TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES
DEPARTMENT OF ENVIRONMENT & HEALTH SCIENCES

UNIVERSITY EXAMINATION FOR:
BACHELOR OF SCIENCE IN MARINE RESOURCE MANAGEMENT
BSMR 14S/YEAR 4/SEMESTER 1

AES 4401: EARLY WARNING SYSTEMS

SPECIAL/ SUPPLIMENTARY EXAMINATIONS
SERIES: SEPTEMBER 2018
TIME: 2 HOURS

Instructions to Candidates
This paper consists of FIVE questions
Answer question ONE (COMPULSORY) and any other TWO questions.
This paper consists of two printed pages.
Mobile phones are NOT allowed in the examination room

QUESTION ONE.   (30 MARKS)

a) i) What is local or indigenous traditional knowledge in early warning systems   [2mks]

   ii) State three types of indigenous knowledge used to predict rainfall occurrence   [3mks]

b) Define the following terms   [5mks]
   i.   Emergency
   ii.   Risk
   iii.   Early warning systems
   iv.   Preparedness
   v.   Mitigation

c) i) State two importance of weather forecasting as a measure for early warning system   [2mks]

   ii) Describe any three coastal processes influenced by severe rain patterns   [3mks]

d) i) Outline three technologies used for monitoring and warning.   [3mks]

   ii) State two medium of disseminating early warning systems information in local communities
                                                                                    [2mks]

e) i) State the ultimate goal of Early Warning Systems   [2mks]

   ii) List three elements of early warning systems   [3mks]

f) i) Name any two agencies involved in developing Early Warning Systems   [2mks]

ii) Highlight any three fields of study which provides information on early warning systems

[3mks]

QUESTION TWO.   (20 MARKS)

Discuss any five technologies for monitoring and warning.

QUESTION THREE.   (20 MARKS)

During a field study to a meteorological station, students were provided with records showing that heavy downfall was forecast in the next two weeks. Describe in details the likely effects and consequences of the heavy down fall on land, agriculture, property/structures and in city or urban centers

QUESTION FOUR.   (20 MARKS)

Early warning systems for events likely to result into sea level rise were conducted by specialized research institutions, research findings from both institutions showed that in case the sea rises by 0.5m over a given period of time, communities around coastal areas would be rendered vulnerable. Explain any five vulnerability indicators of a sea level rise in this context.

QUESTION FIVE.   (20 MARKS)

Discuss the important contribution of local or traditional knowledge towards early warning systems