



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF SPATIAL PLANNING AND NATURAL RESOURCES MANAGEMENT
UNIVERSITY EXAMINATION FOR THE DEGREE OF ARTS IN SPATIAL PLANNING AND
DESIGN
2nd YEAR 2nd SEMESTER 2024/2025 ACADEMIC YEAR
MAIN CAMPUS

COURSE CODE: PPB 1210

COURSE TITLE: COMPUTER-AIDED CARTOGRAPHY

DATE: 16/4/2025

TIME: 2 HOURS

VENUE: LAB 10

SESSION: 15.00-17.00

Instructions:

1. Answer question 1 (compulsory) and ANY other 2 questions.
2. Candidates are advised not to write on the question paper.
3. Candidates must hand in their answer booklets to the invigilator while in the examination room.

QUESTION ONE: 30 Marks

- a. Define the following terms
 - i. Computer Aided Cartography (1mks)
 - ii. Digital Mapping (1mks)
 - iii. Map Projections (1mks)
 - iv. Georeferencing (1mks)
 - v. Map (1mks)
- b. Discuss the Cartographic Communication Process (10mks)
- c. Explain any FIVE advantages of Digital/Web Mapping (5mks)
- d. You have been tasked to prepare a base map for a spatial planning exercise of your village, discuss how you will apply ArcGIS and Universal Map Downloader in its preparation (10mks)

QUESTION TWO: 20 Marks

- a. Discuss any FIVE metric properties of map projections (10mks)
- b. With the aid of illustrative diagrams, discuss the following types of Cartographic Maps (10mks)
 - i. Cadastral Maps
 - ii. Utility Maps
 - iii. Socio-economic Maps
 - iv. Environmental Maps
 - v. Topographical Maps

QUESTION THREE: 20 Marks

- a. As an assistant Physical Planner of a leading consultancy firm in Kenya, you are responsible for a mapping exercise on the preparation of a Local Physical and Land Use Development Plan for Bondo Municipality. Discuss at least TEN map features you will include in various thematic maps (10mks)
- b. Discuss any TEN functions of a Cartographic Map. (10mks)

QUESTION FOUR: 20 Marks

- a. Explain the various models used in cartographic modelling (5mks)
- b. Cartographers apply many design principles when compiling their maps and constructing page layouts. Using diagrams/illustrations, discuss this statement (15mks)

QUESTION FIVE: 20 Marks

- a. Using illustrations, discuss the following types of cylindrical map projections.
 - i. Mercator projection (4mks)
 - ii. Universal Transverse Mercator (UTM) projection (4mks)
 - iii. Equidistant cylindrical projection (4mks)
 - iv. Lambert's cylindrical equal-area projection (4mks)
 - v. Pseudo-cylindrical projections (4mks)