

THE OPEN UNIVERSITY OF SRI LANKA
BACHELOR OF TECHNOLOGY/ SOFTWARE ENGINEERING

00174



LEVEL 05
FINAL EXAMINATION – 2011/2012
MPJ5233/MPJ5263 – TECHNOLOGY, SOCIETY & ENVIRONMENT
DURATION: FOUR HOURS (ESSAY TYPE PAPER)
OPEN BOOK EXAMINATION

Date: 23rd February 2012

Time: 09.30 hr. - 13.30 hr. (4hrs)

Mark your Index Number and the Part you are answering on the answer book provided to you.

Please answer a total of six questions only. Do not use more than 300 words to answer any question.

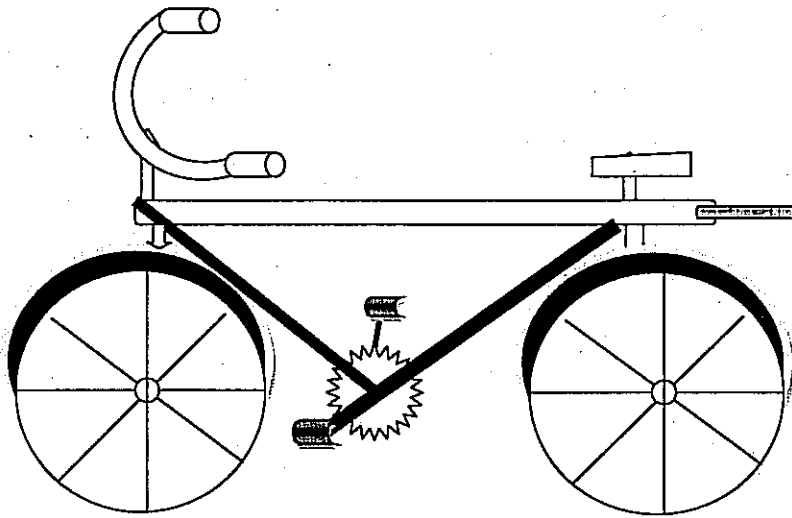
Please **DO NOT** copy directly from a text. If you have to quote, please do so within inverted commas.

1. Sri Lankan transport sector is heavily dependent on oil as the source of energy. Explain disadvantages and risks involved with this dependency and suggest ways to reduce dependency on oil.
2. (a) Describe the second law of thermodynamics in terms of entropy and order. (30 marks)
(b) "Life systems do not violate the second law of thermodynamics". Please explain. (70 marks)
3. Assume that there is a proposal to terminate the Course "Technology, Society and Environment" from the B.TEC and B. SE Programmes on the ground that the Engineering Faculties at the University of Moratuwa and Peradeniya do not offer such a Course. Argue that this termination should not be allowed (Hint: Also use your knowledge on the connectedness of technology with society and environment to support your argument).
4. Out of the six major scenarios (i.e. Scenario A1FI, Scenario A1B, Scenario A1T, Scenario A2, Scenario B1 and Scenario B2) predicted by the Intergovernmental Panel on Climate Change (IPCC), what you think is the most likely scenario we will be able to witness by 2050. Please justify your answer.

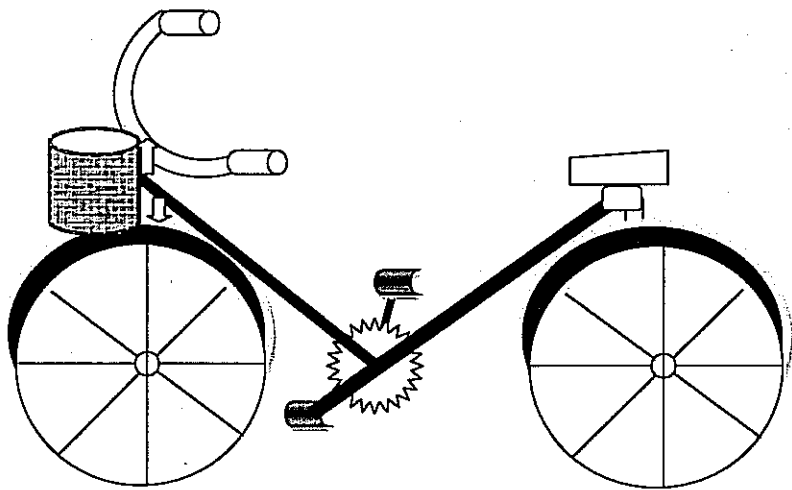
5. "There is a rich diversity of ecosystems in Sri Lanka including wetlands, natural forest and marine and coastal ecosystem. The increasing pressure on the ecosystem is a major hazard faced by Sri Lanka as an island". By taking into consideration the above statement, briefly discuss the factors which cause threats to ecosystem diversity in Sri Lanka and how, as an engineer, are you going to address these challenges minimizing ecosystems damage?
6. Under the present development activities, Sri Lankan government has proposed to commission the express railway line parallel to the southern highway. Assuming that you are one of the members in the EIA team, identify the positive and negative impacts of the project and discuss the alternatives for the project.
7. Write down an article for the newspaper about mobile phone health effects and mitigation measures. Suggest a suitable title for your article.
8. "The best solution for minimizing visual pollution is increasing awareness of people at different levels" Are you on agreement with this statement? Briefly explain.
9. Explain the basis of technology, behind science. Describe in your own words an alternative to modern day sciences.
10. "Wikipedia black out forces US Congress to delay anti-piracy bills. The legislation on anti-piracy is aimed at cracking down on online movie and music piracy by blocking access to websites thought to traffic counterfeit material, but critics fear Internet censorship. More than seven million people signed a Google petition seeking to block the passage of the bills" - 25th January, 2012, India Today.

What do you think about these laws that are being introduced to prevent access to movies, music and literature that are available online? What do you think about Wikipedia blackout and the Google petition, are these acts justifiable? Express your opinion on this issue and justify.

11. (a) Describe what is meant by "sexual differences" and "gender differences". (20 marks)
(b) Identify the differences between the two models of bicycles shown in the following diagrams and argue the case that the differences of the two models are determined mainly by "gender differences" and not by "sexual differences". (80 marks)



Gents



Ladies