



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HUMANITIES AND SOCIAL SCIENCES
UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF EDUCATION
(ARTS)
2ND YEAR 1ST SEMESTER 2013/2014 ACADEMIC YEAR
REGULAR

COURSE CODE: NGE 202

COURSE TITLE: CLIMATOLOGY

EXAM VENUE: LAB 1

STREAM: (Humanities and social sciences)

DATE: 25/04/14

EXAM SESSION: 2.00 – 4.00 PM

TIME: 2.00 HOURS

Instructions:

- 1. Answer question 1 (Compulsory) and ANY other 2 questions**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

1. a) Account for the occurrence of the following climatic phenomena:
 - (i) A low pressure belt exists in the low latitudes while a high pressure belt exists in the mid-latitudes. (3 marks)
 - (ii) Temperatures decrease with increasing altitude. (3 marks)
 - (iii) Rainfall amounts vary spatially on the surface of the Earth. (3 marks)
 - (iv) Atmospheric pressure decreases with increasing elevation. (3 marks)
 - (v) A given volume of warm air holds more water vapour than an equivalent volume of cold air. (3 marks)
 - b) Explain one approach used in measuring atmospheric pressure. (5 marks)
 - c) Examine three mechanisms by which air is cooled to its dew point. (6 marks)
 - d) Give a brief account of the conditions necessary for the occurrence of global warming. (4 marks)
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2. Discuss how the following human activities modify atmospheric conditions over time.
 - a) Agriculture (5 marks)
 - b) Urbanization (5 marks)
 - c) Industrialization (5 marks)
 - d) Transportation (5 marks)
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3. Examine the key aspects of the climatic groups generated by Köppen and give two advantages of this climate classification method. (20 marks)
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4. Discuss various types of aridity and explain their effects on human society. (20 marks)
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5. Define the concept *atmospheric circulation* and discuss the four main forces that drives it. (20 marks)