



**AFE BABALOLA UNIVERSITY, ADO-EKITI, EKITI STATE, NIGERIA
COLLEGE OF ENGINEERING**

BACHELOR OF ENGINEERING ONLINE QUIZ

ENG 282: Engineering Mathematics II

Session: 2019/2020

Semester: Second

Unit: 3

Duration: 30 min

Instruction(s): Solve all the problems.

Question 1 [7½ Marks]

A thermometer that initially reads 10 °C is used to measure the temperature of a system. The reading of the thermometer is discovered to be 20 °C after 5 minutes of inserting it into the system. If the actual temperature of the system is 25 °C, with the aid of MathCAD, calculate the time required for the reading of the thermometer to practically reach the system temperature, say 24.9 °C.

***NB:** If the solution cannot be easily obtained with the aid of MathCAD, it can be solved manually, and the handwritten solution is converted to PDF; “half a loaf is better than none”.*

Question 2 [7½ Marks]

The attached Microsoft Excel Workbook named “onlinequizdata” contains a set of data for a fluid tank system in a Worksheet named “fluiddata”. With the aid of a MATLAB *mfile* program, extract and plot the dynamic response of the system for **even-numbered time values only**.

Submission Date and Time: 27th May, 2020 and 10:30 am