



**UNIVERSITY OF SWAZILAND
SUPPLEMENTARY EXAMINATION PAPER**

PROGRAMME: BSc LWM (Year 2 & Year 3)

COURSE CODE: LUM 206

TITLE OF PAPER: GEOGRAPHICAL INFORMATION SYSTEMS

TIME ALLOWED: TWO (2) HOURS

SPECIAL MATERIAL REQUIRED: NONE

**INSTRUCTIONS: ANSWER QUESTION ONE AND ANY TWO OTHER
QUESTIONS.**

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN
GRANTED BY THE CHIEF INVIGILATOR**

QUESTION 1: COMPULSORY QUESTION

- (a) Describe how a composite image can be produced, highlighting when such an image can be used (25 marks)
- (b) Briefly describe how the pixel size will determine the resolution, accuracy and size of a raster GIS database. (15 marks)

QUESTION 2.

Discuss the spatial resolution and spectral resolution for LANDSAT TM and LANDSAT MSS data. (30 marks)

QUESTION 3

- (a) Using examples, illustrate the difference between raster GIS and vector GIS. (15 marks)
- (b) Describe the procedure to be followed when undertaking contrast stretch. (15 marks)

QUESTION 4

- (a) Describe in detail four methods for capturing GIS data. (15 marks)
- (b) Discuss how you can go about undertaking binary masking of water bodies in a satellite image. (15 marks)