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.

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GRANTED BY THE CHIEF INVIGILATOR

QUESTION 1: COMPULSORY QUESTION

a. Using examples, discuss how spectral reflectance of properties can be used to
    differentiate landscape features.   (15 marks)

b. Discus the components of a GIS, specifying how they affect the implementation of a GIS
    project.   (25 marks)

QUESTION 2.

a. Discuss how a signature is developed for image classification. (15 marks)

b. Using examples discuss the difference between spatial data and attribute data. (15 marks)

QUESTION 3

Describe the processes of supervised image classification and unsupervised image
classification, giving advantages and disadvantages of each of the classification systems. (30
marks)

QUESTION 4

Describe the features of satellite data that are considered when selecting it for monitoring and
managing environmental resources, specifying the type of data that would be appropriate for
assessing soil erosion at national level.   (30 marks)