

ENGR 101 Engineering Technology

Assignment 1

Due date: Thursday, 1 April, 2021 (23:59 hrs)

You must type your answers using a word processor or any other similar computer program. Save the computer file containing your answers as a pdf file using the filename format: **Student Id number-A1.pdf**. For example, 1812401234-A1.pdf

1. Convert the following decimal numbers to binary numbers. Clearly show the steps that you used to obtain your answers.

- a) 48 b) 20 c) 84 d) 102 e) 68

2. Convert the following decimal numbers to octal numbers. Clearly show the steps that you used to obtain your answers.

- a) 48 b) 20 c) 84 d) 102 e) 68

3. Convert the following decimal numbers to hexadecimal numbers. Clearly show the steps that you used to obtain your answers.

- a) 48 b) 20 c) 84 d) 102 e) 68

4. Simplify the following expression using the Boolean Laws discussed in lectures.

- a) $AB + AC + ABC$
b) $AB + A(B'+C) + ABC'$
c) $A'BC + AB'C + ABC + ABC' + A'B'C'$
d) $AB'C' + A'B'C' + A'BC' + A'B'C$