

<b>Date of Examination</b>
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No of Question	05
No of Pages	02

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**GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY**  
**BACHELOR OF SCIENCE IN ENGINEERING DEGREE EXAMINATION**

**INTAKE 29 5<sup>TH</sup> SEMESTER EXAMINATION– SUPPLEMENTARY  
 2015 JANUARY/ FEBRUARY  
 (Streams - CE, ET, EE, ME, MR)**

**PROFESSIONAL ETHICS**  
 (CE 5222)

**Instructions:**

**Answer question Number ONE and ANY THREE others.**

**Duration: 03 Hours**

**This examination carries 70% of the total mark for the subject.**

**Question number One carries 40 % of the marks for this examination**

**Each of the other questions carry 20 % of the marks for this examination.**

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1. Eng. A.B. Robert is a Senior Chartered Electrical Engineer in a Government Department who has been appointed as Project Director of an Oil Powered Electricity Generation Project. The location of the project has been decided by the Minister in – charge. For political reasons, the project has to be completed within one year. The designs have been submitted by a foreign company selected by the government of the country which has agreed to fund the project on a loan agreement at commercial rates of interest. Due to the time target decided by the Minister, Eng. Robert starts the operations according to plans submitted by the foreign company even without considering environmental issues or the suitability of the designs submitted.

Eng. Robert knows from past experience that the price quoted by the foreign company includes a substantial commission for the Minister and others behind him. He believes that if open tenders are called for the project the cost will be much less but without commissions and even the loan may be negotiated with better terms. Also he knows that the foreign company will come with workers/technicians from his own country at considerable cost which is included in the project estimate and that local labour would be much cheaper and also provide employment for the locals. Also, he knows that the past performance of this foreign company is not very good as far as quality is concerned. However, Eng. Robert does not raise any of these issues knowing that the Minister will be displeased and annoyed if he does so and could result in making life difficult for him or even replacing him. He takes the stand that it is safer for him to keep quiet and just carry out the tasks assigned by the Minister and be on the good books of the Minister which is desirable for his future promotions etc.

- Analyze the above description of events to bring out:
- (a) Any values violated? If so what values and committed by whom?
  - (b) Why are such values necessary?
  - (c) What would be the implications of violation of values in the above description
    - (i) to Society (ii) to the Profession of Engineering (iii) to the Institution of Engineers
  - (d) If you were in the position of Eng. Robert, how would you have handled this situation?
  - (e) What are your suggestions to encourage / strengthen Engineers to uphold Professional Ethics in situations similar to that described above.

2. Explain with examples what you understand by the following types of values.
  - (a) Moral Values (b) Etiquette (c) Protocol (d) Spiritual values (e) Ethical Values.
3. Clause 8 of the Ethics of Institution of Engineers, Sri Lanka states, "Engineers shall be committed to the need for sustainable management of the planet's resources and seek to minimize adverse environmental impacts of their engineering works or applications of technology so as to protect both present and future generations." Assuming you are called upon to plan a housing complex project (**or any other similar engineering project**), describe the specific issues you would consider to implement the above clause and state the possible challenges you may have to face in implementing the above clause.
4. Considering an Engineering Works **such as** road construction site, work shop, building construction site, pipe laying site along a road way etc. (any one site) describe how you would formulate a scheme to minimize risk to people and to property.  
In your answer, bring out and explain concepts of hazards, risks, assessment of risk and risk management.
5. State any four rules of Professional Ethics applicable to Engineers and explain why these rules are necessary.

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