

MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

FOURTH YEAR SECOND SEMESTER EXAMINATION FOR BACHELOR OF EDUCATION ARTS

EGE 3350: METEOROLOGY AND CLIMATOLOGY TIME: 2 HRS

Instructions: Answer question one and any other two

Diagrams and illustration to be used where necessary

QUESTION ONE [30 MARKS]

- a) Elucidate the key areas studied in meteorology and climatology [8 Marks]
- b) Describe the main functions of atmosphere [10 Marks]
- c) Meteorological data and forecasts can be used for different purposes. Explain some of them [6 Marks]
- d) Elucidate the main characteristics of Climate change [6 Marks]

QUESTION TWO [20 MARKS]

- a) Differentiate between cyclones and anticyclones [6 Marks]
- b) Describe the heat energy transfer processes in the atmosphere [6 Marks]
- c) With illustrations, describe the process of wind movement from the sea to the land [8 Marks]

QUESTION THREE [20 MARKS]

- a) Discuss the various processes associated with endless circulation of water [10 Marks]
- b) Elucidate the constituents ingredients out of which climate is compounded [10 Marks]

QUESTION FOUR [20 MARKS]

- a) Explain the effects of the following factors on wind speed and direction
 - i. Coriolis force [4 Marks]
 - ii. Friction [3 Marks]
 - iii. Pressure gradient [3 Marks]
- b) Elucidate the various ways in which clouds can be classified [6 Marks]
- c) Describe the major winds formed by the wind system [4 Marks]

QUESTION FIVE [20 MARKS]

- a) Elucidate the international conventions on climate change [3 Marks]
- b) Prevailing winds is one major types of the wind system. Elucidate the main classifications of wind system. [7 Marks]

c) International conventions on climate change are one of the ways of mitigating global climate risk. discuss the other ways used in mitigation of climate risk.