



**PAMIBIA 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: JUNE 2025	PAPER: THEORY
DURATION: 2 HOURS	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER:	MR AMIN ISSA
MODERATOR:	MS ELINA TEODOL

INSTRUCTIONS
<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 11 PAGES (Including this front-page including 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 Preliminary cost advice is provided before the Architect's drawings are prepared to indicate the probable cost of a project.
- 1.2 The quantity surveyor can assess the probable construction time and provide estimates for future maintenance costs.
- 1.3 Cost planning is solely the responsibility of the architect and does not involve the quantity surveyor.
- 1.4 Cost planning involves a systematic analysis to value each project element against its performance and aesthetic considerations.
- 1.5 The quantity surveyor selects the contractor without consulting the client.
- 1.6 The final account is prepared without considering the original contract sum.
- 1.7 The final account includes adjustments for variations and re-measurement of approximate quantities.
- 1.8 Concept development is the stage where an idea for using a parcel of land is developed into a design to make the building a reality.
- 1.9 The initiation phase involves determining if there is an established need for constructing a new building.
- 1.10 The evaluation stage only focuses on how much the project will cost and ignores other factors like timing and quality.
- 1.11 Market research during evaluation includes analyzing the location, economic activities, and population composition to assess project demand.

- 1.12 Once a building is constructed, it can easily be moved to a more suitable location if the evaluation was incorrect.
- 1.13 Ground investigations are unnecessary if the legal status of the land is confirmed.
- 1.14 Financing a construction project often involves a combination of equity (own money) and debt (borrowed funds).
- 1.15 Developers must decide whether to use existing assets or the proposed building as security when borrowing funds.
- 1.16 The design stage involves a professional team including architects, planners, quantity surveyors, contractors, valuers, and engineers, and continues throughout the construction process.
- 1.17 The architect is only responsible for the structural design of the building and does not supervise other engineers.
- 1.18 Schematic plans are prepared after reviewing the preliminary programme and show the interrelationship between space and activities in a project.
- 1.19 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.
- 1.20 Electrical plans illustrate the power distribution system, including the design of transformers, distribution boards, circuits, and other electrical equipment for the building.

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Question 2

MULTIPLE CHOICE QUESTIONS. *(Each correct answer carries 1 mark)*

- 2.1 What is the primary purpose of the bidding process in construction?
- A. To finalize the design of the project
 - B. To secure funding for the project

- C. Selecting a contractor to carry out the construction
 - D. To obtain building permits from local authorities
- 2.2 What do contractors review to prepare a formal estimate of construction costs?
- A. Market trends and economic forecasts
 - B. Plans and specifications provided by the client
 - C. Maintenance plans for the building
 - D. Lease agreements with potential tenants
- 2.3 Who is responsible for issuing building permits?
- A. General contractors
 - B. Property investors
 - C. Sub-contractors
 - D. Local planning authorities
- 2.4 What might delay the approval of a building permit?
- A. Failure to meet planning or building code requirements
 - B. High construction costs
 - C. Selection of a contractor
 - D. Completion of the project design
- 2.5 Why might a client re-evaluate a project before committing to implementation?
- A. To select a new contractor
 - B. To finalize the maintenance plan
 - C. To redesign the building plans
 - D. To account for changes in market conditions or project viability
- 2.6 What happens once a client commits to the implementation phase of a construction project?
- A. The project is redesigned to meet new requirements
 - B. Flexibility to make significant changes in scope is limited
 - C. The contractor begins the bidding process
 - D. The building is immediately occupied

- 2.7 What is the role of a building inspector during construction?
- A. To prepare the project's financial estimates
 - B. To ensure the project complies with prescribed building codes
 - C. To manage the maintenance of the building
 - D. To secure funding for the project
- 2.8 What happens to a completed building intended for investment?
- A. It is occupied by tenants or sold to a property investor
 - B. It is demolished to make way for a new project
 - C. It is maintained by the local government
 - D. It is used exclusively for public services
- 2.9 What is the purpose of a maintenance plan for a building?
- A. To secure funding for future projects
 - B. To ensure the building serves its intended purpose
 - C. To prolong the building's lifespan
 - D. To attract new contractors
- 2.10 Which type of client primarily seeks direct financial benefits from property development?
- A. Local government authorities
 - B. Property and development companies
 - C. Quasi-autonomous non-governmental organizations
 - D. Occupiers
- 2.11 What is the main objective of local and central government authorities in property development?
- A. To maximize immediate financial returns
 - B. To focus on corporate productivity
 - C. To lease buildings to private investors
 - D. To provide infrastructure for public services
- 2.12 Who provides design and cost control services in the construction process?
- A. General contractors
 - B. Specialist contractors
 - C. Consultants
 - D. Property investors

- 2.13 What distinguishes general contractors from specialist contractors?
- A. General contractors focus on design, while specialist contractors focus on construction
 - B. General contractors build the core building, while specialist contractors handle component installations
 - C. General contractors are consultants, while specialist contractors are investors
 - D. General contractors manage maintenance, while specialist contractors secure permits
- 2.14 What is included in the contract documents provided to the contractor after the bidding process?
- A. Project commencement and completion dates, billing procedures, and insurance requirements
 - B. Market analysis reports
 - C. Tenant lease agreements
 - D. Maintenance schedules for the completed building
- 2.15 What is a key characteristic of the implementation phase of construction?
- A. The project is still highly flexible and open to major changes
 - B. The building is occupied by tenants or the public
 - C. The contractor mobilizes the construction team, materials, and schedules
 - D. The client begins the bidding process

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Question 3

Explain the components in the following procurement paths: -

- 3.1 Traditional /Lump Sum Contracting (7)
- 3.2 Design and Build (8)

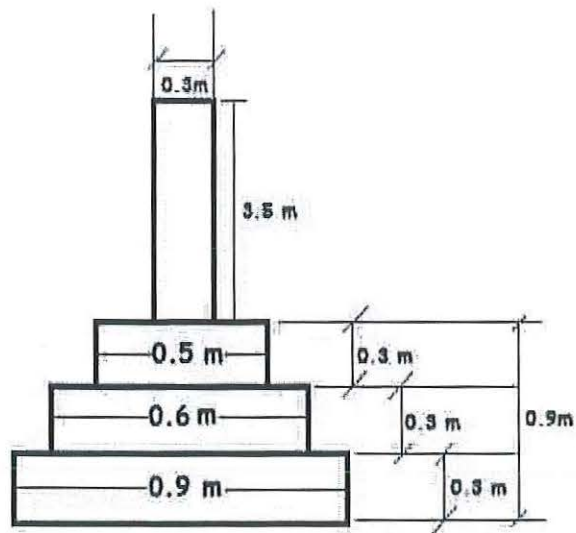
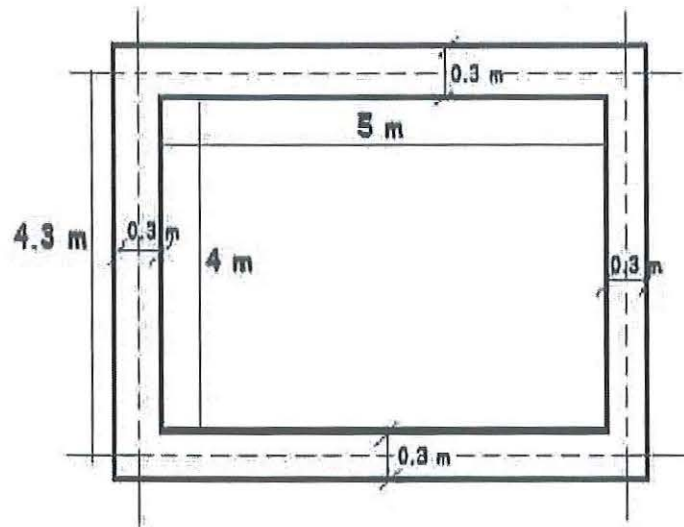
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Question 4

- 4.1 Explain in brief what 'Taking off' is and its importance in quantity surveying. (6)
- 4.2 Below is the project scenario for a strip foundation:
- The foundation runs under two parallel walls, each 10 meters long.
 - The width of the foundation is 0.6 meters.
 - The depth of the foundation is 0.25 meters.
- a) Extract Dimensions from the information in the bullet from above. (2)
- b) Calculate the Volume (2)
- c) Record the Quantity in a Takeoff Sheet (2)
- 4.3 Attached as **Appendix 1** is a Bill of quantities (BOQ) for a two-room brick house (10m x 6m) in selected parts of the building only. Fill in the blanks spaces in terms of Units, Quantity Rate, Amount and Total Amount. (13)
- [25]**
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Question 5

- 5.1 Fill in the second column in the table attached as Appendix 2 (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. (13)
- 5.2 Using the diagram below, calculate the following:
- a) Total centre line length (2)
 - b) Earthwork in excavation (2)
 - c) Concrete in foundation (2)
 - d) Brickwork in foundation for 1st footing (2)
 - e) Brickwork in foundation for 2nd footing (2)
 - f) Brickwork in superstructure (2)



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APPENDIX 1
Bill of Quantities (BOQ) of a two-room brick house

Item No.	Description	Unit	Quantity	Rate (NAD)	Amount (NAD)
2.0 SUPERSTRUCTURE					
2.1	Common bricks for 230mm thick external walls (2.8m high, 32m perimeter)		10,080		1,512.00
2.2	Cement (for brickwork, 1:4 mortar)		?	8.00	240.00
2.3	River sand (for mortar)		6	30.00	
2.4	Brickforce for one brick wall (22m rolls, every 4th course)		4		40.00
2.5	Damp proof course (DPC) for 230mm wall (20m rolls)		2	15.00	30.00
2.6	110 x 76mm concrete lintels (1252mm long, over doors/windows)		4	20.00	
Total Superstructure					
3.0 ROOF CONSTRUCTION					
3.1	Sawn softwood 38 x 114mm wall plate		32		96.00
3.2	Interlocking concrete roof tiles (420mm x 330mm, 30° pitch)		1,200		600.00
3.3	228 x 25mm wrot softwood fascia board		16	5.00	80.00
3.4	Double-sided aluminum foil insulation paper		60	2.00	
3.5	Galvanized hoop iron ties (1.25 x 25mm, at 750mm centers)		50	1.00	50.00
Total Roof Construction					
4.0 DOORS AND WINDOWS					

4.1	External solid wooden door (813 x 2030mm, oak veneer, polyurethane finish)		2	300.00	600.00
4.2	Wrot mahogany 200 x 50mm rebated door frame		14		140.00
4.3	Ironmongery: 100mm pressed steel butt hinges		12	5.00	60.00
4.4	Prepare and apply two undercoats, one gloss oil paint to door surfaces		8	15.00	

(Kindly attach this page to the booklet)

APPENDIX 2

Excavation for the foundation of a medium sized Security Hut

1st Colum	2 nd Colum
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)

(Kindly attach this page to the booklet)