



PAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

DEPARTMENT OF ARCHITECTURE, PLANNING AND CONSTRUCTION

QUALIFICATION: BACHELOR OF REGIONAL AND RURAL DEVELOPMENT BACHELOR OF TOWN AND REGIONAL PLANNING	
QUALIFICATION CODE: 07BRAR 07BTAR	NQF LEVEL: 6
COURSE CODE: CEP610S	COURSE NAME: CIVIL ENGINEERING FOR PLANNING
DATE: JUNE 2023	PAPER: THEORY
DURATION: 3 HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
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MODERATOR	Ms Marina Coetzee

INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions.2. Questions can be answered in any sequence.3. Read all the questions carefully before answering.4. Number the answers clearly

PERMISSIBLE MATERIALS

Pen, ruler, pencil and eraser

THIS QUESTION PAPER CONSISTS OF 5 PAGES (Including this front page)

Question 1

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

[8]

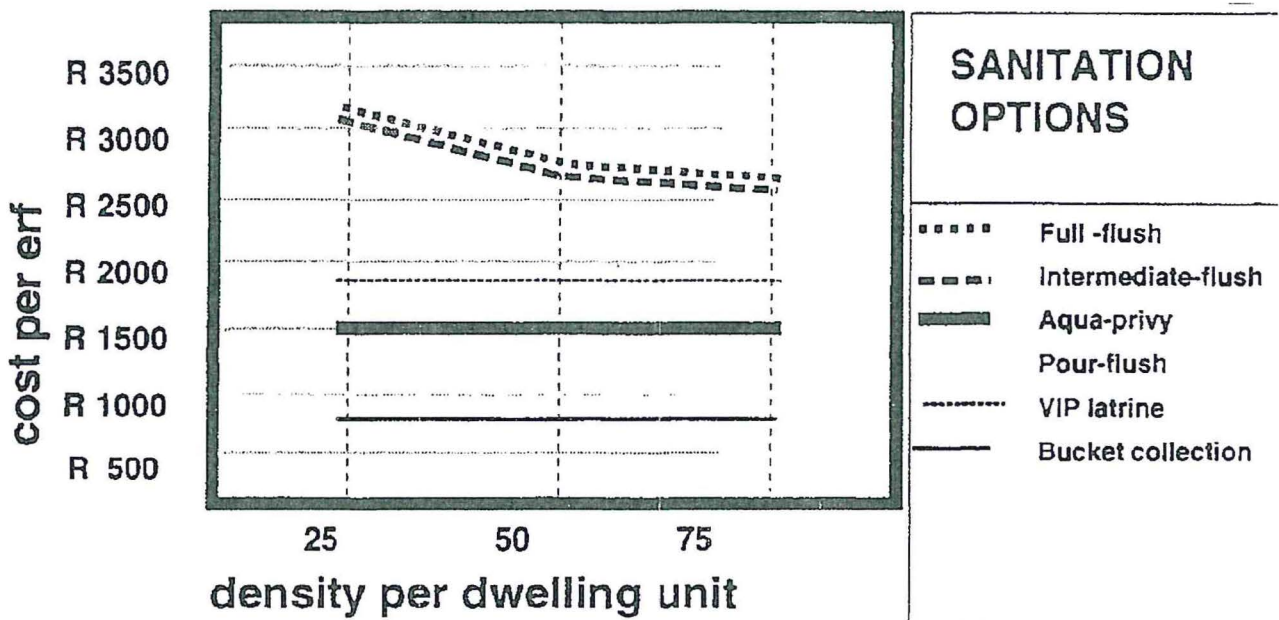
Question 2

During a public meeting with inhabitants of a newly proclaimed town your are asked to explain the difference between high and middle order public facilities as the community members are expecting these types of public facilities to be built in their town.

What would your explanation be?

[9]

Question 3



The graph above illustrates the impact of residential densities on the cost per erf to provide sanitation options to those even.

- (a) Explain why increased residential densities impact on the cost of Full Flush systems positively but has no impact on the Aqua Privy and VIP options. (3)

- (b) In terms of the general provision of services like water, electricity, and storm water management to residential erven, how does the site conditions within the residential area influence the development cost of the residential erven? (5).

[8]

Question 4

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 5

In terms of Solid Waste Management, it is generally stated that 75-90% of solid waste can be eliminated via the application of 3 sets of priorities to limit pollution and waste.

- a) What should the first set of priorities be to limit pollution and waste in urban areas?
- b) What should the last set of priorities be?
- c) State why private companies should be contracted to conduct solid waste collection services in urban areas?

[12]

Question 6

In table format, identify the roles and responsibilities of the following role-players in the approval of national infrastructure development projects: (a) the Ministry of Urban and Rural Development, (b) the National Planning Commission, (c) the Bank of Namibia, (d) the Ministry of Finance, (e) the Cabinet, and (f) Parliament?

[9]

Question 7

The local authority is contemplating upgrading the water supply option in a newly established informal settlement from communal water tankers to communal water standpipes.

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

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 9

As a Planner for a Regional Council, you are appointed to select an appropriate sanitation system for a new settlement area. Your site analysis shows that the settlement has poor ground conditions, there is shallow rock and there is a high risk of groundwater pollution.

- a) Which of the generally acceptable sanitation options would you recommend in this scenario? (1)
- b) Provide a detailed sketch of this sanitation option, illustrating its fundamental components. (7)
- [8]**
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Question 10

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 (3)
- (b) A sliding scale fee structure for water service charges. (3)

[6]

Question 11

- (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 12

Provide an explanation of the functions that roads perform in urban settlements.

[6]

END

TOTAL [100]