



All Rights Reserved

Higher National Diploma in Quantity Surveying		
NVQ Level 06 – Semester I		
Quantity Surveying Practice - III		
F45C002M14		
Three Hours		
Answer any five (05) questions only		

Q1.

- (i) Explain two reasons to create variations in construction projects? (02 Marks)
- (ii) State three reasons why construction companies need to evaluate cash flow?
(03 Marks)
- (iii) Explain three factors affect on the cash flow of a construction organization?
(03 Marks)
- (iv) The following table shows the cash flow calculation of a project. (12 Marks)

Complete the table referring the following conditions

- The contract is measured monthly and payment of the money less retention is paid to the contractor one month later.
- Retention is 10% of payment subject to celling 5% of total contract sum, i.e. the project's total value. The half of the retention is included in the final payment after the end of the six month and next half is paid in the defect's liability period.
- The contract cost is measured monthly and payment is done one month later.
- Calculate the contractor's cash flow assuming the client honors all contractual obligations.

Category/Month	Mon1	Mon 2	Mon 3	Mon 4	Mon 5	Mon 6	Mon 7	Mon12
Cumulative value	100	300	600	900	1200	1500	1500	1500
Retention 10% subject to 5% ceiling								
Cumulative value less retention								
Cumulative payment								
Cumulative retention payment								
Cumulative Cost	80	240	480	720	960	1200	1200	1200
Cumulative Payment								
Cumulative Cash flow								

Q2.

ABC building sales Pvt (Ltd) has appointed you as a Quantity Surveyor, for a cost consulting purpose of the firm. ABC building sales Pvt (Ltd) is going to start a shopping mall project with 10 storied building in Negombo. Moreover, the location of the site is near the beach road. Your company is intended to enter into a contract with Mark & Mills contractor to perform this task. The company is now looking for your advices regarding this process.

- (i) Briefly explain the meaning of contract? (02 Marks)
- (ii) Explain 06 contract documents that are required to commence the project? (06 Marks)
- (iii) Mark & Mills contractor acquired the contract and they faced a dispute and they had resolved the dispute.
 - a) Examine how claims and disputes arise? (03 Marks)
 - b) Compare and contrast at least three dispute resolution methods? (09 Marks)

Q3.

- (i) Explain the purposes of using price fluctuation formulas by the construction companies?
(03 Marks)
- (ii) Use the following formula for the below calculations (Symbols have usual meaning).

$$F = 0.966 \frac{V-Vna}{100} * \sum Px \frac{(Ixc - Ixb)}{Ixb}$$

Previous Valuation

- a. Date 04/2018
 b. Cumulative value of work done Rs. 5,467,768.00
 c. Cost of material at site (80%) Rs. 250,000.00
 d. Cumulative cost of non-adjustable element Rs. 94,450.00

Current Valuation

- a. Date 09/2018
 b. Cumulative value of work done Rs. 9,345,900.00
 c. Cost of material at site (80%) Rs. 100,000.00
 d. Cumulative cost of non-adjustable element Rs. 155,000.00

Indices No	Input Name	Input Percentage (Px)
P2	Heavy Machinery	36.78
M7	Metal	21.22
M30	Bitumen	17.56
P3	Fuel	6.12
L2	Unskilled Labour	4.35
M8	Sand	2.9
L1	Skilled Labour	1.07

Name of the input	Index February/2018	Index March/ 2018	Index April/2018	Index May/2018
Heavy machinery (P2)	313.7	313.7	313.7	313.7
Metal (M7)	267.5	268.7	269.6	273.5
Bitumen (M30)	870.7	871.5	872.6	876.7
Fuel (P3)	715.8	718.5	738.7	747.8
Unskilled Labor (L2)	352.1	352.1	352.1	352.1
Sand (M8)	1780.3	1785.2	1786.7	1791
Skilled Labor (L1)	363.5	363.5	363.5	363.5

Note: March/2018 is the date set for the submission of Bid.

- a) Mention three categories of items which are considered as non-adjustable elements in this valuation? (03 Marks)
- b) Find out the applicable month for base index and current index? (05 marks)

(iii) (a) Compute the value of V-Vna? (06 Marks)

(b) What is the price adjustment value for this above valuation? (09 Marks)

Q4.

Write down short notes on the followings.

(i) Contract administration roles in the pre-contract stages

(ii) Variations arising after completing a particular work

(iii) Interim valuation

(iv) Cost Value Reconciliation

(v) Construction claims (5 x 4 = 20 Marks)

Q5.

(i) A construction company has undertaken a pipe-laying contract and the project manager of the company decides to evaluate the project performance at the end of the first two months.

The cost data collected by him for the above period are given in the following table

Item	Rs (in thousands)
Actual Cost to date	520
Budgeted cost for the work scheduled for the first 2 months	350
Cummated earned value to date	400
Total original budget for the project (Budget at Completion)	7000

a.) Find out the cost and schedule variances at the end of the above two-month period.

(6 Marks)

b.) Determine Cost Performance Index (CPI) and Schedule Performance Index (SPI) for the above project.

(6 Marks)

(ii) Briefly describe the following parameters with suitable examples

(a) Actual Cost

(b) Earned Value

(c) CPI

(d) Planned Value

(4 x 2 = 8 Marks)

Q6.

(i) Briefly explain the nominated sub contractor payment? (02 Marks)

(ii) Define the term "Value Engineering"? (03 Marks)

(iii) Mention four factors needed to be considered when deciding the contract duration for a project (04 Marks)

- (iv) How can an employer's quantity surveyor controls the cost during the post-contract stage, taking into the consideration that the employer's quantity surveyor does not have authority to issue instructions based on the Contract. (05 Marks)
- (v) Identify the documents that are required to be submitted by the contractor at the completion stage to obtain the Taking Over Certificate. (06 Marks)