

BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE & ENGINEERING

SCHOOL OF GEOSCIENCES, DISASTERS & SUSTAINABLE DEVELOPMENT

DEPARTMENT OF GEOSCIENCES

**MASTERS OF SCIENCE DEGREE IN CLIMATE CHANGE AND SUSTAINABLE
DEVELOPMENT**

**MCS513: GIS & REMOTE SENSING FOR CLIMATE CHANGE AND
SUSTAINABLE DEVELOPMENT**

EXAMINATION

 **NOV 2024**

TIME: 3 HOURS

**ANSWER ONE (1) QUESTION FROM SECTION A AND TWO (2) QUESTIONS
FROM SECTION B. USE ILLUSTRATIONS WHERE RELEVANT. MARKS FOR
EACH QUESTION ARE INDICATED IN BRACKETS [].**

Section A: Choose 1 (one) question

1. a) Explain the strengths of GIS compared to other information systems. [10]
b) Justify the need for validation of GIS and remote sensing products. [15]
2. a) Explain any two of the following terms as used in GIS and remote sensing: i) metadata, ii) temporal resolution. [10]
b) Deliberate importance of visual image interpretation in remote sensing. [15]

Section B: Choose 2 (two) questions

3. Elaborate the applicability of GIS and remote sensing in climate change and sustainable development in developing countries [25]
4. Explain the procedure for GIS and remote sensing based modelling of one climate sensitive disease in Africa. [25]
5. Floods are the most common hazards related to climate change. Provide a detailed procedure for the application of remote sensing index of your choice in the detection and monitoring of floods in Zimbabwe. [25]