

CHUKA



UNIVERSITY

## UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE  
OF BACHELOR OF SCIENCE IN NATURAL RESOURCE MANAGEMENT**

**NARE 331: CLIMATOLOGY****STREAMS: BSC (NARE)****TIME: 2 HOURS****DAY/DATE: FRIDAY 07/12/2018****11.30 A.M. – 1.30 P.M.****INSTRUCTIONS:**

- Answer questions in section A and any TWO (2) questions from section B
- Do not write on the question paper

**SECTION A (30 MARKS)**

- Distinguish the following terms as used in climatology
  - Dew point and relative humidity [2 marks]
  - Albedo and extra-terrestrial radiation [2 marks]
  - Water surplus and water deficit [2 marks]
- Describe four features of a standard Stevenson screen [4 marks]
- The table below shows a summary of instruments used in measuring different weather elements. Fill in the blank spaces appropriately [6 marks]

No	Weather parameter	Instrument of measurement	Siting and exposure	Units
1	Visibility		Near the runway	
2		Wind anemometer	10 metres above the ground level	
3	Atmospheric pressure			Millibars/pascal
4	Evaporation		Open field	
5		Pyranometer	Avoid shadow	
6	Sunshine duration			Hours and minutes

- Briefly describe the classification of clouds [6 marks]

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5. Write short notes on
- (a) Equinox [2 marks]
  - (b) Solstice [2 marks]
6. Highlight four effects of extremely low temperatures on plants [4 marks]

**SECTION B (40 MARKS)**

7. (a) Discuss the ecological significance of wind [10 marks]
- (b) Describe the process of acid rain formation and its impacts on living organisms on the earth's surface

[10 marks]

8. Discuss the practical application of climatology in the modern world [20 marks]
9. (a) You have been contacted by the management of Chuka University on the requirements for setting up a fully-fledged meteorological station. Advise

[10 marks]

- (b) Describe the process of cloud seeding giving its merits and demerits as a method of weather modification

[10 marks]

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