FACULTY OF SCIENCE

ACADEMY OF COMPUTER SCIENCE AND SOFTWARE ENGINEERING	
MODULE	IT18X57
	ADVANCED ARTIFICIAL INTELLIGENCE
CAMPUS	APK
EXAM	SUPPLEMENTARY EXAM JANUARY 2020

DATE: 2020/01/07   **TIME:** 15:00 – 17:00

ASSESSORS(S)   Prof EM Ehlers

EXTERNAL MODERATOR   Prof JF van Niekerk
                                         Noroff University College, Norway

DURATION: 2 HOURS   **MARKS:** 100

THIS PAPER CONSISTS OF 2 PAGES INCLUDING THE COVER PAGE

INSTRUCTIONS:
1. Answer **ALL** the questions.
2. Write neatly and legibly.
3. Read the questions thoroughly.
4. Ensure that all questions are clearly marked on the answer sheet.

REQUIREMENTS: NONE

QUESTION 1

Considering T-Cell inspired algorithms create as comprehensive a semantic network as possible which includes aspects you deem the most important.

Use a diagram to present the semantic network, be as descriptive as possible by giving short definitions where necessary. 75 concepts and 15 definitions.

[30]

QUESTION 2

Considering existing B-Cell inspired algorithms and using a table format compare the different Discrete Immune Network Models with the general model of an Artificial Immune Network as base. Define and motivate your own comparison criteria.

[35]

QUESTION 3

Discuss affinity measures and affinity maturation. Proceed to describe where each of the above the above is used in immunological computing algorithms.

[35]

TOTAL: [100]