THE PAPUA NEW GUINEA UNIVERSITY OF TECHNOLOGY
THE DEPARTMENT OF ARCHITECTURE & CONSTRUCTION MANAGEMENT
FIRST SEMESTER EXAMINATION
THIRD YEAR BACHELORS IN BUILDING
BL 322 – CONSTRUCTION MANAGEMENT

Room: L2

Date: Tuesday 26th October 2021

Duration: 3 hours

Time   8.20 to 11.30 am

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 seven (7) 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 <u>New Page.</u>
6.   Notes, Textbooks and Electronic devices are **NOT ALLOWED** in the Exam Room.

WRITE YOUR NAME AND ID NUMBER CLEARLY ON THE FRONT PAGE. DO IT NOW.

TOTAL MARKS = 126 MARKS

Question #1

Identify one (1) variation to the "Activity On Node" (AON) from the "Activity On Arrow" (AOA) programing technique and descried it briefly. (5 marks)

Question #2

List any three (3) items in a mobilization checklist and explain their importance to a construction project. (15 marks)

Question #3

Identify an activity in de-mobilization and describe it briefly. (5 marks)

Question #4

List and describe two (2) difference between the procurement process of a sub-contractor to a material supplier. (10 marks)

Question #5

What is an objective of cost controlling and monitoring? (5 marks)

Question #6

Define these terminologies.

a) Actual Cost (3 marks)
b) Plan Value (3 marks)
c) Earn Value (3 marks)

Question #7

The attached is an incomplete cashflow profile of a project.

a) Calculate the monthly periodic value (16 marks)
b) Calculate the monthly cumulative values (16 marks)
c) Calculate the monthly gross cashflow (22 marks)
d) Calculate the monthly net cash flow after all retention (23 marks)

End of Exam

Activity	Duration	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	6 Months Later
Mobilisation	15 15									
Demolition		15 15								
Excavation			25 25							
Concrete Foundation			30 30	30 30						
Concrete Slab				35 35 35 35	35 35 35 35					
Concrete Column & Beam				20 20 20 20	20 20 20	20				
Roof framing						40 40				
Blockwork				20 20 20						
Roofing							30 30			
Wall Partition							20 20 20	20		
Windows							35 35			
Doors							40 40			
Tiling								8 8		
Hydraulics					2 2 2 2	2 2 2 2	2 2 2 2	2 2		
Electrical					3 3 3 3	3 3 3 3	3 3 3 3	3		
Painting								7 7		
Demobilisation								14 14		
Periodic		-	-	-	-	-	-	-	-	-
Cumulative		-	-	-	-	-	-	-	-	-
Monthly Cashflow		-	-	-	-	-	-	-	-	-
Less 10% retention on claim		-	-	-	-	-	-	-	-	-
Half retention included in the final certificated		-	-	-	-	-	-	-	-	-
Final half of the retention release six (6) months after practical completion		-	-	-	-	-	-	-	-	-
Months		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	
Value of work each month		56	115	225	238	225	215	125	32	
Profit (% of value)		5	6	7	8	8	8	6	5	
Profit value		2.8	6.9	15.75	19.04	18	17.2	7.5	1.6	

Contract Conditions

1.0 The first certified interium payment was cashed on "Month 4"

2.0 The Certified amount is less 10% retention on each claim

3.0 Half of the retention is included in the final certificate

4.0 The final half of the retention is release at six (6) months after practical completion