



Daffodil International University

## Department of Computer Science and Engineering

Faculty of Science & Information Technology

Final term Examination, Fall 2020 @ DIU Blended Learning Center

Course Code: CSE498 (Day), Course Title: Social & Professional Issues in Computing

Level: 4 Term: 3 Section: O-()

Instructor: FH Modality: Open Book Exam

Date: Tuesday (21 December 2020) Time: 02:00 PM - 06:00 PM

Four hours (4:00) to support online open/case study based assessment Marks: 40

### **Directions:**

- Students need to go through the CASE STUDY shown in this exam paper.
- Analyze and answer specific sections based on your own thinking and work.
- Do not share as this will be treated as plagiarism by Blended Learning Center.

Answer all the questions. Figures on the right-hand side indicate full marks.

1. Edward Joseph Snowden was born on June 21, 1983. He is an American computer enthusiast, who copied and leaked highly classified information from the National Security Agency (NSA) in 2013 when he was a Central Intelligence Agency (CIA) employee and subcontractor. His disclosures revealed numerous global surveillance programs, many run by the NSA and the **Five Eyes** Intelligence Alliance with the cooperation of telecommunication companies and European governments, and prompted a cultural discussion about national security and individual privacy. Now answer the following questions:
  - A. Who is the whistleblower in the above scenario? Discuss the Limitations of Codes of Ethics according to the scenario. [5]
  - B. NSA is using people's personal information to run numerous global surveillance programs which decreases one's privacy. Discuss this issue from the perspective of a **consequentialist, deontologist, and virtue ethicist**. [5]
2. Suppose you are working in a mid-sized company. You work there as a computer system administrator and you can monitor the company network from anywhere. During this global pandemic situation, you frequently work from home. Your niece, a college student, is visiting for a week. She asks to use your computer to check her e-mail. Sure, you say. You are being a gracious host.

- A. What is the ethical problem? Analyze this situation in different phases. [5]
- B. If something happens while using the computer, what are the things we should consider while making a decision of punishment? Describe in brief. [5]
3. As we all know, Covid-19 disrupted our everyday life. It has turned into a global pandemic and yet there is no medicine available for its treatment. Though companies from different countries had successfully invented vaccines to fight this, there is no such guarantee that people will get them as soon as possible at a reasonable price. Considering this situation answer the following.
- A. What do you think about the vaccine, is it need to be copyrighted or patented? Explain why? [5]
- B. Based on your previous answer describe how it (Copyright/Patent) has promoted innovation? [5]
4. A factory contains an area where all the work is done by robots. The area is fenced and human workers are no supposed to enter while the robots are working. When the fence is opened, it automatically cuts off power to the robots. A worker jumped over the fence to repair a robot that was malfunctioning. Another robot, bringing parts to the malfunctioning robot, pinned the worker against a machine, killing him. Suppose you are a consulting expert hired to investigate this case and write a report. Consider several factors relevant in safety-critical software. What was done right? What was done wrong? Is there important information not included in this summary of the case that you would ask about? If so, What? What degree of the blame should be assigned to the software company that designed the robot system, the company that operates the factory, and the worker? Why? What changes, if any, should the factory operators make to reduce the likelihood of more deaths? [10]