR (4) printed pages.

Student Name

Student ID

Tutorial Group

Instruction to Candidates:

1. Answer all questions in the paper and the answers are to be written in either black or dark blue pen.
2. This is a closed book examination, no notes are permitted.
3. Non-programmable electronic calculators may be used.
4. Severe disciplinary action will be taken against those caught violating examination rules.

**DO NOT TURN THIS PAGE UNTIL INSTRUCTED TO DO SO.
TO BE RETURNED AT THE END OF THE TEST.**

Question 1

Create a program to calculate the volume of a cone. The program accepts the radius and height of the cone. Pass the radius and height to a function that calculates the volume of a cone and return the cone volume so that the value can be displayed in the program. Figure below shows the formula to calculate the volume of a cone. Complete:

$$V = (1/3)\pi hr^2$$

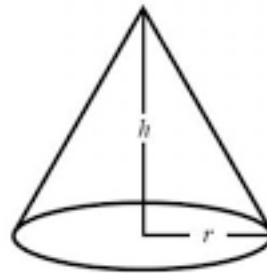


Figure 1: Volume of a cone

Given:

```
Enter the radius of cone >> 6
Enter the height of cone >> 8
```

Expected result:

```
The volume of the cone is 301.59
```

a) The pseudocode of the program

(5 marks)

b) The flowchart of the program

(5 marks)



c) The code of the program

(5 marks)



Question 2

Write a program that ask user to enter their age and gender (Male or Female). Based on the input, state whether the user will work only in the urban area or can work from anywhere based on the rules below:

Age	Gender	Work
20 – 60	Female	Anywhere
20 – 40	Male	Urban Area
41 – 60	Male	Anywhere

If the user enter input other that the rule stated people, the program will print “ERROR”.
(5 marks)

--- END OF TEST PAPER ---