



UNIVERSITY OF RUHUNA

Faculty of Engineering

End-Semester Examination in Engineering: August 2018

Module Number: IS3302

Module Name: Society and the Engineer

[Three Hours]

[Answer all questions, Each question carries 12 Marks]

Q1. Discuss any three of the following : [250 words each] [4x3 = 12 Marks]

- To be a competent professional engineer, Engineering graduates should be equipped with relevant engineering knowledge applicable for their respective disciplines.
- An engineering graduate should not be a problem maker to the society from his or her professional works.
- An engineering graduate is a leader in his or her workplace who requires effective team working skills.
- Engineering graduates need to have a good knowledge in Economics and Project Management in order to perform well in industry.

Q2. Describe any three of the following : [250 words each] [4x3 = 12 Marks]

- Today's engineering graduates need to think creatively more than ever before, because we are in a time of greatly accelerated rate of social and technological changes. Only through creativity we can cope with an adapt to these changes.
- When designing engineering components, it is not enough to just satisfy technical specifications. There are lot more other aspects to consider.
- Taking actions for effects of an engineering problem will not solve that permanently. Engineers should identify and take necessary corrective actions for the root cause of that problem properly.
- 8D concept is an effective problem solving methodology which can be used as a team to solve engineering problems.

Q3. Comment on any three of the following : [250 words each] [4x3 = 12 Marks]

- Engineers should properly utilize funds and other resources in the performance of their professional duties.

- b. It is a duty of engineers to perform and work only in their specialized fields.
- c. When preparing reports regarding engineering works, engineers should be truthful and objective.
- d. Professional Engineers should adhere to relevant Codes of Engineering Ethics (IESL or IEEE etc) when performing their professional works.

Q4. Discuss any **three** of the following : [250 words each] [4x3 = 12 Marks]

- a. Today's engineers must be able to understand how their work interacts with society and the environment, in order to identify potential challenges, risks and impacts.
- b. Engineers have a huge responsibility to uplift the health and safety of their work place and its surroundings.
- c. For humans, sustainability is the potential for long term maintenance of well-being, which has environmental, economic and social dimensions.
- d. For engineers, to meet their responsibilities towards society, they must be able to appreciate how politics and the law affect their works.

Q5. Discuss any **three** of the following : [250 words each] [4x3 = 12 Marks]

- a. Many engineering undergraduates think that it is enough to master technical knowledge, and communication skills are not much important for their future profession.
- b. Preparing a presentation and delivering it effectively to a group of audience is not a simple and easy task. There are many things to consider.
- c. Computer literacy and fluency in English (in both spoken and written aspects) are essential skills for future engineers.
- d. Professional Engineers should have an updated knowledge about latest trends in their respective disciplines. Therefore, engineers should be lifelong and independent learners.