NILE UNIVERSITY
Master of Science in Mechatronics Engineering(MECT)
MIDTERM EXAM

Examiner : Dr. Mustafa M. Shiple   Term: Fall 2023
Subject: Machine Learning Algorithms (MNG 623)   Exam Time:60 min
Score: 20 Marks

ANSWER THE FOLLOWING QUESTIONS:

1. what is the difference between exploit and explore techniques in learning phase.   [1 marks] [A_q,C_a]

> **Solution:** exploit means updating weights and intercept values to get the loss value. exploring technique means select either higher order of hypothesis or select another hypothesis.

2. what are the basic conditions that should be exist to get a success machine learning?[1 marks] [A_q,C_a]

> **Solution:**
> (a) A pattern exists
>
> (b) We cannot pin it down mathematically
>
> (c) We have data on it.

3. Discuss that gradient descent converge to the local minimum, support your answer with mathematical proofing.   [3 marks] [D_c]

> **Solution:**

[Total Marks is 20]