

EES 415: Environmental Hazards
MAIN EXAMINATION

MAASAI MARA UNIVERSITY

School of Tourism & Natural Resource Management
Department of Environment, Forestry & Agriculture

SECTION A: Answer all questions

1. When is an event classified as a disaster? (2mks)
2. List and define three social scientific approaches to hazard research (6mks)
3. Differentiate between **risk** and **hazard** (4mks)
4. Why is the measurement of size of an event alone a poor guide to disaster assessment? (2mks)
5. Giving examples in each case, differentiate between *endogenous* and *exogenous* hazards (4mks)
6. What is drought? List and discuss three types of droughts (7mks)

SECTION B: Answer any 3 questions

7. In 2011, East Africa faced a tragic food crisis that led to famine conditions in parts of Somalia and severe food shortages in parts of Ethiopia and Kenya. The back-to-back failures of these rains were linked to the dominant La Niña climate and warm SSTs in the central and southeastern Indian Ocean
 - a) What is a La Niña event? How does it affect climate pattern over East Africa? (5mks)
 - b) Was it possible to mitigate the impact of 2011 La Niña? How? (5mks)
 - c) Explain the chronological event in which the development of 2011 La Niña led to famine over east Africa region. (5mks)
8.
 - a) What are landslides? List five major causes of landslides in Kenya. (5mks)
 - b) Briefly describe five major type of landslides (5mks)
 - c) Landslide have been a problem in some parts of Kenya, especially within the rift valley and central parts of Kenya. As an Environmental scientist, what possible risk reduction measures should be taken in those regions? (5mks)
9.
 - a) What is Weakening or decay of a cyclone? List three possible causes of weakening of a cyclone? (5mks)

- b) Explain in detail the conditions necessary for the development of a cyclone (5mks)
- c) Identify risk reduction measures for cyclones (5mks)

10.

- a) What is the difference between flood and drought? List out some of the causes and adverse effects of floods (5mks)
- b) During 1997/8 October-November-December (OND) rainfall season, most parts of East Africa experienced flooding that led to destruction of Infrastructure, water borne diseases and loss of life. Most world meteorological stations linked this flooding to a coupled phenomenon in the pacific and Indian Ocean named El Niño and Indian Ocean dipole Mode (IODM) respectively. Explain what these phenomena are and how they contributed to the flooding event experienced over East Africa (10mks)