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**UNIVERSITY OF SWAZILAND  
FINAL EXAMINATION PAPER**

**PROGRAMME:** DIPLOMA IN AGRICULTURE AND DIPLOMA IN  
AGRICULTURE EDUCATION YEAR 3

**COURSE CODE:** LUM 305 (M)

**TITLE OF PAPER:** LAND USE PLANNING

**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**

**SECTION A. COMPULSORY QUESTION****QUESTION 1**

- a. Give land capability classes and subclasses where appropriate to parcels of land with the following characteristics and indicate the most intensive type of land use selected, indicating any soil conservation measures necessary to control soil erosion under the land use. 20 marks

Land characteristics	Land A	Land B	Land C	Land D	Land E
Soil depth (cm)	120	17	95	55	60
Slope (%)	17	1	37	7	4
Wetness problem	$W_1$	$W_0$	$W_2$	$W_3$	$W_2$
Past erosion	Severe	Slight	Bad	Severe	Slight
Permeability of soil	Slight	Good	Bad	Worse	Bad

- b. When developing a land use plan for resettlement information such as; population, family size, animal population, and much more are required. Justify the relevance of all the information. 20 marks

**SECTION B. ANSWER ANY TWO QUESTIONS****QUESTION 2**

- a. Using examples, explain how Land Capability Classification differs from Land Suitability Classification. 20 marks
- b. What options of land use would you practise in your farm if the land had a slope less than 5% with a serious wetness problem. Justify why you would opt for those practices. 10 marks

**QUESTION 3**

- a. i. A photo survey is carried out at the height of 5560m above mean altitude. The camera used a focal length of 152.00mm. Calculate the mean scale of the photo. 5 marks
- ii. Assuming another picture is taken using the same camera at a hilltop, 340m above the mean altitude of area where the first photo was taken. What is its scale? 5 marks

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b. Explain how you would identify the following features on an aerial photograph using the various photo interpretation elements?

- i. Dam
- ii. Rock outcrop
- iii. Natural forest
- iv. Wetland

20 marks

**QUESTION 4**

a. Write short notes on the following concepts;

- i. Land Productivity Index
- ii. Land Use Planning
- iii. Economic land evaluation
- iv. Field survey

20 marks

b. Explain the meaning of land characteristics.

10 marks

Land characteristics	Limits							
	$\leq 2$	4	7	14	Any	29	35	$>39$
Slope (%)	$\leq 2$	4	7	14	Any	29	35	$>39$
Effective soil depth (cm)	$>90$	$>50$	$>50$	$>25$	Any	Any	Any	Any
Wetness problem	$W_0$	$W_0$	$W_1$	$W_2$	$W_3$	$W_2$	$W_2$	$W_2$
Permeability of soil	Good	Good	Fair	Poor	Any	Worse	Worse	Worse
Past erosion problems	Non e	None	Slight	Slight	Any	Bad	Worse	Worse
Land capability class	I	II	III	IV	V	VI	VII	VIII