



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY (MMUST)**

(Main Campus)

**UNIVERSITY EXAMINATIONS**

**2021/2022 ACADEMIC YEAR**

**Special/Supplementary Examination**

**FIRST YEAR FIRST SEMESTER EXAMINATIONS**

**FOR THE DEGREE OF**

**BACHELOR OF SCIENCE IN DISASTER PREPAREDNESS & ENVIRONMENTAL  
TECHNOLOGY**

**COURSE CODE: DPG 101**

**COURSE TITLE: FUNDAMENTALS OF REMOTE SENSING**

**DATE: 01/08/2022**

**TIME: 11 – 1 PM**

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**Instructions to Candidates**

- This paper contains FOUR (4) questions
- Answer ALL questions in Section A and ANY TWO in Section B

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over →

**SECTION A: Answer ALL questions [30 Marks]**

**Question ONE (Compulsory-30 Marks)**

- a) Write brief concise notes on the following Geospatial information science concepts:
- i. Remote sensing (5mks)
  - ii. Passive sensors (5mks)
  - iii. Electromagnetic spectrum (5mks)
  - iv. Satellite (5mks)
- b) Explain the remote sensing process. (10mks)

**SECTION B: Answer ANY TWO questions [40 Marks]**

**Question TWO**

The data provided below represents the spectral reflectance of a certain Earth Surface material of a given area. Use it to plot the spectral reflectance curve of the material. Identify the material and account for the pattern of the curve. (0.4,8), (0.5,18),(0.7,10),(0.8,48), (0.9,46), (1.3,48), (1.4,18), (1.7,30), (1.9,8),(2.3,17),(2.7,8),(3.0,17). (20mks)

**Question THREE**

Explain the various ways through which the atmosphere interacts with electromagnetic radiation. (20mks)

**Question FOUR**

Explain the Two types of satellite orbits used in satellite remote sensing. (20mks)

**Question FIVE**

Discuss the history of remote sensing. (20mks)