

CVL 774		CONSTRUCTION AND CONTRACT MANAGEMENT	MINOR 2 EXAMINATION	
Time allowed 1 hour	8:00 – 9:00		Maximum Marks	20
Venue	LH 526 and LH 527		Date	23.03.2023

*WISH YOU THE VERY BEST*

*ANSWER ALL QUESTIONS. EVALUATION WOULD BE DONE ON THE BASIS OF STEPS USED IN THE SOLUTION. ASSUME MISSING DATA SUITABLY IF REQUIRED. USE OF SCIENTIFIC CALCULATOR IS ALLOWED.*

**Q 1** An agreement is reached between X and Y as indicated below. Which of them are valid contracts? Give brief reason for your answers. (1.5 x 2 =3.0 marks)

1. X agrees to remove flowers from the lawns of Z before a flower show, and Y pays X Rs. 2000 at the time of the signing the agreement and agrees to pay another Rs. 5000 to X upon the completion of the job.
2. On May 10<sup>th</sup>, X prematurely encashes a term deposit from a bank (No 124). On May 15<sup>th</sup> X takes a loan of Rs. 1 lakh from Y with the promise to repay the loan when the term deposit (No. 124) in a bank matures on June 30<sup>th</sup>, 2005, and attaches a photocopy of the said document.

**Q. 2** Briefly explain if the following statements are right or wrong and why? (1.5 x 2 =3.0 marks)

- a. When the  $\sigma$  of the B/C ratio of a competitor is small, winning this competitor becomes easier to predict.
- b. You should increase your bid markup when you bid against a larger number of competitors than you initially expected.

**Q 3** A 10-month project involves execution of some items. The contractor estimates the project value to be Rs. 30 crore (1 crore = 100 lakh, 1 lakh=100,000). The estimated invoice percentage per month is given in the following Table.

Month	1	2	3	4	5	6	7	8	9	10
Invoice	2%	10%	15%	20%	15%	15%	10%	7%	4%	2%

- Mobilization advance = 5% of contract value, to be recovered in 5 equal instalments beginning 3rd month
- Retention money = 10% of billed amount (invoice), payable fully one month after the completion of project
- Contractor raises the bill for the month on the last day of that month
- Owner delays the payment by one month from the date of submission of bill

~~80 + 320 +~~  
~~0.80 + 8.2 +~~  
 0.74 + 2.9 + 4.25 + 5.6 + 4.25 + 2.9 + 2.09 +  
 1.28 + 0.74

Compute the following: (2x 5=10 marks)

- average invoice
- average outstanding
- average unadjusted advance
- average monthly working capital required for the project if the contractor is required to keep an average stock (basic and bulk materials, and pro-rated temporary structure stock) equivalent to Rs. 20 lakh.
- average funds likely to be employed for this project if it is known that the contractor would be required to keep an average fixed asset of Rs. 50 lakh.

Q 4 (4 marks)

A contractor is evaluating the bids of 4 subcontractors for a given item in a project. The details of final price and exclusion/inclusion in the bid price of the 4 subcontractors are given in Table below. The contractor has estimated that the charges towards electricity, should it be provided to the subcontractor would cost INR 35,000. The contractor has further estimated that the charges towards plant and machinery, should it be provided to the subcontractor would cost INR 85,000. The tax applicable for the given item is at present 15%. Help the contractor award the bid to the most eligible subcontractor.

Item description	Subcontractor 1	Subcontractor 2	Subcontractor 3	Subcontractor 4
Price	6,50,000	6,20,000	5,75,000	5,90,000
Tax included	Yes	No	Yes	Yes
Electricity included	Yes	Yes	No	No
Plant and machinery included	No	Yes	No	Yes

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