AFRICA UNIVERSITY
A United Methodist-Related Institution

COLLEGE OF BUSINESS, PEACE, LEADERSHIP, AND GOVERNANCE

NCSC301: ARTIFICIAL INTELLIGENCE

END OF SECOND SEMESTER EXAMINATIONS

APRIL/MAY 2023

LECTURER: MRS L. TEMBANI-FUNDISI

DURATION: 3 HOURS

INSTRUCTIONS

Section A **compulsory**

Answer ANY 3 (three) Questions in **Section B**

All question carries equal marks (25)

Begin your answer to each question on a fresh page

Logical answering, smartness, and use of examples will earn more marks

Section A (compulsory, answer all questions)

For each of the following activities, give a Performance Environment Actuator Sensor (PEAS) description of the task environments and characterize it in terms of the properties discussed in class.

i. Tesla

ii. Microwave

iii. Amazon

iv. AI Lecturer

v. Green house   (25)

Section B (answer any 3 questions)

Question One

    a) Briefly explain the Alan Turing Test in relation to Artificial Intelligence(AI)   (5)

    b) With the aid of a clearly labeled diagrams describe 5 types agents using examples (20)

Question Two

    With the aid of relevant examples describe:

    (a) Basic principles and laws governing robots and robotics   (10)

    (b) Any three types of robots   (15)

Question Three

Use appropriate diagram to describe the fuzzy logic system architecture and show how this architecture can be used in an industrial application area of your choice.   (25)

Question Four

"AI is gradually replacing the human effect in labour", Discuss this statement   (25)

Question Five

Give a detailed explanation of different algorithms in both supervised and unsupervised learning.   (25)

END OF EXAMINATION