



THE OPEN UNIVERSITY OF SRI LANKA

M.Sc. In Environmental Sciences Level 08 (2016-2017)

NEP 2207 /NEP 2217 Climate Change

NBT-1

Date: 19th August 2017

Time.13.00.hrs to - 14.00 hrs

Answer Any Three (3) questions

1. (i) What are Greenhouse Gasses?
(ii) Why they are called greenhouse gasses?
(iii) If water vapour is the key greenhouse gas why are man-made emissions so important?
(iv) What is global warming potential?

2. (i) Global temperature rise is leading to sea level rise. Briefly explain the main contributions to the sea level rise
(ii) What is Paleoclimatology? How it can be used to determine the past states of the earth's various climate regions?
(iii) What are the recent observed changes in **the Cryosphere**?
(iv) What is permafrost? What are the recent changes in the permafrost regions?

3. (i) What are Climate Models?
(ii) Briefly explain the evaluation of the performance of the above models.
(iii) Uncertainties in IPCC Assessments can be classified in several different ways according to their origin. What are the two primary types of uncertainties?
(iv) Briefly explain the standard terms used to define the levels of confidence in the IPCC findings.

4. (i) Explain detection and attribution
(ii) What are Natural and Anthropogenic Forcings?
(iii) Explain briefly the ways you could attribute the recent observed changes of the climate.

5. For the Fifth Assessment Report of the IPCC, the scientific community has defined a set of four new scenarios. (i) What is the name given to these scenarios?
(ii) How are they identified?
(iii) Explain briefly the use of above scenarios in future projections.