

THE OPEN UNIVERSITY OF SRI LANKA
BACHELOR OF TECHNOLOGY/ SOFTWARE ENGINEERING
LEVEL 05

00056



FINAL EXAMINATION – 2012/2013
MPJ5233/MPJ5263 – TECHNOLOGY, SOCIETY & ENVIRONMENT
DURATION: FOUR HOURS (ESSAY TYPE PAPER)
OPEN BOOK EXAMINATION

Date: 25th July 2013

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

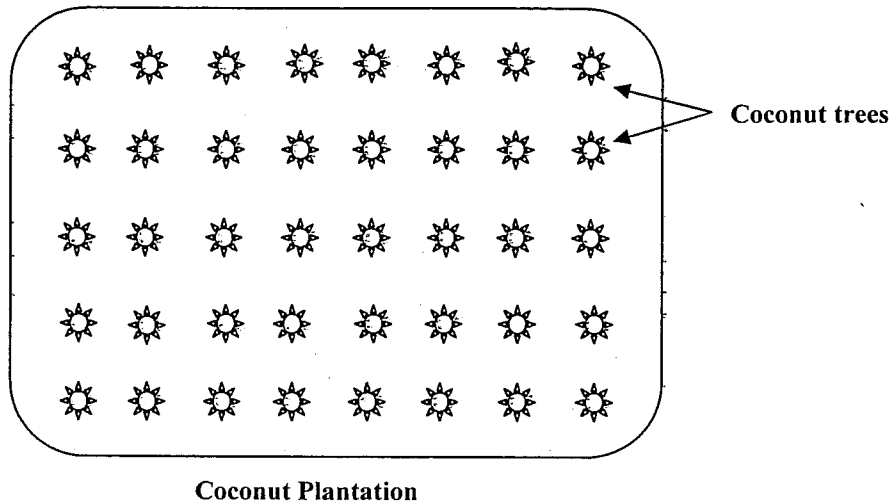
Mark your Index Number and the question number you are answering on the answer book provided to you.

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. During 1980s and 1990s the Course "Technology, Society and Environment" was a Compulsory Course for students following the Degree Programme at the Faculty of Engineering Technology of the Open University of Sri Lanka. This was made an Optional Course later. Develop an argument to highlight the need for making the Course compulsory, again (Hint: Note that the engineering graduates will be serving at various administrative and decision-making levels after starting work as an engineer) (100 marks)
2. Discuss whether the following 'needs' are legitimate material needs by going through the guidelines to identify such needs.
 - (a) A desktop computer (50 marks)
 - (b) Electricity from the National Electricity Grid (50 marks)
3.
 - (a) Analyse why the approach "Gender and Development" (GAD) is conceptually superior to the approach "Women in Development" (WID) (60 marks)
 - (b) Assume that you, as an engineering consultant, are invited by the Rideemaliyadda Divisional Secretariat to help design and conduct a community water project in the area. Describe 4 special measures you take to incorporate GAD approach in designing and implementing this project. (40 marks)
4. Because of the widespread ignorance of people the value of biodiversity and their involvement in the balance of ecosystems, the quality of people's life is degraded and the survival of future generation is threatened. Critically discuss this statement. (100 marks)
5. If you are nominated as a Member of the Parliament through the National List and appointed as the Minister of Science and Technology, propose a plan to the Cabinet to reduce external brain drain. (100 marks)
6. Write an essay by analysing critically the impact of Facebook on social relationships. (100 marks)

7. Global warming and climate change have forced us to practice low carbon-life styles even at individual levels. Describe what changes you do in your day-to-day activities to meet your daily needs while keeping your contribution to global warming and climate change at a minimum level. (100 marks)
8. (a) Describe the 2nd Law of thermodynamics in terms of entropy and order. (25 marks)
 (c) Explain in terms of the 2nd law of thermodynamics what happens to a well maintained coconut plantation if it was abandoned for a few years. (75 marks)



9. Write an article to a news paper on "Mobile phones and your health" with the aim of enhancing community awareness on health hazards caused by mobile phones. (100 marks)

10. **Cell phone towers as visual pollution**

"Granger was also known for spotty wireless coverage when cell phones first became popular. My cell phone did not receive a signal in my Granger home, nor did most of my visitors whose phones were serviced by other providers. So I was pleased to learn that a new cell phone tower was planned for a vacant field about one mile from my home. Then I checked my mailbox one day and found a bright pink flyer that objected to the proposed tower as "visual pollution". Most of my neighbors felt the same way, as demonstrated by the 1,135 residents who signed a petition against the tower. Another resident reported that she had abandoned plans to build a deck on the back of her house because she did not want to look at a tower. "View is everything" said one labour, "and a tower kills the view." – John Copeland Nagle

Read the above case study and assume that you are a telecommunication engineer dwelling in the area mentioned above. Develop an argument against visual pollution caused by above mentioned mobile phone towers. (100 marks)

11. Senior Irrigation Engineers in the Irrigation Department have designed a large scale irrigation project using wastewater. Assuming that you are one of team members in that group, critically analysis the negative and positive impacts of the proposed project and describe possible alternatives. (100 marks)