FACULTY OF SCIENCE

ACADEMY FOR COMPUTER SCIENCE AND SOFTWARE ENGINEERING

MODULE   IT8X031 – CYBER-SOCIAL COMPUTING

CAMPUS   APK

EXAM   SSA JANUARY 2020

DATE: 7 JANUARY 2020   SESSION 15:00 – 17:00

ASSESSOR(S)   PROF M COETZEE

EXTERNAL MODERATOR   DR A DA VEIGA (UNISA)

DURATION: 2 HOURS   MARKS: 80

NUMBER OF PAGES: 3 PAGES

INSTRUCTIONS: Answer four out of five questions.

IT8X031 – NOVEMBER 2019

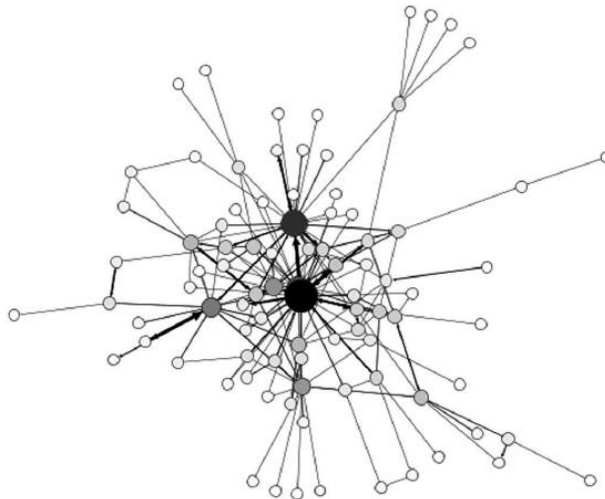*You are given five questions, but must answer any four of your choice.*

QUESTION 1

Describe the four basic types of network models commonly found in the literature. In each case, give a diagram of the network and explain the scenario or real world case where this type of network will be useful.

[20]

QUESTION 2

To really understand what's happening in a network, it is important to look beyond the structure to other aspects present in the network that relate to users and their interactions. Given the following social network of a forum for discussing cascading style sheets (CSS) where nodes are people and edges are when people have replied.

Describe how important discoveries about how people interact in online communities and forums can be made.

[20]

QUESTION 3

Given the following statement - *if you want your community to grow into a tighter and more collaborative community, you need to ensure that the trust level is set at the right level.*
Discuss whether this statement is true, by referring to how the PeerTrust system implements trust to support collaboration.

[20]

IT8X031 – NOVEMBER 2019

QUESTION 4

Cyberbullying and cyberaggression are increasingly worrisome phenomena affecting people across all demographics. More than half of young social media users on social media sites such as Twitter worldwide have been exposed to such prolonged and/or coordinated digital harassment. Describe a recent solution that can distinguish bullies and aggressors from normal Twitter users with over 90% accuracy.

[20]

QUESTION 5

Recommendation plays an increasingly important role in our daily lives. Recommender systems automatically suggest to a user items that might be of interest to her. Discuss how collaborative filtering (CF) based recommender systems suggest recommendations to users.

[20]