MAASAI MARA UNVERSITY

REGULAR UNIVERSITY EXAMINATIONS
2018/2019 ACADEMIC YEAR
THIRD YEAR FIRST SEMESTER

SCHOOL OF TOURISM & NATURAL RESOURCES MANAGEMENT
BACHEOR OF ARTS (GEOGRAPHY) AND BACHELOR OF EDUCATION (ARTS)

COURSE CODE: GEO 3121
COURSE TITLE: CLIMATOLOGY

DATE: 11TH DECEMBER, 2018   **TIME: 1100 - 1300 HRS**

INSTRUCTIONS TO CANDIDATES

Answer question **ONE** and any other **THREE** questions.   Use of simple scientific calculators is allowed. . Use illustrations where appropriate.
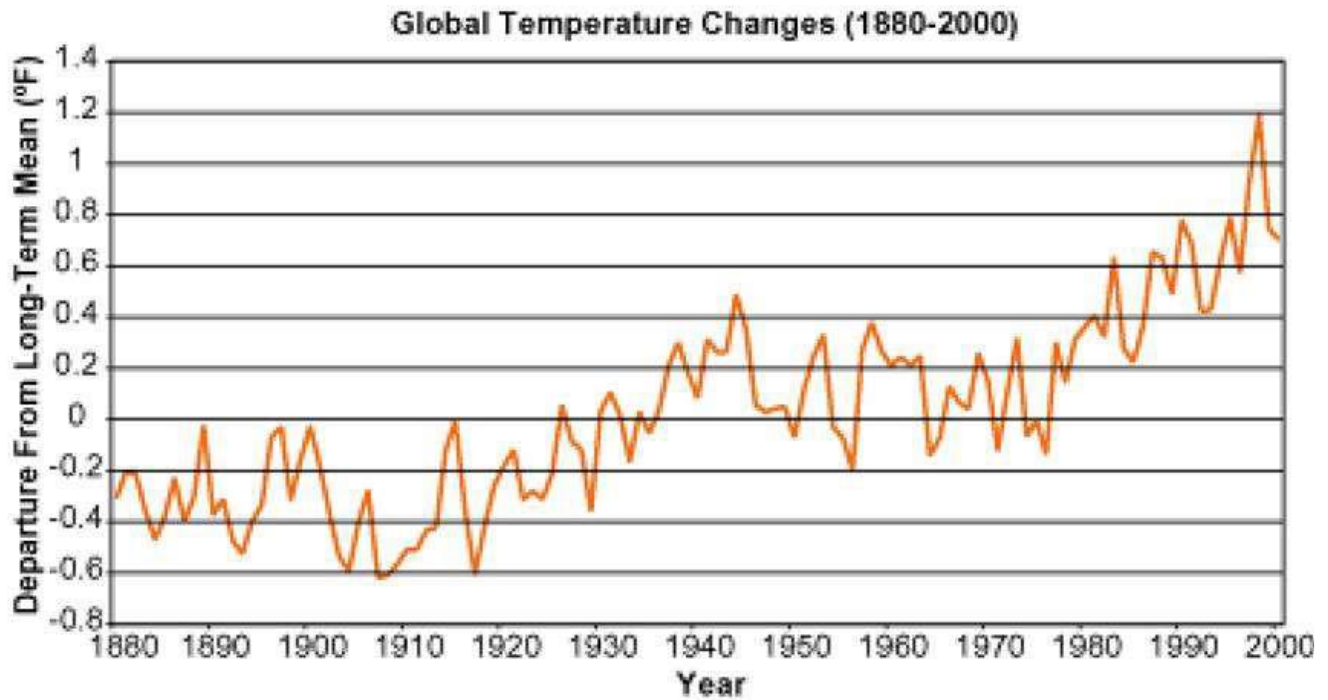
SECTION A (ANSWER ALL QUESTIONS)
Q1
a. Describe two components of the Earth's climate system.   **(4 marks)**

b. Write short notes of the following components of the World Weather Watch
   (WWW) programme of the World Meteorological Organization.
   i.   GOS   **(2 marks)**
   ii. GTS   **(2 marks)**
   iii. GDPS   **(2 marks)**

c. The Indian Monsoon is the most interesting and well researched seasonal wind
   system in the world. Give two reasons why this is so.   **(4 marks)**

d. Describe a simple experiment that could be done in the laboratory to
   demonstrate the existence of Absolute zero temperature.   (6 marks)

Global Temperature Changes (1880-2000)

e. The figure above shows the global average anomalies of temperatures for the
   period 1880- 2000). Describe the general behaviour shown here. (4 marks)
f. Give three possible explanations for the general variations of average global
   temperatures for the period 1880- 2000.   (6 marks)
                                                              [Total 30 marks]

SECTION B (ANSWER ANY TWO)

Q2) 'Although much progress has been made in understanding the climate system and climate change, projections of climate change and its impacts still contain many uncertainties, particularly at regional and local scales'. Discuss   **(20 marks)**

Q3 With the aid of suitable diagrams explain the Bergeron- Findeisen theory for the formation of precipitation in the atmosphere.   **(20 marks)**

Q4 The Koppen-Geiger climate classification system is the most preferred system for the delineation of global climate zones. Justify this statement.   **(20 marks)**

Q5 (a) Explain four benefits of the public weather forecasts given on national TV and Radio stations.   **(8 marks)**

(b) Discuss any three of the following weather forecasting methods;

i.	Using climatological data	(4 marks)
ii.	Using synoptic maps	(4 marks)
iii.	Using analogues	(4 marks)
iv.	Using NWP climate models	(4 marks)
v.	Personal local observations	(4 marks)

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