

**GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY**

Faculty of Engineering
Department of Civil Engineering

BSc Engineering Degree
Semester 5 Examination – March/April 2021
(Intake 36- All Engineering Streams)

CE 3142- PROFESSIONAL ETHICS

Time allowed: 2 hours

9 April, 2021

ADDITIONAL MATERIAL PROVIDED**INSTRUCTIONS TO CANDIDATES**

This paper contains 5 questions on 4 pages.

Answer **ANY FOUR (4)** questions. All carry equal marks.

This is a closed book examination.

This examination accounts for 70% of the module assessment. A total maximum mark obtainable is 100. The marks assigned for each question and parts thereof are indicated in square brackets.

If you have any doubt as to the interpretation of the wordings of a question, make your own decision, but clearly state it on the script.

Assume reasonable values for any data not given in or provided with the question paper, clearly make such assumptions made in the script.

All examinations are conducted under the rules and regulations of the KDU.

Question 01

A new technology is being launched which is better for the company as well as for the clients. But, if this is brought into use, a lesser manpower is required for the organization. The owner now has to decide whether he wants to treat his clients with good services or be loyal to his employees who have helped the company grow.

Discuss the most ethical solution to be adopted in the above situation.

(25 marks)

[Total = 25 marks]

Question 02

Engineering Codes of Ethics states that “**Engineers shall apply their skills and knowledge in the interest of their employer or client for whom they shall act, in professional matters, as faithful agents or trustees, so far as they do not conflict with the other requirements listed here and the general public interest.**”

Of the nine ways of complying with this principle, explain how the following five aspects could be violated.

- (a) Conflict of Interest
- (b) Neutrality
- (c) Integrity
- (d) Honesty
- (e) Conviction

(5x5=25 marks)

[Total = 25 marks]

Question 03

Explain the following concepts with examples of possible ethical issues:

- (a) As an Ethical Obligation, Engineers are expected to ensure sustainable management of earth's resource and minimize adverse environmental impacts of their engineering works for the sake of present and future generations.

Taking a real or hypothetical engineering project, describe the challenges in satisfying the above concept and how the challenges could be overcome. (15 marks)

- (b) Explain the impact of deforestation on ecological conservation. (10 marks)

[Total = 25 marks]

Question 04

The primary cause for major engineering disasters in the past, has been the violation of professional ethics, and the main violations can be considered as:

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| (a) Failure to safeguard life and property | (9 marks) |
| (b) Corporate goals over-riding Engineering advise and concerns | (8 marks) |
| (c) Working beyond level of competence | (8 marks) |

Considering the disasters, ‘Techtronics CX30 Industrial Robot’ and ‘Chernobyl Nuclear Powerplant’, give examples of how the above ethical violations contributed to major engineering catastrophes.

[Total = 25 marks]

Question 05

The Engineers Union of a leading utility provider in Sri Lanka is dead-locked in discussions with the management over demands they have made to seek enhancement to the terms and conditions of their employment. If their demands are not met, they have threatened trade union action, which will cause total disruption of the country.

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|--|------------|
| a) What would be the consequences of their actions, and as members of the IESL who are bound by the IESL’s Code of Ethics, how should they resolve this problem? | (15 marks) |
| b) In the unfortunate event of a violation of the Code, what action should the IESL take against those who are IESL members? | (10 marks) |

[Total = 25 marks]

End of question paper