The Open University of Sri Lanka
B.Sc. (IT) Degree Programme
Department of Computer Science
Level 4
ISU4200 – Professional Practice and Ethics
Final Examination – 2024/2025
Duration: Two hours only (2 hours)

Date: 23.06.2025   Time: 9.30 a.m. – 11.30 a.m.

ANSWER **FOUR** QUESTIONS ONLY.

Question 01

Consider the following scenario.

A government initiative aims to provide rural schoolchildren with tablets and internet access. However, implementation is delayed due to lack of infrastructure, human capacity, and policy support.

I) What is meant by the "digital divide"? Provide one example relevant to Sri Lanka.

[04 marks]

II) Describe how education and geography contribute to the digital divide.

[05 marks]

III) Suggest how this government program could address each of the following:
        (a) Hardware availability
        (b) Software suitability
        (c) Teacher readiness

[06 marks]

IV) Design an actionable recommendation plan with five areas to reduce the digital divide for rural students.

[10 marks]

55

Question 02

Consider the following scenario.

Kavindu, a recently graduated IT student, joins "ABC" company where he is required to work on tasks beyond what he was taught during his studies. His manager advises him to join professional bodies and gain certifications.

I)   Define what is meant by a "Professional" in the context of computing.

[04 marks]

II) Describe two key characteristics that distinguish a professional from a technician.

[05 marks]

III) Analyze the importance of professional bodies such as IEEE or BCS in shaping professional identity. Briefly describe three of them.

[06 marks]

IV) Propose a personal development roadmap for Kavindu that includes at least five long-term professional growth actions.

[10 marks]

Question 03

Consider the following scenario.

A team of developers are working in different time zones. When they collaborate on a software launch project, there are often delays and miscommunications. These conflicts arise due to unclear messaging and assumptions.

I)   Define professional communication and list its five key elements.

[04 marks]

II) Explain two common communication barriers in global software teams?

[05 marks]

III) State the "Seven Cs of Communication" to improve the effectiveness of team communication.

[06 marks]

IV) Design a comprehensive communication plan to enhance collaboration in a professional computing environment. Your plan should cover at least five key areas.

[10 marks]

Question 04

I) List and briefly explain two positive and two negative impacts of digital technology.

[04 marks]

II) Briefly explain how digital technology affects the fields of education and healthcare.

[05 marks]

III) Analyze and briefly explain three advantages and three disadvantages that communities need to carefully consider when implementing advanced digital technologies in public and private sectors.

[06 marks]

IV) Briefly explain five emerging trends in digital technology and how they impact future society.

[10 marks]

Question 05

I) Define Intellectual Property Rights (IPR) and explain their significance in the software industry.

[04 marks]

II) Describe the differences between copyrights, patents, and trade secrets relevant to software field.

[06 marks]

III) Consider the following scenario.

A startup company develops a mobile application for online learning. Soon after the launch, a competitor replicates its features and interface. The competitor publishes a similar app under a different name. The original team is unsure how to protect their work legally.

Apply IPR concepts to identify which type of protection is best suited for the above startup application.

[06 marks]

IV) Discuss three possible concerns a software company may face if they fail to protect their software using appropriate intellectual property rights (IPR).

[09 marks]

Question 06

Consider the following scenario.

A university experiences a data breach where students' personal information is leaked. Investigation shows it was caused by a weak password system and lack of antivirus updates.

I) Define "Computer Crime" with a real-world example.

[04 marks]

II) Describe two common types of computer crimes that can affect educational institutions.

[05 Marks]

III) Briefly explain three preventive measures that could have helped the university avoid the data breach.

[06 marks]

IV) Propose five strategies for a cybersecurity awareness campaign for students and staff in the university.

[10 marks]

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