



NNAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF ENGINEERING AND SPATIAL SCIENCES

DEPARTMENT OF ARCHITECTURE AND SPATIAL SCIENCES

QUALIFICATION: BACHELOR OF TOWN AND REGIONAL PLANNING BACHELOR OF REGIONAL AND RURAL DEVELOPMENT	
QUALIFICATION CODE: 07BTAR 07BRAR	LEVEL: 6 CREDITS: 10
COURSE CODE: CEP610S	COURSE NAME: CIVIL ENGINEERING FOR PLANNING
DATE: JUNE 2022	PAPER: THEORY
DURATION: 3 HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
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INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Write clearly and neatly.3. Number the answers clearly.4. Use sketches to improve your answers.

PERMISSIBLE MATERIALS

1. Calculator, ruler, pen, pencil and eraser

THIS QUESTION PAPER CONSISTS OF 4 PAGES (Including this front page)

Question 1

List the principles of Integrated Environmental Management which apply to the process of managing an infrastructure development project.

[9]

Question 2

Explain the following practices used by a Local Authority to make water provision to the low-income communities more affordable:

- (a) Cross subsidisation of the water service charges
- (b) A sliding scale fee structure for water service charges.

[6]

Question 3

The local authority is contemplating installing communal water standpipes in an informal housing area.

- (a) How would you describe the characteristics of this water supply option? (2)
- (b) Identify the advantages and disadvantages of this water supply option? (6)

[8]

Question 4

Provide detailed definitions for the following:

- (a) Integrated Water Management (2)
- (b) Linear Road network (2)
- (c) Inter Sectoral linkages (2)
- (d) 50 year floodplain (2)
- (e) French Drain sewer system (2)

[10]

Question 5

- (a) Produce a sketch illustrating the difference between a 20 and a 50 year flood plain / flood line and show on the sketch where the construction of permanent houses and structures may be allowed. (4)
- (b) Explain the influence these flood plain / lines have upon the planning standards, designs of storm water drainage systems and layout planning. (4)

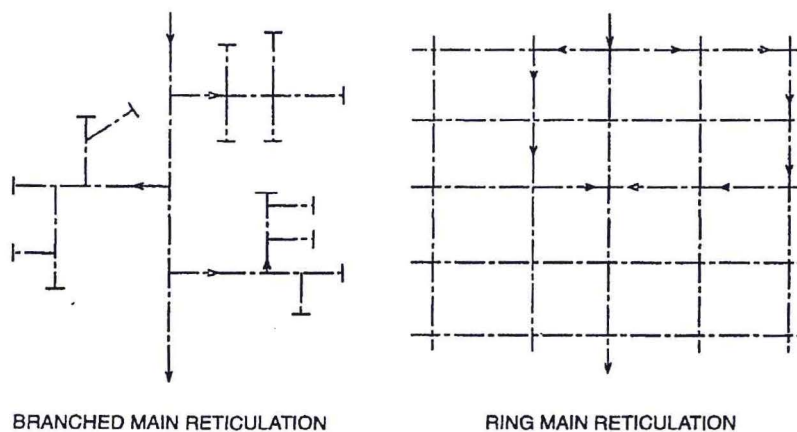
[8]**Question 6**

The town council is planning to upgrade the town's solid waste management system to include individual household or kerb-side collection services. Provide descriptions for the following:

- (a) The basic definition or characteristics of a kerb-side collection of solid waste (2)
- (b) The advantages and disadvantages of kerb-side collection of solid waste (5)

[7]**Question 7**

The illustration below depicts two water reticulation options used by local authorities worldwide to provide neighbourhoods with a water service. Compare these two reticulation options.

**[6]**

Question 8

Make a detailed distinction between the various hierarchies of Public Facilities found in Namibia in terms of types, target areas and spatial distribution etc.

[12]

Question 9

Governments are turning to private sector companies to finance the service networks.

- (a) Provide the reasons why Governments are using private companies (5)
 - (b) List the benefits for the Governments (3)
- [8]
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Question 10

All substantial infrastructure developments in Namibia are subject to an Environmental Clearance Certificate being issued by the Environmental Commissioner. Provide a diagram illustrating the process of obtaining an Environmental Clearance Certificate:

[8]

Question 11

In terms of the generic institutional issues associated with the delivery of municipal services in a local authority area, please provide an explanation of the practises of "Privatisation" versus "Decentralisation"

[7]

Question 12

Distinguish between the aspects that must be dealt with when planning a storm water drainage system on a micro level within the context of Integrated Water Management.

[6]

Question 13

What benefits are derived for a community when Informal Settlement upgrading goes hand in hand with the installation of services?

[5]

END

TOTAL: 100 marks