



TECHNICAL UNIVERSITY OF MOMBASA

School of Humanities and Social Sciences

Department of HOSPITALITY & Tourism MANAGEMENT

UNIVERSITY EXAMINATION FOR THE DEGREE OF:
BACHELOR OF SCIENCE IN TOURISM MANAGEMENT (BSTM/SEP2023)
ECV4240: GEOGRAPHICAL INFORMATION SYSTEM (GIS)

END OF SEMESTER EXAMINATION

SERIES: JULY 2025

TIME: 2 HOURS

DATE: Pick Date Jul 2025

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt Choose instruction.

Do not write on the question paper.

SECTION A (Answer all the questions)

30 POINTS

QUESTION ONE

- a. Explain the following concepts as applied in GIS (10 marks)
 - i. Digitization
 - ii. Georeferencing
 - iii. Topology
 - iv. Coordinate Reference System (CRS)
 - v. Raster Model
- b. Explain five sources of GIS data (10 marks)
- c. Explain FIVE functional elements of a GIS (10 marks)

SECTION B (Answer only TWO questions)

QUESTION TWO

- a. Discuss the advantages of vector data models as used in GIS (10 marks)
- b. Using hand drawn illustration describe FIVE (5) quality topological errors that can arising when digitizing geographic features using vector geometry (10 marks)

QUESTION THREE

- a. Describe the process of developing Heat maps in QGIS (10 marks);
- b. Explain how each of any FIVE elements of a map aid a user in interpreting the map (10 marks)

QUESTION FOUR

- a. Using hand drawn sketches describe and illustrate FIVE spatial overlays that can be performed on vector data geometries (10 marks)
- b. Explain the procedure you would use in Georeferencing a Scanned Raster without gridlines QGIS (8 marks)
- c. Explain how one can interpret contour lines in the context of a tourism based GIS analysis (2 marks)

QUESTION FIVE

- a. Explain any FIVE ways in which GIS contribute to sustainable terrestrial wildlife protected areas management (10 marks)
- b. Describe five challenges hampering popular use of GIS in management decision support systems managing tourism resources in the context of a developing country such as Kenya (10 marks).