



# UNIVERSITY OF RUHUNA

## Faculty of Engineering

End-Semester Examination in Engineering: October 2019

Module Number: IS3302

Module Name: Society and the Engineer

[Three Hours]

[Answer all questions, Each question carries 12 Marks]

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

- Foundation to become a competent professional engineer in future is laid with the proper engineering education and experience having during the undergraduate period.
- Since engineers are problem solvers, general public expects engineers will solve their problems without creating additional problems from engineering works.
- Although engineering students not much focus on improving their leadership and team working skills during the undergraduate period, such skills are essential to perform well in the industry as engineers.
- With the passage of time, engineers will become top level managers in their work places. So, a good knowledge in Economics and Management is essential for engineers.

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

- Engineers should be creative in problem solving and designing.
- Engineering design process is not a single step process. There are several steps to follow in order to have a successful design work.
- When engineers attempt to solve any engineering problem, they face several problem solving problems.
- 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 ]

- Public funds are getting wasted in most of the projects in Sri Lanka. Engineers should not support and contribute to such projects.

- b. If engineers involve with bad professional practices like maintaining unsafe work places, accepting and giving briberies etc., such practices will definitely affect honour, dignity and reputation of engineering profession.
- c. Although few engineering students involve in academic dishonest acts like making fake signatures on behalf of their absent friends for lectures, they are the people who should be truthful and objective in their reports and engineering works in future.
- d. Professional Engineers should try their best to reduce environmental impacts originated from their engineering works.

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

- a. Today's engineers should pay much more attention to understand how their engineering works affect the society in order to do much more service to the society with less adverse effects.
- b. It is the engineers who have a huge responsibility to maintain a healthy and safe work place for their workforce.
- c. For humans, sustainability is the potential for long term maintenance of well-being, which has environmental, economic and social dimensions.
- d. Engineers do not need a deep knowledge on law as lawyers. However, having some knowledge on legal matters relevant to engineers will definitely help them to perform well in the workplace with less problems.

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

- a. Successful professional engineers have both technical knowledge and effective communication skills.
- b. Engineering students can utilize resources and opportunities available within their Universities to improve their communication skills and fluency in English.
- c. Nowadays, engineers have to do lot of presentations for different purposes in their workplaces. However, doing an effective presentation is not an easy task and engineers need to consider lot of aspects in that process.
- d. Professional Engineers should have an updated technical knowledge about their respective disciplines (eg: Civil, Electrical and Mechanical etc.). Therefore, engineers should have lifelong and independent learning skills to achieve that.