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(Q No 1) Part (A)

Time value of Money :-

- That is the earlier a sum of money is received, the more it is worth, because over time money can earn more money, or interest.
- There are three reasons why a dollar tomorrow is worth less than a dollar today.

Time value of Money :-

Examples

Now, let's look at time value of money example, if you invest \$100 (The present value) for 1 year at a 5% interest (The discount rate), then at the end of the year, you would have \$105 (future), so according to examples, \$100 today is worth \$105 a year from today.

$$\$105 = \$100 \times 1.05$$

$$\$100 = \$105 / 1.05$$

like wise, \$100 a year from today, discount back at 5%, is worth only \$95.24 today.

$$\$95.24 = \$100 / 1.05$$

To calculate the time value of money for a period longer than one year,

(2)  
you simply raised the discount factor by the appropriate number of time periods. For example, to  
Calculate the future value of \$100 at 5% for 5 years.

$$\$127.63 = \$100 \times (1.05)^5$$

(Q No 1) parts (B)

Sol<sup>n</sup> :-

Formula:-

$$F = P(1 + rt)$$

$$P = 1200$$

$$R = 0.10$$

$$t = \frac{9 \text{ months}}{12}$$

$$F = 1200 \left( 1 + 0.10 \times \frac{9}{12} \right)$$

$$\text{Total} = 1290$$

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# Q No 2:- Solution:-

## Assets

Current	32,800
Cash	
Accounts Receivable	300
Prepaid Rent	1,000
Inventory	<u>39,800</u>
total current Assets	73,900

## Long-term Assets

Leasehold Improvements	100,000
Accumulated Depreciation	<u>(2,000)</u> 98,000
Total Long-term Assets	<u>98,000</u>
Total Assets:	171,900

## Liabilities

Current Liabilities	
Accounts Payable	39,000
Accrued Expenses	450
Unearned Revenue	<u>1,000</u>
Total current Liabilities	50,450
Long-term Liabilities	<u>99,500</u>
Total Liabilities	149,950

## Owner's Equity

Owner's Equity	
Retained Earnings	11,950
Common stock	<u>10,000</u>
Total owner's Equity	<u>21,950</u>
Total Liabilities and owner's Equity	171,900

Q3

(1)

## COMPONENTS of an Income Statement

The income statement may have minor variations between different companies or business conducted. However, there are several generic line items that are commonly seen in any income statement.

The most common income statement items include.

**Sales Revenue:** - is the company's revenue from sales or services, displayed at the very top of the statement. This value will be the gross of the costs associated with creating the goods ~~total~~ sold or in providing services.

**Cost of Good, Sold (COGS)** is a line-item that aggregates the direct costs associated with selling products to generate revenue. This line item can also be called cost of sales if the company is a service business. Direct costs can include labor, parts, materials, and an allocation of other expenses such as depreciation.

**Gross Profit:** - Gross profit is calculated by subtracting Cost of goods sold (or cost of sale) from sale revenue.

Marketing, Advertising, and Promotion Expenses

## Q3 (2)

Most businesses have some expenses related to selling goods and/or services. Marketing, advertising, and promotion expenses are often grouped together as they are similar expenses all related to selling.

**SG&A Expenses:-** include the selling, general and the administrative section that contains all other indirect costs associated with running the business. This includes salaries and wages, rent and office expenses, insurance, travel expenses and sometimes depreciation and amortization, along with other operational expenses.

**EBIT:-** Ebit, while not present in all income statements, stands for Earnings before Interest Tax, it is calculated by subtracting SG&A expenses from gross profit.

**Interest Expense:-** It is common for companies to split out interest expenses and interest income as a separate line item in the income statement. This is done in order to reconcile the difference between EBIT and EBT. Interest expenses is ~~debt~~ determined by the debt schedule.

EBT (Pre-Tax Income)

Q3 (3)

**EBT :-** EBT stands for Earnings Before Tax also known as pre-tax income, and is found by subtracting interest expenses from operating income. This is the final subtotal before arriving at net income.

**Income Taxes :-** refers to the relevant taxes charged on pre-tax income. The total tax expenses can consist of both current taxes and future taxes.

**Net Income :-** is calculated by deducting income taxes from pre-tax income. This is the amount that flows into retained earnings on the balance sheet, after deductions for any dividends.

(Q No 4)

pag (1)  
part (A)

Define:  $\Rightarrow$  Ratio

A Ratio is a comparison b/w two quantities.

We use ratio everyday; one pepsi costs 50 cents describes a ratio, notice one hand has five fingers. These are all examples of comparisons: ratios.

Ratio A ratio can be written three different ways. If we wanted to show the comparison of one inch representing 50 miles on a map, we could write that as;

using colon 1 to 50 or  
1:50 or

using fraction  $\frac{1}{50}$

Because we are going to learn problems, it's easier to write the ratio using fractional notation. If we looked at the ratio of one inch representing 50 miles,  $\frac{1}{50}$ , we might determine 2 inch representing 100 miles, 3 inches represents 150 miles by using equivalent fractions. That just seems to make sense. Look at that from a mathematical standpoint, it appears.

Does  $\frac{3}{150}$  represent the same comparison as  $\frac{1}{50}$

Now, we have some Good News.  
 We not only discovered how to write ratios, we also learned they can be reduced.

We noticed that  $3/150$ , 3 inches represents 150 miles, could be reduced to  $1/50$   
 Mathematically,

$$\frac{1}{50} = \frac{3}{150}$$

Definition of proportion  $\Rightarrow$

A proportion is a statement of equality b/w 2 ratios.

Looking at a proportion like  $1/2 = 3/6$ , we might see some relationships that exists if we take time and manipulate the numbers. For instance, what would happen if we tipped both ratios up-side down?

$2/1$  and  $6/3$ , Notice they are equal,  
 $\frac{1}{50} = \frac{2}{1} = \frac{6}{3}$



~~If we continued looking~~

How about writing the original proportion sideways, will we ever get another equality?

$\frac{1}{3}$  and  $\frac{2}{6}$ , notice, they are equal also, so  $\frac{1}{3} = \frac{2}{6}$

If we continued looking at the original proportion, we might also notice we could cross multiply and retain an equality.

In other words  $1 \times 6 = 2 \times 3$ . This idea of manipulating numbers is pretty interesting stuff, don't you think.

(QNO 4) part (B)

The first comparison given is boys to girls. Knowing this, we would like to set up a proportion that looks like this.

$$\frac{\text{Boys}}{\text{Girls}} = \frac{\text{Boys}}{\text{Girls}}$$

The problem that we encounter is while we can put the 3 and 7 on the left side to represent boys and girls

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we have to ask ourselves, where does 440 go? it does not represent just boys or just girls, so we can't put it in either position on the right side. 440 represents the total number of boys and girls.

Remembering what we just did, see there was a reason for looking for more patterns, we noticed if we have a proportion like,

$$\frac{b}{g} = \frac{b}{g} \text{ then } \frac{b}{b+g} = \frac{b}{b+g}$$

From our problem, we now can see  $b+g$  would be the total of the boys and girls.

Filling in this proportion, we have

$$\frac{3}{3+7} = \frac{b}{440} \quad - \quad \frac{3}{10} = \frac{b}{440}$$

Solving:

$$10b = 3 \times 440$$

$$10b = 1320$$

$$b = 132$$

There would be 132 boys, to find the number of girls we could subtract 132 from 440.

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lets step back and see how ratio work. Remember, we said you could reduced ratios. In other words, if had the ratio of  $3/150$ , I could reduced it to  $1/50$ .

visually, the way you reduced by  $\div$  out common factor.  $3/150$

$$\frac{1 \times 3}{50 \times 3} \text{. Dividing out } \frac{1}{50} \text{.}$$

Now going back to the previous examples, we had 3 boys for 7 Girls, with a total enrollment of 440. Doing this algebraically, we still have the same ratio, boys to Girls.

Using algebra, the ratio of boys to girls,  $b/g$  is  $3/7$ .

Using the ratio  $b/g$  or  $3/7$  and

$3x$  boys,  $7x$  Girls, so the ratio of  $b/g$ ,

looks like this;  $\frac{3x}{7x}$ .

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Sum of total numbers of students  $3x$  and  $7x$ .

The total number of students is 440.

$$\text{boys} + \text{girls} = 440$$

$$3x + 7x = 440$$

$$10x = 440$$

$$x = 44$$

The ratio of boys to girls  $\frac{3x}{7x}$ , that means there are  $3x$  boys or  $3(44)$  which is 132 boys.

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## Q5<sup>(a)</sup> :- Capital Budgeting:-

Capital budgeting refers to the process we use to make decisions concerning investment in the long-term assets of the firm. The general idea is that the capital or long term funds raised by the firms are used to invest in assets that will enable the firm to generate revenues several years into the future.

### Importance:-

Capital budgeting decisions impact the firm for several years. They must be carefully planned. A bad decision can have a significant effect on the firm's future operations. In addition, the timing of the decisions is important. Many capital budgeting projects take years to implement. If firms do not plan accordingly, they might find that the timing of the capital budgeting decision is also too late, thus costly with respect to competition.

### Generating ideas for Capital Budgeting:-

Ideas for capital budgeting projects usually are generated by employees, customers,

suppliers and so forth and are based on the needs and experiences of the firm and of these groups. For example, a sales

Q5

(1.2)

representative might continue to hear from some of his or her customers that there is a need for products with particular characteristics that the firm's existing products do not possess. The sales representative presents the ideas to management who in turn evaluates the viability of the idea by consulting with engineers, production personnel, and perhaps by conducting a feasibility study. After the idea is confirmed to be viable in the sense it is saleable to customers, the financial manager must conduct a capital budgeting analysis to ensure the project will be beneficial to the firm with respect to its value.

## Project Classifications

- Replacement decision
- Expansion decision
- Independent product

## Capital Budgeting Evaluation Techniques

- Payback Period
- NPV (Net Present Value)
- IRR (Internal Rate of Return)

Q5 (3)  
Payback Period:-

Help us to evaluate the project whether to invest in the project or not.

How soon can we get back our money?

Like if we invest 5 lacs and the project return that money in 3 years so the PBP is 3 years

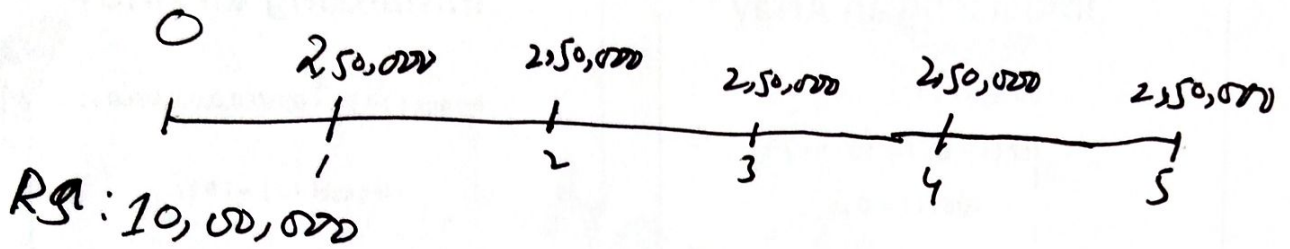
So if the PBP Required time to get money back = project accepted

also in selecting 2 or more project the lowest PBP is ~~are~~ accepted

Q. No 5) part B

Sol.  $\Rightarrow$

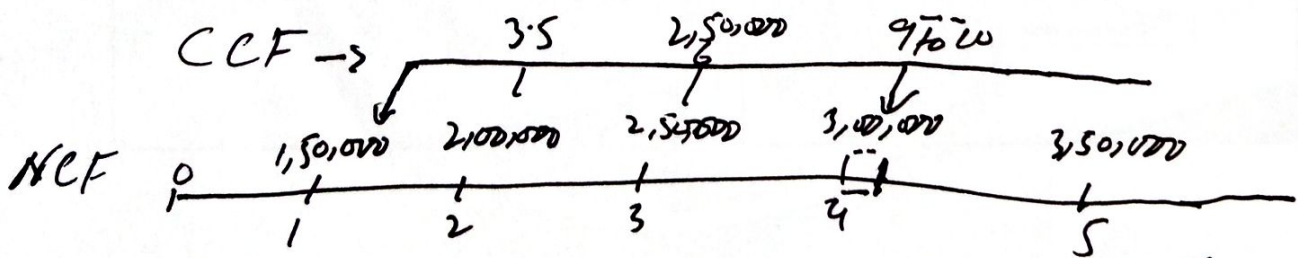
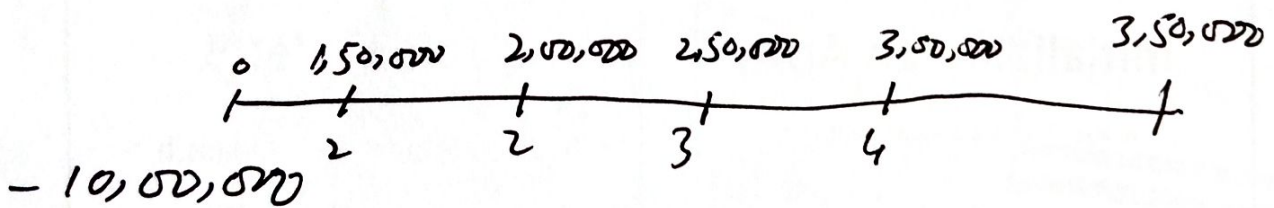
let he ~~buy~~ buy a car  
at Rs: 10,00,000



In case the cash are uniforms so we can simply calculate the PBP.

$$\text{PayBack} = \frac{10,00,000}{2,50,000} = \underline{4 \text{ yrs}}$$

In case CF are not uniforms.



$$\text{Payback} = 4 + 0.29 \text{ yrs}$$

$$= \underline{4.29 \text{ yrs}}$$

$$3.52 \rightarrow 1$$

$$12 - \frac{1}{3.5 \text{ yrs}}$$

$$= \underline{0.29 \text{ yrs}}$$