



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY

Department of BUILDING & Civil engineering

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN CIVIL ENGINEERING

TCV 4413 : GEOSPATIAL TECHNIQUES

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: JULY 2025

TIME: 2 HOURS

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **four** questions.

Attempt any **THREE** questions.

Do not write on the question paper.

QUESTION ONE – Compulsory

- a) Using relevant sketch, describe remote sensing process. **(20 marks)**

QUESTION TWO

- a) Briefly explain FOUR differences between GIS and Remote sensing. **(10 marks)**
b) Briefly explain FIVE advantages of remote sensing. **(10 marks)**

QUESTION THREE

- a) Use of GIS leads to better decision-making in government. Elaborate this statement. **(10 marks)**
b) Explain ANY FIVE benefits and applications of satellite images and aerial photographs. **(10 marks)**

QUESTION FOUR

- a) Raster data structure is more suitable for analytical operations. Explain with its advantages and disadvantages. **(20 marks)**

QUESTION FIVE

- a) Briefly explain FIVE major functions of GIS. **(10 marks)**
- b) Define digitizing process in GIS. **(2 marks)**
- c) Briefly explain the main FOUR processes that can be applied to vector data. **(8 marks)**