

**THE PAPUA NEW GUINEA UNIVERSITY OF TECHNOLOGY**  
**THE DEPARTMENT OF ARCHITECTURE & BUILDING**  
**SECOND SEMESTER EXAMINATION**  
**FIFTH YEAR BACHELORS IN BUILDING**  
**BL 542 – BUILDING ECONOMICS**

Room: L2  
Date: Tuesday 24<sup>th</sup> October 2023  
Duration: 3 hours  
Time 12.50 to 4.00 pm

**Information to Candidate**

1. You have 10 minutes to read the paper. Do not begin writing during this period.
2. Fill in the Attendance Slip with your name and student I.D. number now.
3. There are five (5) questions and you are to answer all questions.
4. ALL ANSWERS MUST BE WRITTEN IN THE ANSWER BOOK (S) PROVIDED.
5. Each Question must be answered starting on a New Page.
6. Notes, Textbooks and Cellphones are NOT ALLOWED in the Exam Room.

**WRITE YOUR NAME AND ID NUMBER CLEARLY ON THE FRONT PAGE OF THE EXAM BOOKLET. DO IT NOW.**

**TOTAL MARKS = 340 MARKS**

**Question #1**

List one (1) design variable and describe it in detail.

(20 marks)

**Question #2**

A hospital facility and a higher student educational facility vary in characteristics.

- a) Briefly differentiate their functional requirements; (provide concrete examples). (40 marks)
- b) Briefly differentiate their building elemental requirements; (provide concrete examples). (60 marks)

**Question #3**

List two (2) objectives of a prefabricated building system and explain them in detail (provide concrete example). (40 marks)

**Question #4**

- a) What is the purpose of a cost analysis? (20 marks)
- b) Differentiate between a concise cost analysis and a detail cost analysis? (60 marks)

Design Process											
Cost Planning & Control											
Pre-contract Cost Control								Post Contract Cost Control			
Cost	Limit	Cost Plan			Cost			Analysis			
A	B	C	D	E	F	G	H	J	K	M	N
Inception	Feasibility	Outline Proposal	Scheme Design	Detail Design	Production Information	Bill of Quantities	Tender Action	Project Planning	Construction	Completion	Feedback
Briefing		Sketch Plan		Working Drawings			Site Operations				
		Outline design plans		Detail design plans	Production information drawings		Contract drawings				
	Confirmation of cost limit	Prepare cost of possible solution	Cost checks						Cost monitoring		
		Agree outline cost plan		Final cost checks							

**Question #5 – You may refer to above diagram**

Elaborate on the concept of cost planning and control.

(100 marks)