



INSTITUTE OF ACTUARIAL
& QUANTITATIVE STUDIES

Subject:

Business Finance 2

Chapter:

Unit 3 & 4

Category:

**Assignment
Solutions**

1. Option C
2. Option A
3. Option C
4. Option D
5. a) According to realization concepts, Income and profits should be recognized as and when it is earned. According to accrual concepts, expenses should be recognized as and when they are incurred regardless of whether or not the amount has been paid.
b) The earned premium for the year is calculated by considering the earned portion of the total written premium in the year and carried forward unexpired risk premium is an application of realization concept. The incurred claims for a financial year considers the paid claim during the year, outstanding claim reserves for known and un-known claims at end and start of the financial year.
6. Different ways of manipulating accounts:
 - Inappropriate depreciation of tangible assets
 - Inappropriate amortisation of intangible assets
 - Inappropriate valuation of inventories
 - Inappropriate valuation of future liabilities
 - Unwarranted revaluation of tangible assets
 - Creating intangible assets of questionable true worth
 - Omitting contingent liabilities
 - 'pre booking' of anticipated sales revenues
- 7.

Item	Gross profit	Cash flow
Property that the company possess has been revalued upwards by Rs 100 crores by the Valuer	No change	No change
There has been an interest payment of Rs 1000 crores towards Masala bond issued by the company	No change	Decreases
There has been an increase in inventory of Rs 500 crores which were manufactured out of raw materials available in the previous year end, ignoring any man power and production cost	No change	No change
There was a depreciation of plant and machinery to the extent of Rs 250 crores	Decreases	No change
It was decided to write off Rs 200 crores due to EHFL defaulting	No change	No change

8. i) Main roles of regulation in the financial system are:

- Maintain public/ investor confidence
- Promote stability of the financial system
- Protect investors
- Maintain international confidence
- Deter fraudulent behavior

ii)

- The Reserve Bank supervises via prudential regulations all deposit taking activities as well controls foreign exchange market beside overall stability of financial system and setting monetary policy and payments system.
- SEBI is responsible for financial market integrity, companies' consumer protection in relation to financial products and services, and enforcement of law relating to financial products and services. It also licenses and supervises a number of financial market participants such as security brokers, underwriters, depositories, mutual funds etc.
- IRDA is responsible for insurance companies in a manner similar to RBI in arena of banking. It licenses all insurance sector related intermediaries and prudentially supervises over them.

iii)

CHAPTER NAME

PRACTICE/NOTES/ASSIGNMENT

Entity	Regulator
Banks	RBI
Superannuation products	IRDA
General Insurance Companies	IRDA
Stock Brokers	SEBI
Mutual Funds	SEBI
The market for listed securities	SEBI
Foreign exchange dealers	RBI
Money Changers	RBI

9. i) According to the cost concept, non-current assets should be valued at cost less depreciation. According to the going concern concept, accounts should be prepared on the assumption that the business will continue indefinitely in its present form.

ii) Key guiding principles for setting accounting policies for unusual transactions are –

- a) There is a general requirement that the financial statements give a true and fair view. Amongst other things, that any treatment gives a realistic and representative treatment of the transaction.
- b) The guidance provided by Accounting Regulations Board in this regard should be considered. For example, the objectives of relevance, reliability, comparability and understandability should be applied.
- c) The directors might consider looking at the treatment laid down by standards for similar balances, even though those standards might not be strictly applicable. That would ensure that the logic underlying the chosen treatment was consistent with good accounting practice.

iii) Most of the optimism in making accounting choices is quite visible to the analysts and market participants. For example, companies publish their accounting policies and so it is possible to tell whether a particular approach has been followed and accordingly opinions formed about the price. The stock market examines information carefully to ensure that it does not misprice securities. If shares are overpriced then there will be opportunities for astute market participants to make profits by identifying the overpriced companies and selling shares.

Market forces would push the shares down and these activities would also draw attention to the distortion.

Markets usually reward companies with good corporate governance which is also reflected from the conservativeness of estimates and accounting policies. Conservative policies also provide ability to the company to present more smooth results in volatile times which can work in favour of its stock price

10.

Institution	Investment Bank	Pension Scheme	Life Insurance Company
Role	Advice Companies and help companies raise finance	Channel savings for retirement into long term capital markets.	Pool mortality and investment risks by channelling savings into long term capital markets
Application of Funds	Receive fees for advice, underwriting commission, fund management, Eurobond dealing, trusteeship, and bill acceptance. Borrow money by running banking accounts and issuing certificates of deposit	Contributions from employers and employees only. No borrowings.	Premium income from policyholders. Do not usually borrow money.
Sources of Funds	Invest in bills and provide loans and leases to companies.	Typical fund invests in equities and longerdated loan securities and company debt.	Typical fund invests in a mixture of equities and short and long

		Also some investment in overseas securities. Small proportion of the assets invested in property, money market investments and index linked gilts and other classes, such as commodities and infrastructure, are becoming more common	fixed interest securities. May have some investment in overseas securities, property, money market investments and index-linked gilts
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11. i) Gross profit is the difference between the selling prices of the goods and services which provide the basis for the company's main trading activities and the cost of sales.

Operating profit is defined as profit earned after all expenses except finance cost and interest. Profit before tax is the operating profit adjusted for financing costs and income.

Profit after tax will be calculated by deducting the tax from profit before tax.

ii) Gross profit gives an insight into the company's pricing policies. If the company is incurring and experiencing high distribution costs and administrative expense can have gross profit but no operating profit e.g. advertising expense, employees' salaries.

12. i) The reason of complication in preparing the insurance companies accounts as compared to normal company accounts are as follows –

a) The insurance contracts with policyholders fall due outside the accounting period and are uncertain in size.

b) Premature transfer of profit to shareholders may endanger the financial stability of the company and ability to meet the future liabilities.

ii) The major component of reserves for a general insurance company's technical accounts are as follows –

a) URR (Un-expired risk reserves)

b) Outstanding claim reserves

c) URR (Un-expired risk reserves): This reserves is kept to cover the claims and expense that are expected to emerge from an unexpired portion of the insurance cover in future period

d) Outstanding claim reserves: This reserves is kept to cover the claims and expense for all outstanding claims that have not yet been settled. These claims and expense may or may not be reported or known at the time of preparation of accounts.

13.

i) Advantages of compliance with international accounting standards

- They eliminate, or at least reduce, variations between companies in the way they prepare accounts. This improves the ability to compare the financial statements across various entities operating in the country
- The discussion process leading up to a standard being issued focuses attention on particular areas for debate about accounting practice
- They oblige companies to disclose more information than that required by national laws
- They allow some degree of flexibility in a way that legislation often does not. This is even more crucial for a newly formed country

Disadvantages of international accounting standards

- The sets of rules contained in the standards may not be appropriate to all companies in all circumstances
- Standard-setting may not be entirely objective (some standards in the past have been the subject of government pressure or industry lobbying).
- Standards often allow more than one alternative treatment, which negates the attempt to ensure conformity between companies
- Some standards are so general as to be meaningless, while others are far too detailed.

ii) Sources of regulations influencing the preparation of financial statements for companies

- Principles, concepts and conventions of accounting
- National company laws
- Stock exchange requirements
- Best practices in accounting followed by leading companies from time to time

iii) iAdditional information available from cashflow statement

- Whether the core business operations of the entity have led to a net cash inflow or outflow. This is important because even if the entity generates a lot of profit, it may not lead to any positive cash inflow as the profits may get locked up in current assets like accounts receivable and inventory. If an entity is regularly demonstrating profits every year for the last few years but is not generating positive cash flows, it could be an early warning that the revenue accounts are being manipulated

- It is the single statement that summarises the change in the financial position since the previous year. It shows what is the entity's investment in various assets, how these have been funded, what are the cash flows generated from core activities after removing the impact of subjective decisions on depreciation, valuation of inventory etc. in the current financial period

14.

i) ABC Ltd. Income statement for the year ended 31st March 2019

Revenue	1,500,000
Cost of Sales	(647,000)
Gross Profit	853,000
Administrative Staff wages	(3,000)
Distribution Cost	(266,000)
	584,000
Interest	(10,000)
Profit for the year	574,000

ii) ABC Ltd. Statement of changes in equity for the year ended 31st March 2019

	Share Capital	Revaluation Reserve	Retained Earnings	Total
Opening Balance	200,000	180,000	250,000	630,000
Revaluation		540,000		540,000
Profit for the year			574,000	574,000
Dividend Paid			(45,000)	(45,000)
Closing Balance	200,000	720,000	779,000	1,699,00

iii) ABC Ltd. Statement of financial position as at 31st March 2019

CHAPTER NAME

PRACTICE/NOTES/ASSIGNMENT

Non-current Assets	
Property, Plant and Equipment	1,672,000
Current Assets	
Inventory	30,000
Trade Receivables	210,000
	240,000
Total Assets	1,912,000
Equity and Liabilities	
Equity	
Share Capital	200,000
Revaluation Reserve	720,000
Retained Earnings	779,000
	1,699,000
Non-current Liability	
Loan	145,000
Current Liability	
Trade Payables	50,000
Bank	18,000
	68,000
Total Equity and Liabilities	1,912,000

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QUANTITATIVE STUDIES

Notes:

1) Property, Plant and Equipment

Cost or Valuation	Land	Building	Machinery	Vehicles	Total
Opening Balance	600,000	400,000	150,000	325,000	1,475,000
Revaluation	200,000	300,000			500,000
Closing Balance	800,000	700,000	150,000	325,000	1,975,000

2) Depreciation

Cost or Valuation	Land	Building	Machinery	Vehicles	Total
Opening Balance		40,000	80,000	170,000	290,000
Revaluation		(40,000)			(40,000)
Closing Balance		7,000	15,000	31,000	53,000
		7,000	95,000	201,000	303,000
Net book value	800,000	693,000	55,000	124,000	1,672,000

3) Cost of Sales

CHAPTER NAME

PRACTICE/NOTES/ASSIGNMENT

Cost of Inventory Consumed	350,000
Factory running costs	100,000
Manufacturing wages	175,000
Depreciation of buildings	7,000
Depreciation of Machinery	15,000
	647,000

4) Cost of Distribution

Advertising Cost	55,000
Delivery Vehicle running costs	60,000
Sales Salaries	120,000
Depreciation of Vehicles	31,000
	266,000

15.

Profit and Loss Account For the year ended December 31, 2019

Revenue		Amount (INR)
Fee Revenue Earned		58,000
Investment Income		200
Total		58,200
Employees' Salaries	(14,000)	
Office Supplies	(1,000)	
Office Electricity	(4,000)	
Mobile and Internet Bill	(583)	
Depreciation		
Laptops	(3,208)	
Office Equipment	(1,833)	
Office Building Rent	(14,207)	
Income Tax	(3,000)	
Total	(41,832)	
Total Profit		16,368

Calculation Details:-

Fee Revenue Earned= 55,000+2,000+1,000= 58,000

Employees' Salaries= 10,000+4,000= 14,000

Office Supplies= 2,000-1,000= 1,000

Office building rent= $15,917 - 1000 \times 1.05^{11} = 14,207$

CHAPTER NAME

PRACTICE/NOTES/ASSIGNMENT

Depreciation:

Laptops= $35,000 \times (1/10) \times 1(11/12) = 3,208$

Office Equipment= $20,000 \times (1/10) \times 1(11/12) = 1,833$

Balance Sheet as on December 31, 2019

Asset (in INR)		
Laptops	35,000	
Less: Depreciation	3,208	31,792
Office Equipment	20,000	
Less: Depreciation	1,833	18,167
Office Supplies		1,000
Trade Receivables		1,500
Cash		1,000
Bills Receivables		5,000
Office Building Rent		1,710
Revenue Receivable		2,000
Interest Receivable		200
Total Assets		62,368
Liabilities (in INR)		
Trade Payables		3,000
Unearned Fees*		9,000
Employees' Salaries Payable		4,000
Income Tax Payable		3,000
Share Capital		32,000
Retained earnings		11,368
Total Liabilities		62,368

ACTUARIAL
STUDIES

*Unearned Fees: $10,000 - 1,000 = 9,000$

Statement of Retained Earnings:

Retained Earnings Calculation:

Net Profit for the year = 16,368

Less Dividend= (5000)

Net Retained = 11,368

16. Option D

CHAPTER NAME

PRACTICE/NOTES/ASSIGNMENT

17. Option A

18. Option D

19. Option D

20. i) Sales – Costs = EBIT = 2500-1500 = 1000
 Less Taxes (40% Of 500) = 400
 NOPAT = 600

ii) PV of Inflow $600 / 1.2 = 500$
 NPV = PV of Outflow – PV of Inflow

iii) NPV will go up

21. For analysis any business efficiency, I will analysis below three ratios –
 Inventory turnover period = $\text{Inventories} \times 365 / \text{Cost of sales}$
 This ratio indicates to show how long inventory is held for an average. An inventory turnover period that is less rapid than other companies in the same industry might indicate an inefficiently large inventory holding.

Trade receivable turnover period = $\text{Trade receivables} \times 365 / \text{Credit sales}$
 This ratio measures average length of time taken for trade receivable to settle their balance. It is desirable for this period to be as short as possible as it will be better for the company's cash-flow.

Trade payable turnover period = $\text{Trade payables} \times 365 / \text{Credit Purchases}$.
 This ratio indicates the average number of credit that a company has from its suppliers. A high ratio may indicate that the company is able to obtain a long credit period from its suppliers, which will be of benefits to its cash-flows.

22.

1. Ratio analysis does not consider the size of the company and can divert the attention from figures and statements.

2. Ratio analysis may not be useful in presenting appropriate comparison due to involvement of different accounting practice and external factors.
3. Ratio analysis may not show the true picture if there is an opportunity for management to apply bias towards few accounting policies and assumption which is called creative accounting.
4. The peculiarities of trade may make ratio analysis less useful because of difficulty to interpret few certain ratio.

23. i) Different industry – inherent riskiness

Geared Beta might be different because of different debt ratio Brand value
Some stocks are used more for speculative purposes hence more volatile.

ii) Geared beta = Ungeared beta + $(1 + D/E * (1 - \text{Tax}))$

$$1.1 = \text{Ungeared beta} + (1 + 1/2 * .7)$$

$$\text{Ungeared beta} = 0.8148$$

$$\text{New geared beta} = 0.8148 + (1 + 2/2 * .7) = 1.385$$

24. Option A

A) In general the market value of investment trust is lower than the net present value.

25. i) The first problem is in measuring shareholder wealth. This is clearly indicated by the share price, but that can be a volatile indicator, that is not necessarily affected by just the company's efforts to manage the shareholders' wealth. Furthermore, management decisions that enhance shareholder wealth will only be recognised in the share price once the decision itself is announced. This information might be withheld for commercial reasons. The second problem is that the directors are often perceived as having their own interests that are at odds with those of the shareholders. They might have an interest in enhancing their own rewards at the expense of the shareholders or of avoiding acceptable risks in order to put their job security before the wellbeing of the shareholders.

ii)

Given,

Price of the share = 70

$Div_0 = 10$

Growth (g) = 8%

Risk free rate (R_f) = 6%

Risk Premium ($R_m - R_f$) = 5%

Expected Dividend $Div_1 = Div_0 * (1+g) = 10 * 1.08 = 10.8$

$Re = (Div_1/Price) + g$
 $= (10.8/70) + 0.08$
 $= 23.43\%$

Now, as per CAPM ,

$Re = R_f + (R_m - R_f) * \text{Beta}$

$23.43 = 6 + 5 * \text{Beta}$

Hence Beta = 3.486

Now, systematic risk is increased by 80%, i.e, Beta is increased by 80%

New Beta = 6.275

So, New $Re = 6 + 5 * 6.275$
 $= 37.375\%$

New share price = $Div_1 / (Re - g)$
 $= 10.8 / (.37375 - .08)$
 $= 36.77$

Hence share price is expected to fall from current level of Rs 70 to Rs 36.77 i.e, by 33.23%. [4]

26. i) The beta of a project is a measure of the systematic risk of the project relative to a diversified portfolio of all risky assets (i.e. the market). The market would have a beta of 1.

The beta of the company (β_p) is given by the following formula:

$$\beta_p = \frac{\sigma_{pm}}{\sigma_m^2}$$

where:

σ_{pm} is the covariance between the returns expected from the company and the returns expected from the market

σ_m^2 is the variance of the returns expected from the market [1]

ii) The beta of the company may be measured by:

- looking at the company's historical returns on equity and comparing against market returns, but subject to significant variation for example dependent upon the time period considered
- considering the industry beta based on a range of companies undertaking similar activities
- estimating, based on knowledge of the company and its industry and how the industry might react to changes in the market

iii) A stock with a beta of 1 implies that the stock behaves in line with the market. Depending on expectations of market movements, as an aggressive investor, I may wish to invest in stocks with higher positive beta to maximize short-term gains. A stock with a negative beta of 1 signifies that the stock behaves opposite to the market. If the market index improves, the stock will lose value and vice-versa. If a downturn in the market is expected, low beta stocks may be attractive in the short to medium term

iv) Cash

27.

$$\begin{aligned} \text{i) Cost of equity} &= \text{Risk-free rate} + \text{beta} * \text{Equity risk premium} \\ &= 7\% + 1.5 * 5\% \\ &= 14.5\% \end{aligned}$$

$$\begin{aligned} \text{Cost of debt} &= \text{Cost of debt} * (1 - \text{Tax Rate}) \\ &= 9\% * (1 - 25\%) \\ &= 6.75\% \end{aligned}$$

$$\begin{aligned} \text{WACC} &= 0.5 * 14.5\% + 0.5 * 6.75\% \\ &= 10.625\% \end{aligned}$$

ii)

Ungeared beta needs to be computed.

$$\beta_g = \beta_u \times \left(1 + \frac{D}{E}(1-t) \right)$$

$$\begin{aligned} 1.5 &= \text{Ungeared beta} * (1 + 1/1 * (1-25\%)) \\ &= \text{Ungeared beta} * 1.75 \end{aligned}$$

$$\text{Ungeared beta} = 1.5 / 1.75 = 0.857143$$

$$\begin{aligned} \text{New cost of equity} &= \text{Risk-free rate} + \text{Ungeared beta} * \text{Equity risk premium} \\ &= 7\% + 0.857143 * 5\% \\ &= 11.29\% \end{aligned}$$

ACTUARIAL
IVE STUDIES

28.

$$\begin{aligned}\text{Cost of project} &= 40000(1/1.15 + 1/1.15^2 + 1/1.15^3 + 1/1.15^4) \\ &= 114200\end{aligned}$$

$$\text{Payback} = 114200/40000 = 2.855$$

$$\text{PI} = \text{PVIF} / \text{Cost}$$

$$\begin{aligned}\text{PVIF} &= \text{PI} * \text{Cost} \\ &= 1.064 * 114200 \\ &= 121509\end{aligned}$$

$$\begin{aligned}\text{NPV} &= \text{PVIF} - \text{Cost} \\ &= 121509 - 114200 \\ &= 7309\end{aligned}$$

Cost of capital (i):

$$121509 = 40000(1/(1+i) + 1/(1+i)^2 + 1/(1+i)^3 + 1/(1+i)^4) \dots i = 12\%$$

29.

i. a)

Current Ratio:

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

UTILITY: 1) To assess whether the company will be able to pay its bills over the next few months. It provides a comparison of an estimate of the amount of money due to be received in the short term with an estimate of the amount of money to be paid over the same period.

b) Debtors turnover period

$$\text{Debtors Turnover period} = \frac{\text{debtors (trade receivables)}}{\text{credit sales}} \times 365$$

UTILITY: 1) This is a measure of the average length of time taken for debtors (trade receivables) to settle their balance. It is desirable for this period to be as short as possible.

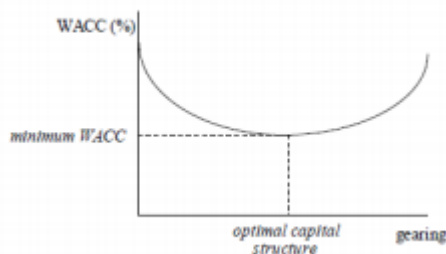
ii) The finance manager should track the quick ratio

$$\text{Quick ratio} = \frac{\text{current assets} - \text{inventories (stocks)}}{\text{Current Liabilities}}$$

30. i) Investors will invest in the shares of this company:

- To diversify the portfolio (minimise systemic risk)
- To maximise return as they would be believing in earning higher returns (increasing idiosyncratic risk)
- Other reasons specific to the investor eg strategic holding, personal attachment with the company, own faith and beliefs. The suitable cost of capital is anything slightly higher than 6% ($8\% \times 0.5 + 4\% \times 0.5$)

ii) Debt is cheaper than equity finance, so as gearing increases, the WACC should fall. However, increasing the proportion of debt finance increases the risk to shareholders so shareholders demand a greater return for this increased risk. Therefore beyond a certain level of gearing, the downward effect on the WACC of increasing the debt finance in the business will be more than offset by the increase in the return required by shareholders.

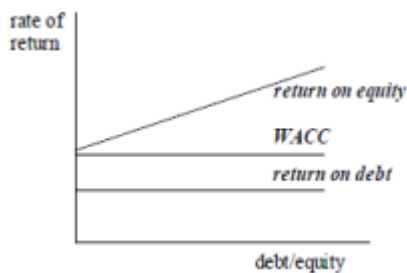


iii) First proposition of Modigliani and Miller: The market value of any firm is independent of its capital structure.

The following are the assumptions:

- There are no taxes in the economy
- Unlimited personal and company borrowing is possible at the same rate of interest
- Debt is risk-free
- There are no agency costs
- There are no information asymmetries.

iv)



WACC remains constant as gearing increases. As gearing increases, the cost of equity increases by just enough to offset the increasing proportion of the cheaper debt.

v)

a) $\text{cost of equity} = \text{risk-free return} + \text{beta} * (\text{equity risk premium})$
 $= 6\% + 1.4 * 5\%$
 $= 6\% + 7\% = 13\%$

b) $\text{Geared equity beta} = \text{Ungeared Beta} * [1 + (\text{Debt:Equity ratio}) * (1 - t)]$
 Here the Debt:Equity ratio is based on market capitalisation, therefore,
 $\text{Geared equity beta} = 1.4 * [1 + (0.5/0.5) * (1 - 0.3)]$
 $= 1.4 * (1 + 0.7)$
 $= 1.4 * 1.7$
 $= 2.38$

c) $\text{Cost of equity} = \text{risk-free return} + \text{beta} * (\text{equity risk premium})$
 $= 6\% + 2.38 * 5\%$
 $= 17.9\%$