

**FACULTY OF SCIENCE****ACADEMY OF COMPUTER SCIENCE AND SOFTWARE ENGINEERING**

MODULE	IT00157 ADVANCED ARTIFICIAL INTELLIGENCE
CAMPUS	APK
EXAM	DECEMBER 2014

DATE: December 2014**TIME:** 08:00 – 10:00**ASSESSORS(S)**

Prof EM Ehlers

EXTERNAL MODERATOR

Dr WJC van Staden (UNISA)

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

Discuss and compare different T Cell-Inspired Algorithms.

[40]

QUESTION 2

Considering the theoretical models of immune processes, discuss how these resulted in immunity-based computational models enabling solving problems by applying immunity-based models.

[40]

QUESTION 3

Briefly discuss applications of immunological computation in any two (2) of the following disciplines:

- a) Robotics and control
- b) Intrusion detection
- c) Fault Detection and Diagnosis
- d) Data Mining

[2x10 = 20]

TOTAL: [100]