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SUBJECT: CONSTRUCTION FINANCIAL MANAGEMENT

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ASSIGNMENT

IQRA NATIONAL UNIVERSITY

ASSIGNMENT

Problem 1:

A construction company will replace an excavator after 5 years. A new one costs $250,000. How much is the end-of-year annual uniform payment the company has to put into a bank in order to save enough money in five years' time for purchasing the equipment if the bank is offering an interest rate of 4% per annum?

Solution of Problem 01:

Uniform series compound amount: we have only considered a principle sum of single payment. Now we begin to see a series of uniform payment. For a series of uniform payment, let A=Periodic uniform payment made at the end of each period continues for n period to accumulate a sum S.

The situation will be presented by solving of below example:
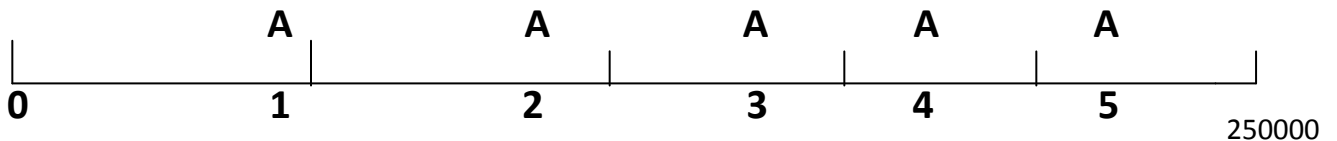
$$S = A \times \left[\frac{(1+i)^n - 1}{i} \right]$$

We have bear in mind that the excavator always costs $ 250000, whether now

Or five years, as the inflation-free assumption has been made.

$250,000 = A \times \left[\frac{(1+0.04)^5 - 1}{0.04} \right] = A * 5.4163$

$A = \frac{250000}{5.4163} = \underline{\$ 46157}$

Problem 2:

A construction material company makes and sells window panels. The selling price per panel is $900. The variable cost for making the window panels is $500 per unit. The fixed cost is $8,000,000. Find the BEP (break-even point)?

Solution of Problem 02:

BEP: The break-even point in economic, business and specially cost accounting-is the point at which total cost and total revenue are equal, i.e. even there is no net loss of gain.

P= Selling price per unit= $ 900

v=Variable cost per unit=$ 500

FC= Fixed cost=$ 8,000,000

As per below table we can express:

Volume	X=18,000	X=20,000	X=22,000
TR	900X18000=$16,200,000	900X20,000=$18,000,000	900X22,000=$19,800,000
Variable cost	500X18000=$9,000,000	500X20,000=$10,000,000	500X22,000=$11,000,000
Fixed cost	$ 8,000,000	$ 8,000,000	$ 8,000,000
Total cost	9,000,000+8,000,000= 17,000,000	10,000,000+8,000,000= 18,000,000	11,000,000+8,000,000= 19,000,000
Net income	9,000,000-17,000,000= **-800,000(loss)**	18,000,000-18,000,000= **0 (BEP)**	19,800,000-19,000,000= **800,000(Profit)**

From above table we can say break-even point is at x=20,000 unites so if x is smaller than 20,000 units the company will suffer a loss if the x is greater than 20,000 units, the company will have profit.

If we find the maximum profit per year then we can find the BEP percentage at the company's capacity for example company has maximum profit at making of

total 25,000 units windows panels in a year so BEP=$\frac{20,000}{25,000} = 0.8 = 80\%$ so we say that the BEP is at 80% of the company's capacity.

The break-even chart is as below:

No of units of windows panels