



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

DEPARTMENT OF LAND AND SPATIAL SCIENCES

QUALIFICATION(S):	BACHELOR OF PROPERTY STUDIES		
QUALIFICATION(S) CODE:	08BOPS	NQF LEVEL:	7
COURSE CODE:	PQS721S	COURSE NAME:	PRINCIPLES OF QUANTITY SURVEYING
EXAMS SESSION:	JULY 2025	PAPER:	THEORY
DURATION:	2 HOURS	MARKS:	100

SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION QUESTION PAPER	
EXAMINER:	MR AMIN ISSA
MODERATOR:	MS ELINA TEODOL

<p style="text-align: center;">INSTRUCTIONS</p> <ol style="list-style-type: none">1. Read the entire question paper before answering the Questions.2. Please write clearly and legibly!3. The question paper contains a total of 5 questions.4. You must answer <u>ALL QUESTIONS</u>.5. Make sure your Student Number is on the ANSWER SHEET(S).

PERMISSIBLE MATERIALS

1. Non-programmable Scientific Calculator

THIS QUESTION PAPER CONSISTS OF 8 PAGES (Including this front page and appendices 1 & 2)

Question 1

For each of the following statements indicate whether it is 'TRUE' or 'FALSE'. Each correct answer carries 1 mark.

- 1.1 The primary purpose of the bidding process in construction is to select a contractor to carry out the construction.
- 1.2 Contractors review Plans and specifications provided by the client to prepare a formal estimate of construction costs.
- 1.3 The evaluation stage only focuses on how much the project will cost and ignores other factors like timing and quality.
- 1.4 Local planning authorities are responsible for issuing building permits.
- 1.5 Selection of a contractor might delay the approval of a building permit.
- 1.6 The architect is only responsible for the structural design of the building and does not supervise other engineers.
- 1.7 Electrical plans illustrate the power distribution system, including the design of transformers, distribution boards, circuits, and other electrical equipment for the building.
- 1.8 Once a client commits to the implementation phase of a construction project, flexibility to make significant changes in scope is limited.
- 1.9 The purpose of a maintenance plan for a building is to attract new contractors.
- 1.10 In property construction, general contractors build the core building, while specialist contractors handle component installations.
- 1.11 Project commencement and completion dates, billing procedures, and insurance requirements are included in the contract documents provided to the contractor after the bidding process.

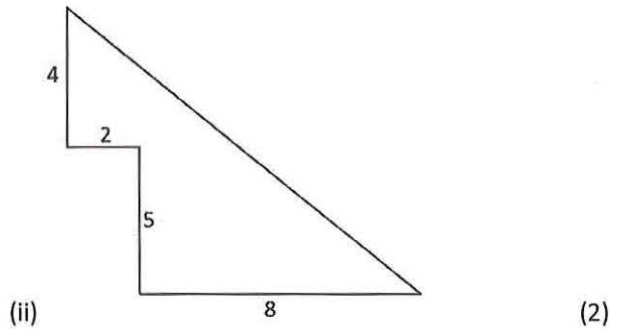
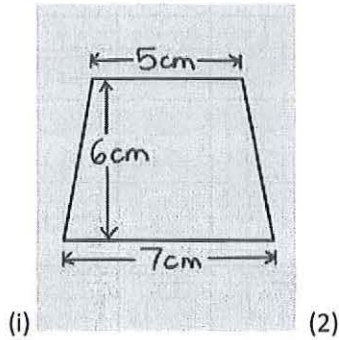
- 1.12 Ground investigations are unnecessary if the legal status of the land is confirmed.
- 1.13 Financing a construction project often involves a combination of equity (own money) and debt (borrowed funds).
- 1.14 Developers must decide whether to use existing assets or the proposed building as security when borrowing funds.
- 1.15 The design stage involves a professional team including architects, planners, quantity surveyors, contractors, valuers, and engineers, and continues throughout the construction process.
- 1.16 The architect is only responsible for the structural design of the building and does not supervise other engineers.
- 1.17 Schematic plans are prepared after reviewing the preliminary programme and show the interrelationship between space and activities in a project.
- 1.18 Architectural plans focus on the layout, floor plans, elevations, construction details, and architectural finishes, not primarily on structural design, which is handled by structural plans.
- 1.19 Market research during evaluation includes analyzing the location, economic activities, and population composition to assess project demand.
- 1.20 Once a building is constructed, it can easily be moved to a more suitable location if the evaluation was incorrect.

[20]

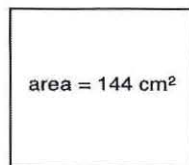
Question 2

2.1 An office building has a length of 40m by 20m. calculate the number of office occupants if each one occupies an area of 100m². (3)

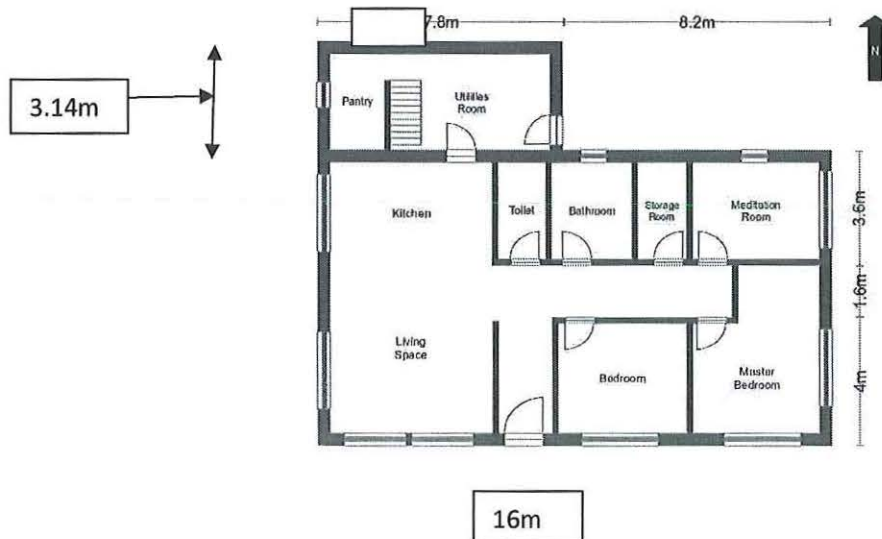
2.2 Calculate the area of the figures (i) and (ii). The measurements in (ii) are metres. (4)



2.3 Calculate the perimeter of the square (2)



2.4 Calculate the area of the building (4)



- 2.5 A building is rectangular with a length of 12 meters and a width of 6 meters. If it is surrounded by a walkway 2 meters wide, how many square meters of area does the walkway cover? (3)
- 2.6 Calculate the cost per/m³ of a concrete foundation footing (6m³) where the total labour cost is N\$8,000 and concrete material cost is N\$3,000. (4)

[22]

Question 3

- 3.1 Fill in the second column in the table attached as Appendix 1 (Excavation for the foundation of a medium sized Security Hut) below. It deals with the excavation for the foundation of a medium sized Security Hut measuring 6m by 5m. The foundation depth is 800mm while the width is the same, that is 800mm. Equipment Capacity is 0.7m³/hr while mobilization takes one hour. Excavation equipment hire is N\$300/hr while the operator is paid N\$350/hr. Also calculate the cost per m³ for both the Equipment and the operator. (14)
- 3.2 Materials such as concrete are mixed in ratios. A typical mix for concrete would be a 1:2:4 (hypothetical) mix. This means that 1 Portion of cement is required, 2 portions of fine aggregate (sharp sand) and 4 portions of coarse aggregate to produce the required specified mix of concrete. If the portion for cement is 120kg, calculate the portions for fine aggregate and coarse aggregate needed to produce 1m³ of concrete. (4)

[18]

Question 4

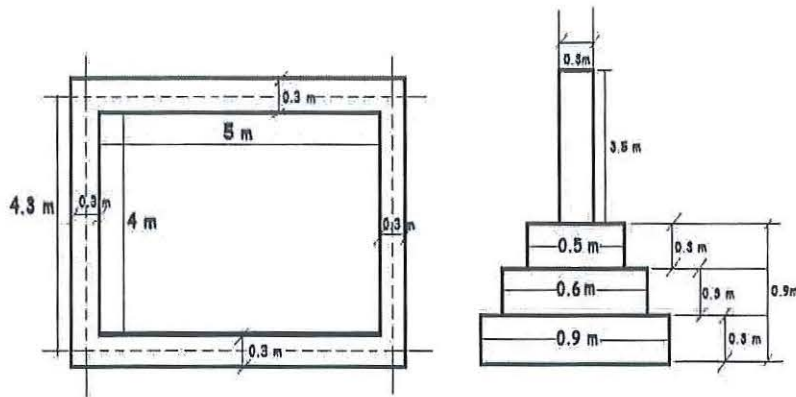
- With the aid of a diagram, explain in brief all parties involved in a typical project-financed deal. (16)

[16]

Question 5

5.1 Using the diagram below, calculate the following:

- a) Total centre line length
- b) Earthwork in excavation
- c) Concrete in foundation
- d) Brickwork in foundation for 1st footing
- e) Brickwork in foundation for 2nd footing
- f) Brickwork in superstructure



(12)

5.2 Using the element cost plan estimation method, estimate the reproduction cost of a small building by filling in the blanks in the table attached as **APPENDIX 2**. (12)

[24]

APPENDIX 1

(Kindly attach this table to your answer booklet)

Excavation for the foundation of a medium sized Security Hut

1st Column		2 nd Column	
Area: $(6m \times 2) \times 0.8m =$?	(1)
$[5m - (0.8m \times 2)] \times 2 \times 0.8m =$?	(1)
Total =		?	(1)
Average depth 0.8m			
Excavation Volume $15.04m^2 \times 0.8m =$?	(2)
Equipment Capacity: $0.70m^3/hr$?	(1)
Mobilisation	?		(1)
Total		?	(2)
Equipment @N\$300/hr		?	(1)
Operator @N\$350/hr		?	(1)
Total Cost		?	(3)

APPENDIX 2

(Kindly attach this table to your answer booklet)

Small building reproduction cost estimates

Description	Quantity	Unit	Rate (N\$)	Amount (N\$)
Excavation in foundation	39.79	?	50	?
Cement concrete in foundation	?	?	2,100	23,793
Brick work up to plinth	21.8	?	2,000	?
Damp proof course (1:2:4) above plinth walls	10.92	?	300	?
Earth filling in plinth	14.81	m ³	?	592.40
RCC work for slab (1:1.5:3)	4.23	?	?	?
Brick work for steps	?	?	2,000	432
Mosaic tiles for flooring	23.64	?	400	?
Woodwork for doors and windows	19.74	m ²	?	55,272
Smooth plaster on inside walls and ceiling	58.17	?	110	?
Brickwork for parapet wall	?	?	2,100	12,432
	Total Cost :			?