(*Knowledge for Development*)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR

FOURTH YEAR 1ST SEMESTER
MAIN EXAMINATION

FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOLOGY, BACHELOR OF EDUCATION SCIENCE AND BACHELOR OF SCIENCE BIORESOURCE MANAGEMENT & CONSERVATION

COURSE CODE: **SBT 413**

COURSE TITLE: **ECOLOGICAL MONITORING**

DATE: ***19th December 2017*** **TIME:** ***8:00 – 10:00 a.m.***

INSTRUCTIONS TO CANDIDATES

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks , the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over

1. a) Describe briefly how to create a sampling design (5 marks)
   b) List any five indicators that can be measured using point based sampling (5 marks)
   c) Briefly describe any five methods of ecological monitoring (5 marks)
   d) Highlight five approaches of estimating ecosystem productivity (5 marks)
   e) Briefly describe the transect based sampling in a terrestrial habitat (5 marks)
   f) Explain briefly the principles of remote sensing (5 marks)

2. Discuss the various methods used in population monitoring (20 marks)
3. Discuss the general features of an ecological sampling design (20 marks)
4. Describe the activities involved in under storey method of sampling (20 marks)
5. Discuss the applications of advanced very high resolution radiometer (AVHR) and a normalized difference vegetation index (NDVI) in monitoring of ecosystems (20 marks)