



UNIVERSITY OF RUHUNA

Faculty of Engineering

End-Semester 7 Examination in Engineering: July 2017

Module Number: IS7101

Module Name: Engineering Ethics

[Three Hours]

[Answer ALL questions. Each question carries 12 marks]

- Q1 a) An Engineering Ethics module was introduced in the University of Illanka recently. 192 students enrolled for this module. One day the module coordinator randomly checked the attendance. He found that 98 of the students whose signatures appeared in the attendance sheet were not physically present. The module coordinators of other modules laughed at the incident, primarily because it happened in the 'ethics' module. There is a university rule that unless the students come for at least 75% of lectures they will not be allowed to sit for the final examination.

Discuss five factors which could have led to this unethical behaviour of the students. (About 400 words)

[6 marks]

- b) Give examples (one each) of the following types of actions where the action is
- Legal and ethical
 - Illegal but ethical
 - Legal but unethical
 - Illegal and unethical

[6 marks]

- Q2 a) Compare and contrast the codes of ethics of IESL and NSPE. (About 300 words)

[6 marks]

- b) Many reasonable engineering professionals feel that ethically, they cannot work on designs that may ultimately be used to kill other humans. An engineer may choose either to work or not to work in defense-related industries and be ethically justified in either position. Discuss giving examples. (About 400 words)

[6 marks]

Q3

Raja is an engineer working for the Department of Irrigation. Recently the Irrigation Department called for quotations to purchase automatic flow meters which cost more than Rs 10 million. Nihal is a businessman who supply technical equipment to Government and semi-government organizations. Nihal has given a quotation for the supply of flow meters. Raja who is an old friend of Nihal was not aware that he has submitted a quotation. Accidentally Raja who came on official work met Nihal inside Galle fort. Both of them decided to have lunch together. Raja suggested KFC. But

Nihal suggested an expensive restaurant at Lighthouse hotel. Nihal won. Both of them ordered liquor and ordered lunch. While talking Nihal asked about the quotation for the flow meters and asked about the quotes by different vendors. After getting this information, Nihal disclosed the fact that he too has submitted a quotation. Since the bids are not closed yet he can submit another quote in his brother's name. He further said that If he wins the job he can give 5% of the value of the equipment as a gift. Raja vehemently rejected this offer. The lunch bill was Rs 15000. Raja wanted to pay at least half the bill. Ironically he did not have money. Nihal paid the full bill. When they were departing, Nihal said that there is this Samsung Galaxy tab he got from a friend which he does not use which he can give to Raja. Raja declined the offer.

Discuss, in detail any ethical violations by Raja and Nihal. (About 600 words)

[12 marks]

- Q4 a) Define whistle blowing? [4 marks]
- b) What are the types of whistle blowing? [4 marks]
- c) Discuss the conditions under which whistle blowing is attempted? [4 marks]

Q5 University of Illanka has the only Engineering Faculty in the country. Its Geomatics Department conduct an annual survey work camp. Generally this is carried out in a land located near the University. Newly arrived Geomatics Lecturer Ubuntu has been working in the industry for several years and has lot of connections with industry. He convinced the staff that the survey work camp should be done on a 'real project'. So he got a large project from one of his friends. This area is in the jungles and lions wander around the area making it unsafe for the students. The size of the project was about double the size of a standard project. Students were exhausted. Ubuntu convinced the other staff that this company is doing them a big favour by allowing the students to survey their land. Kinte, one young lecturer asked how much the company is paying the university for the survey work. Ubuntu said it is only an academic exercise, so no payment is made. However the survey company is doing a big favour by providing free lunch to the students. Kinte, not happy with the answer contacted the survey company through one of his former students. He found that Ubuntu has got the contract to do the survey work for \$600,000. Students were not happy with the arrangement. They found that the contractors people 'supervise' their work, and sometimes demand they do extra work to meet the target. There were nine lecturers assigned to the camp. On the first day all of them were there. But on the second day all of them disappeared. They returned to the survey camp only on the last day. Kunbta, a young clerk working in the Finance Department found that all the staff have claimed expenses for the entire duration of the camp, even though they were there only for 2 days. Kunta sent an anonymous letter regarding the unethical expense claims. Kinte exposed the unethical contract by Ubuntu to the Vice Chancellor and fellow Faculty members.

- a) Discuss unethical behavior of the various staff members at the Faculty of Engineering, University of Illanka. (About 500 words) [8 marks]
- b) Identify two whistle blowers where one is anonymous [2 marks]
- c) Does the anonymous whistle blower's work have any value? Give reasons for your assumption [2 marks]