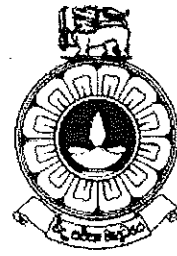


The Open University of Sri Lanka
Faculty of Natural Sciences
M.Sc/ Degree Programme



Department	: Zoology/
Level	: 10
Name of the Examination	: Final Examination
Course Code and Title	: ZYPA604 NEP/2217 Climate Change
Academic Year	: 2018/2019
Date	: 29.02.2020
Time	: 1.30 p.m.- 4.30 p.m.
Duration	: 3 hours
Index number	:

General Instructions

1. Read all instructions carefully before answering the questions.
 2. This question paper consists of **06 (six)** questions in **two** pages.
 3. Answer any **04 (four)** questions only. All questions carry equal marks.
 4. Answer for each question should commence from a new page.
 5. Draw fully labelled diagrams where necessary
 6. Having any unauthorized documents/ mobile phones in your possession is a punishable offense
 7. Use blue or black ink to answer the questions.
 8. Circle the number of the questions you answered in the front cover of your answer script.
 9. Clearly state your index number in your answer script
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1. (i) The atmosphere is relatively transparent to solar radiation. Elaborate this statement.

(ii) For entire globe, why must incoming radiation balance outgoing radiation? What would be the implications for the global climate if this energy balance did not prevail?

(iii) Name the components in the Climate System. Which component of the climate system characterizes climate. Briefly explain the external factors (called 'forcings') that affect climate.

(vi) Briefly explain the Hydrological cycle.

2. (i) Temperate countries use enclosures with glass roofs to grow tropical plants, called greenhouses where inside is kept warm. Explain the mechanism of the greenhouse and similarity of this to the greenhouse effect works on the earth.
(ii) The natural water vapour, carbon dioxide and some of the minute gases present in the atmosphere kept the temperature of the earth above what it would have been without these gases. Explain this.

(iii) How is the energy transfer take place between the earth surface and the atmosphere?

(iv) What is meant by Climatic Factors? Explain the role of latitude to the climate of a place

3. (i) There are three fundamental ways the Earth's radiation balance can change, thereby causing a climate change. Name these three ways and explain it briefly
(ii) Explain the term "Emission Scenarios". How do you develop emission scenarios and explain its use in predicting global warming.

(iii) How do we go about estimating climate change in future?

(iv) Global temperature rise is leading to sea level rise. Briefly explain the main contributions to the sea level rise

4. (i) Most atmospheric aerosols are products of processes occurring at the earth's surface. Identify several of these processes.
(ii) Present several examples of how "minor" constituents (gases and aerosols) of the atmosphere play important roles in the functioning of the environment.

(iii) Explain why the temperature variation between day and night, and between winter and summer, are much greater on land than over water

(iv) If water vapour is the key greenhouse gas why are man-made emissions so important?

5. (i) What are climate change and global warming, and how are they related?
- (ii) What does "planning to adapt to climate change" mean in practice?
- (iv) What can we do right *now* to slow climate change and make a real difference?
- (iv) Why do you say it's a good thing to burn wood as fuel? Surely wood burned equals carbon emitted?
6. (i) What is the primary institutional forum for climate negotiation? Explain the ultimate objective of the above International Forum for climate negotiations
- (ii) Signatories to the above forum are split into three groups. Name these groups and their responsibilities
- (iii) Kyoto protocol establishes three mechanisms to give parties credit for reducing emissions in other countries. Explain briefly these mechanisms.
- (iv) Which one of this mechanism give credits for developing countries?
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