"Investing in Africa's Future"

FACULTY OF HUMANITIES AND SOCIAL SCIENCES

HGE202: CARTOGRAPHY AND MAP INTERPRETATION

END OF FIRST SEMESTER EXAMINATIONS

NOVEMBER/DECEMBER 2016

LECTURER: Mr. D. Munasirei

DURATION: 3HRS

GENERAL INSTRUCTIONS TO CANDIDATES

1. Do NOT write your name on the answer sheet
2. Answer **FOUR sub-questions in Question 1** in **Section A (Total of 40 marks)**
3. Answer **TWO (2)** questions in **Section B**, including **Question 3** which is compulsory. **Each question is marked out of 30.**
4. Begin your answer for each question on a new page

SECTION A (Answer FOUR sub-questions in Question 1)

Question 1

i. According to Thornes and Brunsden (1977) and Hagget (1982) a model is essentially a statement about reality made with various levels of abstraction from reality. Within this context,
   a) Define a map (4)
   b) Briefly discuss the type of model(s) in which a map can be defined. (6)

ii. Discuss any TWO sources which are used in constructing a map. (10)

iii. Show how advances in electronic and digital technology have contributed to the development of technology. (10)

iv. Discuss any TWO broad functions of a map. (10)

v. With the use of illustrations (diagrams) show your understanding of cartographic visualization. (10)

vi. Show how the understanding of two elements of maps (locations and attributes) helps us understand relationships of geographical phenomena. (10)

vii. Give at least TWO reasons why geographers are the primary users of maps. (10)

viii. With the use of diagrams show your understanding of **TWO** geometric surfaces which are considered as developable surfaces in map projections. (10)

ix. Calculate the ratio of 20-cm globe (diameter) representing the Earth, whose diameter is about 13 000 km. (10)

x. Briefly discuss any FIVE considerations why we use maps instead of globes even though the globe is a perfect model of the Earth. (10)

Total marks =40

SECTION B (Answer TWO Questions including Question 3, which is compulsory)

Question 2

(a) With reference to the map extract provided (Mbalabala, Zimbabwe – 1: 50 000) draw a labeled sketch map to show the relief and drainage of the area defined below **(10)**

EASTINGS	NORTHINGS
09 -17	41 - 51

(b) Describe and discuss the fluvial and hydrological conditions of the area. **(20)**

Question 3

Study Figure 1 (INSERT I) which shows the dot density map of Population Distribution in Africa, the Middle East and Europe and answer the following questions.

a) Briefly discuss the nature of geographical data used in constructing Figure 1. **(5)**
b) Discuss the steps followed in constructing Figure 1. **(10)**
c) On the basis of Figure 1 discuss the advantages and limitations of the mapping technique.**(5)**
d) With examples, discuss the usefulness of dot maps in Geography and Environmental Studies. **(10)**

Question 4

Study Table I, which shows the total amount of electricity produced (in thousands of kilowatts) in selected countries in Africa in 1989 and answer the questions that follow.

Table 1: Production of Electricity from Selected Countries in Africa

Country	Total Production of Electricity ('000 kilowatts)	Percentage of Total Electricity Production
South Africa	25 870	
Egypt	11 845	
Algeria	4 136	
Nigeria	4 040	
Libya	3 000	
Mozambique	2 358	
Zimbabwe	1 634	
Ghana	1 186	
Ivory Coast	1 173	
Kenya	*719	
Malawi	185	
TOTAL		

a) Calculate the percentage total production of electricity for each country. **(5)**
b) Briefly discuss the nature of geographical data (including the calculated percentages) shown in Table 1. **(5)**

c) Using the data in Table 1 show how you would construct a choropleth map including the method used in arriving at classes and class limits. Illustrate the construction of the map of Africa (Figure 2 - INSERT I1). **(10)**

d) Discuss the strengths and limitations of the choroplethic techniques in portraying geographical distributions. **(10)**

Question 5

Study Figure 3 (INSERT III) which shows the cost of bus fare (Z$) for a passenger from each of a number of growth points and villages to Mutare (D) and answer the questions that follow.

a) Briefly discuss the nature of geographical depicted in Figure 3. **(5)**

b) Describe the method you would use to draw **isophores** (equal cost charges from a central point) to show the distribution of fares from Mutare. Illustrate your answer on Fig. 3. **(10)**

c) On the basis of your illustration in (a) above, discuss the strengths and limitations of this mapping technique. **(15)**

Question 6

a) Study Figure 4 (INSERT IV) and show how the map of mean annual precipitation was constructed including how the classes and class limits were conceived. Illustrate the construction of this map of Africa (Figure 4). **(10)**

b) In general comment on the nature of geographical data needed to draw **isometric** and **isopleths** maps with emphasis on Figure 4. **(10)**

c) Discuss the usefulness of this technique in cartographically representing geographical phenomena. **(10)**

- END OF QUESTIONS -

Figure 1 (INSERT I) Population Distribution in Africa, Middle East and Europe (Question 3)

Figure 2 (INSERT II): The Map of Africa (Question 4)

Figure 3 (INSERT III): Value of Bus Fares (Z$) to Mutare (Question 5)

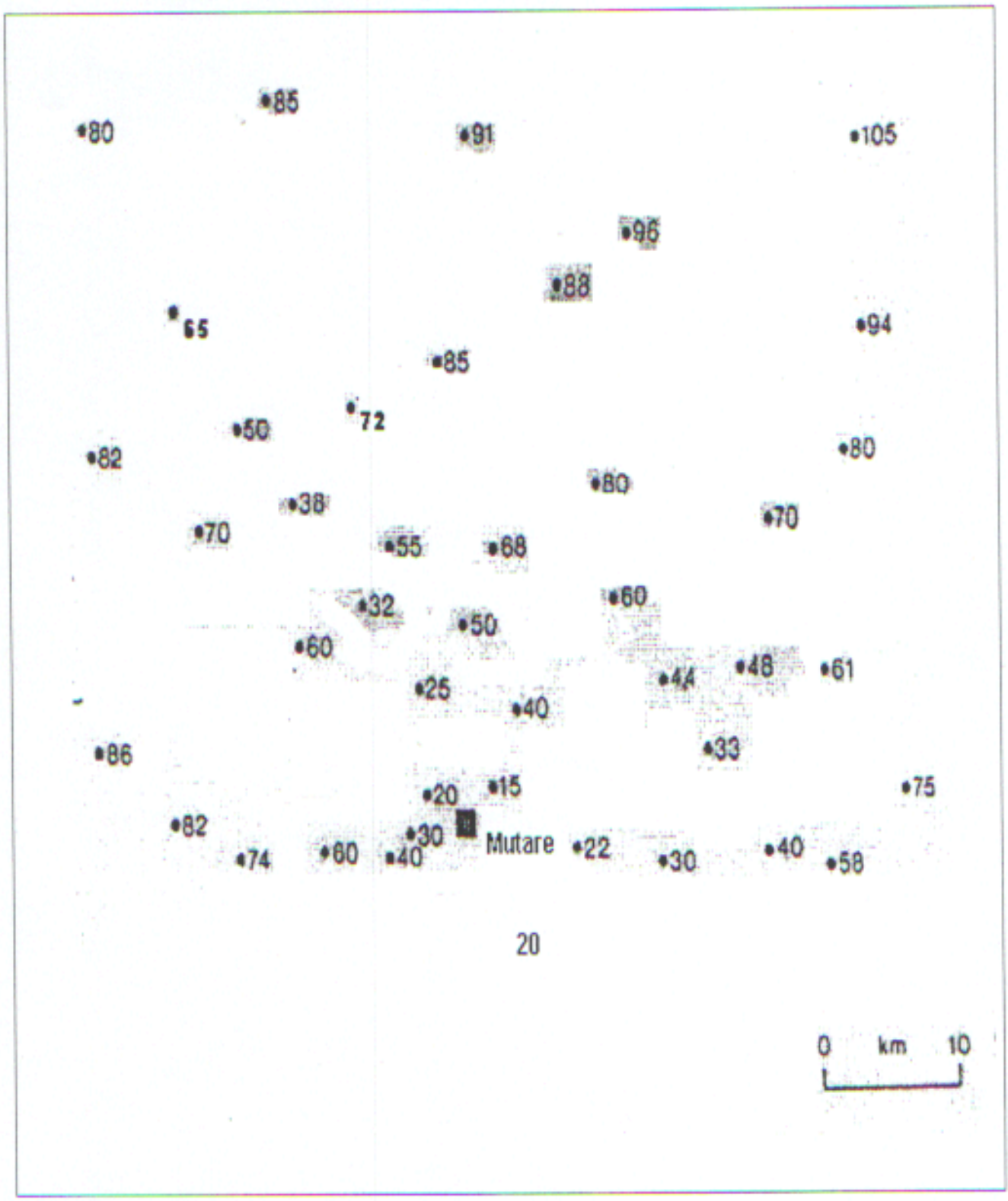
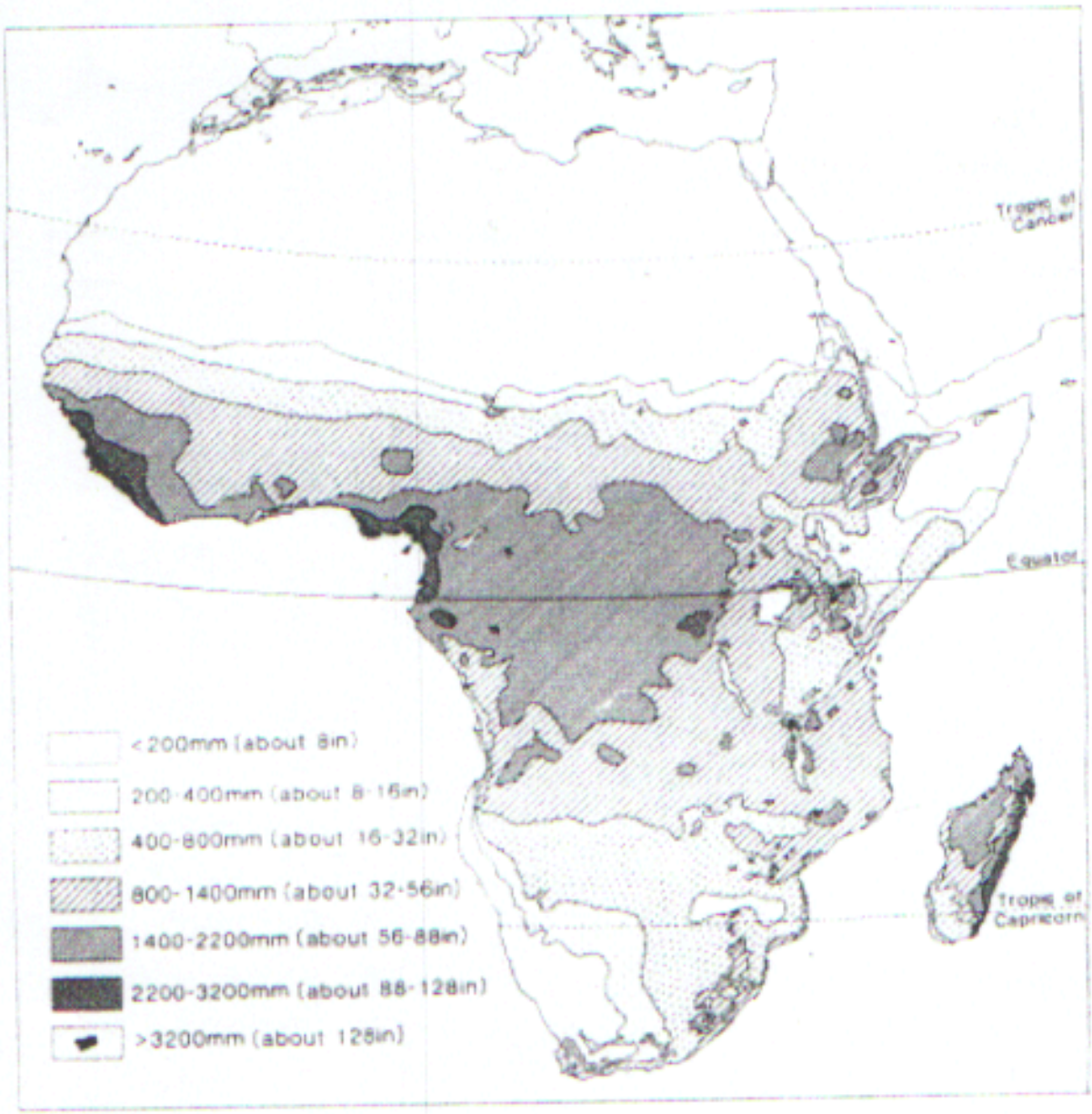


Figure 4 (INSERT IV): Mean Annual Precipitation in Africa (Question 6)



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