



# UNIVERSITY OF RUHUNA

## Faculty of Engineering

End-Semester 4 Examination in Engineering: February 2020

**Module Number: IS 4307**

**Module Name: Technology and Society**

**[Three Hours]**

**[Answer all questions, each question carries 12 marks]**

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Q1. Comment on any **four** of the following. (about 150 words each = 3 marks each)

- a) Technology is the mother of civilisations, of arts and of sciences.
- b) Effects of technology depend on how we relate the technology artifacts to our lives.
- c) We are spoiled by technology artifacts like computers, and smart phones.
- d) Over the past century there have been many profound technological, economic and social transformations.
- e) Information technology could revolutionise education and eliminate differences in quality between rural and urban education systems.

Q2. Write notes on any **four** of the following. (about 150 words each = 3 marks each)

- a) Technology creates new economic opportunities and social benefits while, producing new social problems.
- b) The creators of future technology products will be teams with multidisciplinary skills.
- c) Quality and safety in design should be fundamental engineering concerns.
- d) The world has become smaller, more responsive, thanks to technology.
- e) Robotic technology and autonomous vehicles will be visible changes in the future.

Q3. Discuss any **four** of the following. (about 150 words each = 3 marks each)

- a) Wants and needs are poles apart and what separates them is the degree of necessity.
- b) The satisfaction of human needs and aspirations is the major objective of development.
- c) Technology is creating solutions for the good of humanity, motivated by political, economic, religious, and cultural concerns.
- d) Technological development may make some aspects of our lives better, but it can never substitute for a just and effective political and social system.
- e) New ideas tend to arise in a society tolerant of change. Progress does not occur where conformism, is a strongly held value.

Q4. Explain clearly any **four** of the following. (about 150 words each = 3 marks each)

- a) A world in which poverty and inequity are endemic will always be prone to ecological and other crises.
- b) Poverty, environmental degradation, and population growth cannot be successfully addressed in isolation.
- c) Technology in the hands of the powerless, will be a tool to bridge the rich-poor gap.
- d) Today, the way we consume and produce is continuing to put enormous pressure on the Earth's natural resources.
- e) Gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world.

Q5. Describe any **four** of the following. (about 150 words each = 3 marks each)

- a) Without technology and innovation, industrialisation will not happen, and without industrialisation, development will not happen.
- b) Ecosystem management, democratic governance, and poverty reduction are essential elements of sustainable economic growth.
- c) All things designed and made have to conform to constraints.
- d) Scientific and technological solutions are never foolproof.
- e) The failure is central to understanding engineering, for engineering design has as its' first and foremost objective the obviation of failure.