



**NAMIPIA UNIVERSITY**  
OF SCIENCE AND TECHNOLOGY

**FACULTY OF ENGINEERING AND SPATIAL SCIENCES**

**DEPARTMENT OF ARCHITECTURE AND SPATIAL SCIENCES**

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

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

***PERMISSIBLE MATERIALS***

1. Calculator, ruler, pen, pencil and eraser

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

**Question 1**

The local authority is contemplating upgrading the water supply system in an established neighbourhood from communal water standpipes to an individual household connection system.

- (a) How would you describe the characteristics of the household connection option? (2)
  - (b) Identify the advantages and disadvantages of this water supply option (6)
- [8]**
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**Question 2**

Provide detailed definitions for the following:

- (a) Privatisation of a service network (2)
  - (b) Inter-Sectoral linkages (2)
  - (c) Regional Electricity Distributor (2)
  - (d) French Drain sewer system (2)
  - (e) Compatibility of public facilities (2)
- [10]**
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**Question 3**

As a Planner for a Regional Council, you are appointed to select an appropriate sanitation system for a new settlement area. List 8 of the key issues that you will consider in the design, standards, and ultimate choice of the most appropriate sanitation system.

**[8]**

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**Question 4**

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]**

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**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]**
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**Question 6**

The town council is planning to establish a new communal (skip container) solid waste collection service in an informal housing area. Provide descriptions for the following:

- (a) The basic definition or characteristics of a communal collection of solid waste (2)
- (b) The advantages and disadvantages of communal collection of solid waste (4)
- [6]**
- 

**Question 7**

The Regional Council where you are employed as a planner is embarking on an electrification capital project in a newly established settlement area via above ground cabling, and you are sent to the community to discuss the advantages and disadvantages of this electrification option. What are the advantages and disadvantages you would highlight to the community?

**[8]**

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**Question 8**

List and explain the issues that need to be taken into consideration when making spatial provisions for the various types of education facilities.

**[9]**

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**Question 9**

The World Commission of Environment and Development compiled the 4 Forces Model for Energy Provision. Explain the following in detail:

(a) The Energy Demand component (4)

(b) The Energy Supply component of the model (4).

[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]

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**Question 11**

Distinguish between all the formats of solid waste management, placed in a hierarchy from least preferred format to most preferred format.

[6]

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**Question 12**

The regional council you are employed with would like to establish a solid waste management system at various settlement areas under its jurisdiction. What would you recommend as possible financing options for a solid waste management system?

[6]

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**Question 13**

In a table format, can you identify the roles and responsibilities of the following role-players in the approval of national infrastructure development projects: (1) the Ministry of Urban and Rural Development (2) the National Planning Commission (3) the Bank of Namibia (4) the Ministry of Finance (5) the Cabinet (6) the Parliament?

[9]

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END

TOTAL: 100 marks