



AFE BABALOLA UNIVERSITY, ADO-EKITI, EKITI STATE, NIGERIA
COLLEGE OF ENGINEERING
DEPARTMENT OF CHEMICAL AND PETROLEUM ENGINEERING

BACHELOR OF ENGINEERING ASSIGNMENT II

ENG 282: Engineering Mathematics II

Session: 2019/2020

Semester: Second

Unit: 3

Duration: 5 days

Instruction: Answer all the questions.

Question 1 [20 Marks]

Solve the following differential equations:

(a) $\frac{dy}{dx} + y \tanh x = 2 \sinh x$

(b) $\frac{dy}{dx} + 2y = e^{3x}$

(c) $x \frac{dy}{dx} = x^2 + 2x - 3$

(d) $\frac{dy}{dx} + \frac{y}{x} = y^3$

(e) $x^2 \frac{dy}{dx} = x^3 \sin 3x + 4$

(f) $(x^3 + xy^2) \frac{dy}{dx} = 2y^3$