The Co-operative University of Kenya

END OF SEMESTER EXAMINATION DECEMBER-2019

EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN DISASTER, RISK MANAGEMENT AND SUSTAINABLE DEVELOPMENT

UNIT CODE: CODM 2304

UNIT TITLE: GIS & RS

DATE: DECEMBER, 2019   **TIME:**

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

QUESTION ONE

(a) Define the following terms: (9 marks)
   i)   Remote sensing
   ii)   Resolution
   iii)   Black body

(b) List the THREE types of RS platforms used in the 21st Century giving an examples for each   (3 marks)

(c) List any GIS systems with relevant to:
   i)   GIS software   (2 marks)
   ii)   GIS hardware   (2 marks)

(d) One of the basic principles of GIS analysis is that the data collected must be georeferenced! Explain   (2 marks)

(e) Differentiate between
   i)   Spatial and Aspatial data
   ii)   Raster and vector data

(f) Convert the following into degrees only giving appropriate positive or negative signs   (6 marks)

   i) $18^0 12'22''E$
   ii) $0^0 25'S$
   iii) $24^0 13'45''N$

QUESTION TWO

(a) With the help of a diagram, Explain the concept of atmospheric window   (8 marks)

(b) With an illustration, describe the stratification of the atmosphere and the effects on RS   (12 marks)

QUESTION THREE

(a) Describe and explain the applications of GIS and RS is navigation   (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 & explain how a GPS receiver computers its elevation above sea level   (8 marks)

(b) In simple terms, describe and explain how a GPS receiver computes its positional geometry with reference to latitude longitude   (12 marks)