



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

DEPARTMENT OF ARCHITECTURE, PLANNING AND CONSTRUCTION

QUALIFICATION: BACHELOR OF TOWN AND REGIONAL PLANNING	
QUALIFICATION CODE: 07BTAR	LEVEL: 6 CREDITS: 10
COURSE CODE: PLP621S	COURSE NAME: PRINCIPLES AND GUIDELINES FOR LAYOUT PLANNING
DATE: JANUARY 2023	PAPER: THEORY
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY / SUPPLEMENTARY EXAMINATION QUESTION PAPER	
EXAMINER(S)	Jacques Korrubel & Pieter Genis
MODERATOR:	Geraldine van Rooi

INSTRUCTIONS
<ol style="list-style-type: none">1. Answer ALL the questions in any sequence you prefer2. 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 5 PAGES (Including this front page)

Question 1

- (a) When doing a site analysis for future urban development, it is essential to identify the 1:50-year floodline and floodplains around rivers. Describe the measures and guidelines that can be implemented in considering the impact of floodlines for development. (5)
- (b) Explain why the geological characteristics of a terrain are essential for settlement establishment. (5)
- (c) Identify any five important aspects available on small scale farm or erf diagrams that is of value for the planner during site analysis. (5)

[15]

Question 2

In Gabe Klein's video "the car almost killed our cities" he argues that planners should create urban areas where there is a mix of movement options where the private motor vehicle does not dominate the street and public spaces to enhance health and create social and economic opportunities.

- (a) Which of the generic street block designs, do you feel, is the best to create a mix of movement options? (1)
- (b) Motivate your answer in (a) (4)

[5]

Question 3

The human centred focus and secondly, the pedestrian as the starting point of all settlement designs makes the creation of a walkable urban environment critical in all designs.

By referring to Jeff Speck's video on the Theory of Walkability as well as Urban Planning 101's Walkability video provide an expansive explanation on the critical qualitative and quantitative principles and guidelines these 2 video presentations recommend when designing a walkable urban settlement.

[15]

Question 4

Hard open spaces provide certain spatial and structural functions within a settlement on condition that they are properly designed and planned.

- (a) Describe the generic functions of all hard open spaces. (4)
- (b) Describe the movement functions of hard open spaces. (4)
- (c) Describe the political or symbolic functions of hard open spaces. (3)
- (d) List the specific requirements street traders / vendors might have for the design of hard open spaces. (4)

[15]

Question 5

The installation of a storm water drainage network is critical for the safeguarding of residential developments in a settlement. Describe what layout implications a storm water management service will have on the design of a settlement.

[8]

Question 6

The above sketch illustrates an activity corridor created to intensify the use of space, as being one of the Spatial Principles or rules of settlement planning and design.

- (a) List the benefits of applying this spatial principle (5)
- (b) Explain how activity corridors support the concept of compact & mixed-use settlement. (4)

[9]

Question 7

Soft open spaces have the role to protect the needs of human beings as well as the ecological needs of the fauna and flora within a settlement.

Provide a sketch illustrating the impact of this above mentioned role soft open spaces play to achieve multi-functionally, ecological protection and continued linkages between open spaces.

[5]

Question 8

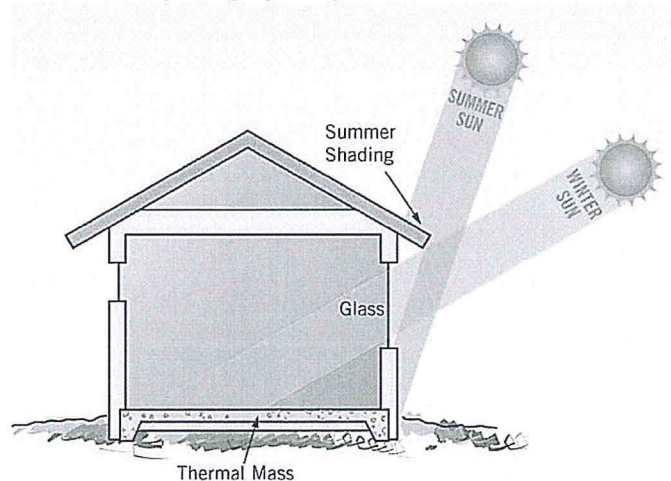
Effective and efficient land utilisation is one of the quantitative guidelines for land subdivisions. Describe the following guidelines of effective land utilisation in detail:

- (a) Erf dimensions (3)
- (b) The 2 types of residential densities (4)
- (c) The tool called Land utilisation Index (2)

[9]

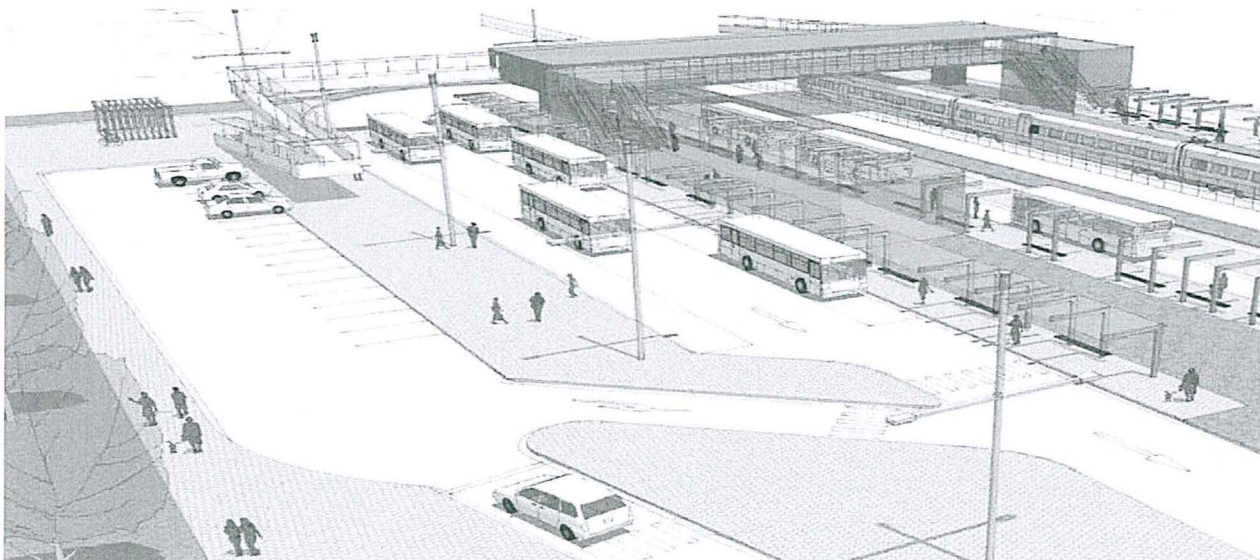
Question 9

The figure below illustrates the building design principle called: Passive Solar Design.



- (a) How can a Town and Regional Planner facilitate the application of this design principle when designing residential erven in urban settlements? (1)
- (b) Describe the Passive Solar Design principle in detail (5)

[6]

Question 10

The drawing above depicts the Otahuhu Station and urban transport interchange in New Zealand. The locality of such a transport interchange is guided by certain structural principles of settlement design.

- (a) Identify the specific structural principle. (1)
- (b) Provide a sketch, inclusive of a proper legend, illustrating this structural principle. (6)
- (c) Explain the theory / methodology behind this structural principle to achieve structure and order within human settlements. (6)

[13]

END

TOTAL [100]



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