

# The Co-operative University of Kenya

**END OF SEMESTER EXAMINATION DECEMBER-2018**

**EXAMINATION FOR THE DEGREE OF BACHELOR OF CO-OPERATIVE &  
COMMUNITY/ DISASTER MANAGEMENT AND SUSTAINABLE  
DEVELOPMENT**

**UNIT CODE: CODM 2304**

**UNIT TITLE: GIS & RS**

**DATE: DECEMBER, 2018**

**TIME:**

## **INSTRUCTIONS:**

- Answer question **ONE (compulsory)** and any other **TWO** questions

## **QUESTION ONE**

- (a) Define the following terms: (3 marks)
- Remote sensing
  - GIS
  - Black body
- (b) List the **THREE** types of RS platforms used in the 21<sup>st</sup> century giving an example for each (3 marks)
- (c) List any relevant GIS systems with relevance to:
- Spatial and Aspatial data
  - GPS and GPR
  - Multispectral and multistage sensing
  - Raster and vector data

## **QUESTION TWO**

- (a) Explain the electromagnetic spectrum (3 marks)
- (b) With an illustration describe the different wave lengths and frequency bands of the sun's emitted energy (9 marks)
- (c) Using a simple illustration, outline the eight stages/steps of remote sensing and GIS (8 marks)

## **QUESTION THREE**

- (a) Describe and explain the applications of GIS and RS in wildlife and tourism (10 marks)
- (b) Explain **FOUR** sources of errors that affect the accuracy of GPS and how some of those errors can be eliminated during a simple survey exercise (10 marks)

## **QUESTION FOUR**

- (a) Clearly and with illustration, describe the various data linkage techniques we have in GIS (8 marks)
- (b) In simple terms, describe and explain how a GPS receiver computes its positional geometry with reference to latitude, longitude and altitude (12 marks)

## **QUESTION FIVE**

- (a) As an authority and expert, describe how you would employ RS and GIS technology in the monitoring of the changing conditions of Kilimambogo nature reserve (20 marks)