CMA Students Newsletter(For Final Students)

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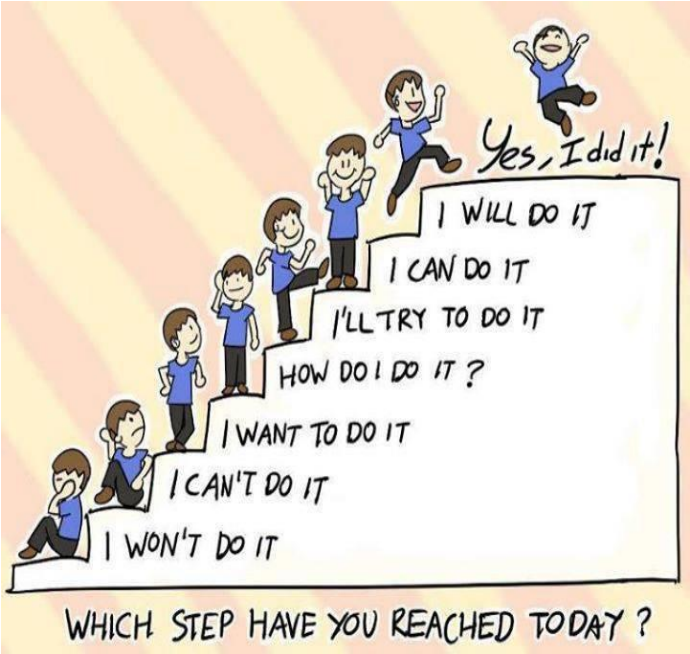
"One of the most important keys to Success is having the discipline to do what you know, you should do, even when you don't feel like doing it."



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Students/Readers are requested to do send your views/ queries/observations/request for academic inputs by e-mail to e.newsletter@icmai.in

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(1) Corporate Laws & Compliance

Case 1: Mr. Dhillon has been appointed as a Director of Dew Automobiles Ltd. on 2nd April, 2012. The Articles of Association of the company provides that the qualification of a director shall be holding of at least 10 shares in the company. Mr. Dhillon applied for 10 equity shares of the company on 31st May, 2012. But the shares were allotted only at the Board meeting held on 19th August, 2012. Examine with reference to the relevant provisions of the Companies Act, 1956 whether Mr. Dhillon has complied with the requirements relating to qualification shares. If not, what are the consequences?

Sol^{n}: There is no statutory requirement that a director must hold qualification shares. Share qualification is to be obtained by a director only if the articles of the company so require. A director shall obtain share qualification within 2 months of appointment. Nominal amount of qualification shares shall not exceed ₹5,000 or nominal value of one share, where it exceeds ₹5,000 (Section 270). The office of a director shall become vacant where he fails to acquire the qualification shares within 2 months of appointment (Section 283).

A person cannot be said to be qualified in respect of qualification shares until he is registered as holder of the shares [Channel Collieries Trust Ltd. v Dover St. Margarets and Martin Mill Light Rly. Co. (1914) 2 Ch 506; Ram Autar Jalan v Coal Products of India Ltd. (1970) 40 Comp Cas 715 (SC)].

Accordingly, where the Board of directors approves the transfer of shares in the name of a director but the shares are not registered in the name of the director within 2 months from the date of his appointment, he cannot be said to have acquired the qualification shares in the prescribed time.

In the given case, Mr. Dhillon was appointed as a director on 2.4.2012 and therefore he must obtain the qualification shares on or before 2.6.2012. Mr. Dhillon applied for shares on 31.5.2012, but was registered as a shareholder only on 19.8.2012. As on 2.6.2012, he cannot be said to be a holder of qualifications shares. Thus, Mr. Dhillon has not fulfilled the conditions prescribed under section 270 and so the following consequences shall follow:

(i) Mr. Dhillon shall vacate the office of the director on 3.6.2012. The vacation of office shall be automatic and no notice is required to be given to Mr. Dhillon.

(ii) If he acts as a director when he knows that the office of director held by him has become vacant, he shall be punishable with fine upto ₹5,000 per day for the

period he acts as a director [Section 283(2A)].

(iii) If after the expiry of 2 months, a person acts as a director when he does not hold the qualification shares, he shall be punishable with fine upto ₹500 per day for the period he acts as a director [Section 272].

The penalties prescribed under sections 283(2A) and 272 are cumulative.

Case 2: Mr. Vivaan was appointed managing director of the company for 5 years w.e.f. 1st January, 2011 at a monthly remuneration of ₹2,00,000 p.m with annual increment of 15%. However, due to differences with other directors he was removed from the post on 31st October 2012. Decide –

(a) Whether company is liable to pay any compensation to him for the loss of office.
(b) If compensation is payable, calculate the amount of compensation.

Soln: A company shall not be liable to pay any compensation to any managing director/whole time director and manager who is a director also if the office is lost under any of the following circumstances:

(a) If he resigns his office on reconstruction or amalgamation of the company and is appointed as the managing director, manager or other office of the reconstructed company or the body corporate resulting from the amalgamation;

(b) If he resigns from his office otherwise than on reconstruction of the company or amalgamation thereof;

(c) If he vacates his office under Section 203 or Section 283;

(d) If the company goes into winding up due to his negligence or mismanagement;

(e) If he has been guilty of fraud or breach of trust or gross negligence or mismanagement of the affairs of the company, or any subsidiary or holding company thereof;

(f) If he has instigated or has taken part in bringing about the termination of his office.

No compensation shall be paid to a director, despite his being eligible for that, if the liquidation or winding up has commenced within 12 months after the termination and the assets of the company, after deducting the expenses of winding up, are not sufficient to pay to the shareholders the share capital, including the premium, if any, contributed by them.

Limit: The compensation, if payable, shall not exceed the remuneration which the director would have earned for the unexpired term of his appointment or for three years, whichever is shorter, calculated on the basis of the average remuneration actually earned by him during a period of three years before the termination, of if he has held office for lesser period, during such period.

In the given case, since services of the managing director have been terminated due to differences with other directors, he is entitled to get the compensation.

Calculation of the amount of compensation

Remuneration for 2011	=24,00,000
Remuneration for 2012 (10 months)	= 23,00,000
Total	= 47,00,000
Average remuneration for 22 months	= 2,13,636.36

Compensation is payable for unexpired term or 3 years, whichever is less. In the given case, unexpired term is 3 years and 2 months. Therefore, compensation is payable for 3 years only i.e., 2,13,636.36 x 36 = ₹76,90,909/- .

(2) On Advanced Financial Management

(a) REPO AND REVERSE REPO

A 'repurchase agreement' or 'repo' is a sale of securities for cash with a commitment to repurchase them at a specified price at a future date.

The reverse of the repo transaction is called 'reverse repo' which is lending of funds against buying of

securities with an agreement to resell the said securities on a mutually agreed future date at an agreed price which includes interest for the funds lent.

Repo Rate is the interest rate at which the Reserve Bank of India lends money to the banks to meet their short-term needs. Banks have to provide security for such loans. Banks borrow funds from RBI to bridge the gap between loans demand and money supply.

Example 1 : Suppose X Bank has a loan demand of ₹100, while the bank has only ₹80 in its system. In this scenario, ABF will borrow ₹20 from RBI at current Repo Rate and will bridge the gap.

Reverse Repo Rate is the rate at which the banks park their surplus money with RBI.

Example 2 : Suppose ABF Bank has a loan demand of ₹80, while the bank has ₹100 in its system. In this scenario, ABF will park ₹20 in RBI at current Reverse Repo Rate.

Repo rate is an important tool used by the RBI to control the supply of money in the banking system. If the rate is increased, the banks will find it difficult to borrow from RBI and the cost of fund will increase. This will result in an increase in interest rate in the system. By reducing the Repo rate RBI can reduce the cost of borrowing and there by the interest rate in the system.

RBI uses Reverse Repo Rate to control liquidity in the system. If RBI increases the Reverse Repo rate, it indicates its readiness to accept money at a higher rate. Cash rich banks will use this facility to park their surplus money with RBI.
Repo rate is always higher than Reverse Repo Rate; otherwise it will give an opportunity of arbitrage.

Example 3 : Here we are assuming that Reverse Repo Rate (8%) is higher than Repo Rate (7%). Suppose X Bank has ₹100 in system, it will park all the money with RBI and will borrow the same amount from RBI at a lower interest rate. So the bank will earn an extra 1% of interest without any risk, which we call as arbitrage.

The Reserve Bank of India (RBI) declares the above rates, after studying the needs of the market and the future trends. These rates are the most important tools in the hands of RBI to control liquidity of money in the system.

The current Repo rate is **7.50%** and Reverse Repo Rate is **6.50%.**

Example 4 : Suppose a dealer repos $30 million par of a Treasury bond to a municipality for 51 days.

- ❖ The market value of the collateral is $31,228,715.
- ❖ The municipality takes a 2% haircut, lending 98% of the market value, or $30,604,140.70 at a repo rate of 5.25%.
- ❖ After 51 days, the municipality returns the $30 million bonds, and the dealer repays $30,604,140.70 (1+0.0525 x 51/360) = $30,831,759.

(b) Portfolio - Estimating Returns and Variances

Example 1(on Portfolio Return) : Shares of five firms denoted as 1 to 5 are projected to have returns under three different scenarios as given below:

	Good economy	Average economy	Poor economy
Probability	25%	50%	25%
	Returns (%) for		
Share 1	20	18	15
Share 2	30	24	20
Share 3	25	12	-6
Share 4	12	24	30
Share 5	40	30	20

Find the expected return on each share. Also find the return on the portfolio constituted of these five shares in the ratio of 1:2:3:4:5 for share 1,2,3,4 and 5 respectively.

Solution:

The expected return for each share is calculated by using the probability weighted average returns under three different scenarios:

Expected return for share 1 (R_1) = 20 × 0.25 + 18×0.50 + 15 × 0.25 = **17.75%**

Expected return for share 2 (R_2) = 30 × 0.25 + 24×0.50 + 20 × 0.25 = **24.5%**

Expected return for share 3 (R_3) = 25 × 0.25 + 12×0.50 – 6 × 0.25 = **10.75%**

Expected return for share 4 (R_4) = 12 × 0.25 + 24×0.50 + 30 × 0.25 = **22.50%**

Expected return for share 5 (R_5) = 40 × 0.25 + 30×0.50 + 20 × 0.25 = **30.00%**

The expected return of the portfolio is the weighted average of the returns of the shares, which is given by:

$$R_p = \frac{1}{15}\times 17.75 + \frac{2}{15}\times 24.50 + \frac{3}{15}\times 10.75 + \frac{4}{15}\times 22.50 + \frac{5}{15}\times 30.00$$

= **22.60%.**

Example 2: (On Portfolio Risk)

Assume a portfolio of the shares 1,2,3,4, and 5 in the ratio of 1:2:3:4:5 as in the Question 1.What returns are expected from the portfolio under good, average, and poor economic conditions? What is the portfolio risk?

Solution:

The portfolio consisting of shares 1,2,3,4, and 5 in the proportion of 1:2:3:4:5 would provide returns of 26.87%, 23.20%, and 17.13% under good, average, and poor economic conditions. With probabilities of 25%, 50% and 25% the portfolio is expected to provide a return of 22.60% as shown below:

Share	Economy			
	Proportion	good	Average	poor
1	6.67%	1.33	1.20	1.00
2	13.33%	4.00	3.20	2.67
3	20.00%	5.00	2.40	-1.20
4	26.67%	3.20	6.40	8.00
5	33.33%	13.33	10.00	6.67
	100.00%	26.86	23.20	17.14
probability		25%	50%	25%
		6.72	11.60	4.285
Expected Return				**22.605**

The risk of the portfolio is assessed through its variance or standard deviation. Both these parameters are computed below:

State of economy	good	Average	poor	Exp. Ret. (%)
Probability (p)	25%	50%	25%	
Return (R in %)	26.87	23.20	17.13	22.60
Deviations	4.27	0.60	-5.47	
(Deviation)^2	18.23	0.36	29.92	
p×(Deviation)^2	4.55	0.18	7.47	
Variance			**12.20**	
Standard deviation (%)			**3.49**	

Let us consider an example to understand the importance of hedging and diversification in reducing the portfolio risk. We shall confine ourselves to two-securities and then generalize the findings. Consider two firms- Boom Ltd and Toon Ltd. They offer different returns under different economic conditions because they are in different business sectors. Boom ltd is expected to do better when the economic environment is good, while Toon Ltd does better when economic conditions are rather poor. Assuming three possible economic environments, the returns of Boom Ltd and Tool Ltd are as given below. The probabilities of economic scenarios of good, average, and poor are 30%, 50%, and 20% respectively.

	Good	Average	Poor
Probability	30%	50%	20%
Returns (%)			
Boom ltd	20.00	15.00	10.00
Tool ltd	12.00	15.00	18..00

Their expected return and risks, assessed by variance or standard deviation, are computed as shown below:

Conditions	Good	Average	Poor	
Probability(p)	30%	50%	20%	
Boom Ltd				**Expected Return**
Return	20.00	15.00	10.00	15.50%
Deviation	4.50	-0.50	-5.50	
P ×deviation^2	6.08	0.13	6.05	
Variance				**12.26**
Standard deviation (%)				**3.50%**

Tool Ltd				Expected Return
Return	12.00	15.00	18.00	14.70%
Deviation	-2.70	0.30	3.30	
p×Deviation^2	2.19	0.05	2.18	
Variance				**4.42**
Standard Deviation (%)				**2.10%**

The risk associated, as measured with standard deviation of returns, with Boom Ltd is 3.50% and that of Tool Ltd is 2.10%.

Covariance

Covariance is a measure of how returns co-vary with each other. Formula:

$$\text{cov}(R_1,R_2)=\sum_1^n P_i(R_1-\bar{R_1})(R_2-\bar{R_2})$$

Covariance of the two securities indicates the direction and extent of linkage of behavior of variations of returns of two securities. A positive covariance means that the direction of change in the returns of the two securities is same, while a negative covariance implies the changes are in opposite directions.

In our example of Boom Ltd and tool Ltd, the returns move in different directions under good, average, and poor economic scenarios. The expected returns of the two firms are 15.50% and 14.70% respectively.

We computed the covariance of Boom Ltd and Toon Ltd

Condition	Economic Scenario			
	Good	Average	Poor	
Returns (%)				**Expected return**
Boom Ltd	**20.00**	**15.00**	**10.00**	**15.50**
Tool Ltd	**12.00**	**15.00**	**18.00**	**14.70**
Covariance				
Probability	**30%**	**50%**	**20%**	
Deviation-Boom Ltd	**4.50**	**-0.50**	**-5.50**	
Deviation-Toon Ltd	**-2.70**	**0.30**	**3.30**	
P×Product of deviations	**-3.65**	**-0.08**	**-3.63**	
Covariance				**-7.35**

Cov (Boom, Toon) =0.30(20.00-15.50) × (12.00-14.70)
+0.50(15.00-15.50) (15.00-14.70)
+0.20(10.00-15.50) (18-14.70)
=-7.35

A negative covariance of 7.35 between Boom Ltd and Toon Ltd indicates that the returns of the two change in opposite directions when the economic scenario changes. Therefore, the returns of the portfolio of Boom Ltd and Toon Ltd would be More stable than if the investment was solely in either Boom Ltd or Toon Ltd.

Coefficient of Correlation

While covariance measures the relationship of two securities in absolute terms, the strength of the relationship between the two securities is measured from an easier statistic known as the coefficient of correlation.

$$\rho=\frac{\text{Cov}(R_1,R_2)}{\sigma_1\sigma_2}$$

Positive correlation signifies same behavior and negative correlation implies opposite behavior of returns of two securities.

Let us find the coefficient of correlation for Boom Ltd and Toon Ltd using the formula

Coefficient of correlation, $\rho=\frac{\text{Cov}(R_1,R_2)}{\sigma_1\sigma_2}$

$$=\frac{-7.35}{3.50\times 2.10}=-1.00$$

(3) Relevance of Cost in Business Decision

In cost accounting it's necessary to connect the relevant cost and relevant revenue to the capacity planning. After all, capacity is limited. Relevant, of course, refers to the cost and revenue that makes a difference when you make decisions.

Example 1:

A pastry chef prepares and delivers specialty desserts to local restaurants and had seven restaurants as clients. The type of product isn't relevant because each client gets the same selection of desserts, but in varying quantities.

With only seven restaurants, it's relatively easy for her to separate data about each one. If the products are identical for each client, there must be other cost and sale factors that could determine which clients are more profitable.

Research pays off. It turns out that five clients consistently placed their dessert orders a week in advance. This gave the chef time to plan ingredient purchases and production. She had two large commercial ovens at home, which allowed her to bake a large number of items at a time. Her production time was baking time, and normal production was a smooth process.

During her review, she noticed that two clients, the Blue Heron and the Lakeside Café, didn't give her as much notice. On average, they placed orders just three days in advance. As a result, she had to scramble. Her purchasing and production had to be changed.

There's a financial impact, and it's relevant. The chef had to buy additional ingredients (such as flour, milk, eggs, sugar, and specialty food items) at the last minute — all the time.

Also, she had to buy less than her normal amounts. And she had to make extra trips back to her suppliers to buy for the two late-ordering customers. The chef paid relatively more for smaller amounts of ingredients, and her driving cost was the same as for a normal buy.

She should have passed those higher costs on to the Blue Heron and the Lakeside Café. Being a diplomat, she would have explained the situation to them. Before she sent any invoice with higher prices, she should have explained that ingredient costs were higher because they ordered later than other clients. "If you order a week in advance, the product cost will be lower, Mr. Customer!" May be this explanation would have changed the client's behaviour.

What type of restaurant would be the ideal new customer? One that orders one week in advance. Her policy would be to clear up front about ordering, may be saying, "If you can't do that, Ms. New Customer, I charge a 5 percent fee. I run up more costs by ordering materials later than planned. I'm sure you can understand that." That will sound perfectly reasonable to the client.

If you know of customer behaviours that increase your costs, you can do something about it! You can actually coach or train your clients, so you don't have to pass on the additional cost to them. They can change their behaviour and get a better price.

Managing a business requires you to make decisions. In fact, you are making a business decision when you choose to do nothing. As you gather and analyze data, focus on your relevant costs and revenue. Relevant costs and revenue will be different, depending on the decision that you make. When you consider relevant information, you can make a well-informed business decision.

Sometimes you have to choose one alternative from different alternatives. The value of sacrifice made or benefit of opportunity foregone by selecting one alternative in preference to other alternatives is called Opportunity Cost. It is the maximum contribution that is foregone by using limited resources for a particular purpose. It is a relevant cost where alternatives are available. You have to consider this cost for making business decisions.

Example 2:

MW Ltd. needs a component in an assembly operation. If it wants to do the manufacturing itself, it would need to buy a machine for ₹4 lakhs which would last for 4 years with no salvage value. Manufacturing costs in each of the four years would be ₹6 lakhs, ₹7 lakhs, ₹8 lakhs and ₹10 lakhs respectively. If the company had to buy the component from a supplier the component would cost ₹9 lakhs, ₹10 lakhs, ₹11 lakhs and ₹14 lakhs respectively in each of the four years.

However, the machine would occupy floor space which could have been used for another machine. This latter machine could be hired at no cost to manufacture an item, the sale of which would produce net cash flows in each of the four years of ₹3 lakhs; it is possible to find room for both the machines at an additional cost of ₹2 lakhs for each year and there are no other external effects. The cost of capital is 10%. Should the firm make the component or buy from outside?

Solution: Statement Showing 'Make or Buy' Decision [₹ in lakhs]

Year	P. V. Factor @ 10%	When the component is manufactured		When the component is bought	
		Cash Outflows (₹)	Present Value of cash outflows (₹)	Cash Outflows (₹)	Present Value of cash outflows (₹)
	1	4	4	Nil	Nil
	0.909	6+2=8	7.272	9	8.181
	0.826	7+2=9	7.434	10	8.260
	0.751	8+2=10	7.510	11	8.261
	0.683	10+2=12	8.196	14	9.562
			34.412		**34.264**

Cash Outflows (in case of manufactured) = Capital Cost + Manufacturing Cost + Additional Cost

Here, Opportunity Cost is the loss of cash inflows for each of the 4 years due to inability of the firm to operate another machine when it manufactures the component.

However, the company can eliminate the opportunity cost by incurring additional cost of ₹2 lakhs.

Cash Outflows (in case of bought) = Cost of Buying

The above statement shows that there is a savings in buying the component amounting to ₹0.148 lakhs (i.e. 34.412 lakhs – 34.264 lakhs).

(4) On Taxation

(a) Constitutional Positions of different Tax Laws in India

Name of Tax/ duty	Source of power	Power with	Tax imposed on -	Applicable to
Article 246(1) – Union List I of Seventh Schedule				
Income Tax Act, 1961	Entry No. 82	Central Govt.	Tax on Income other than agriculture income	Person
Wealth Tax Act, 1957	Entry No. 82	Central Govt.	Tax on Net wealth	Individual, HUF or Company
Central Excise Act, 1944, Central	Entry No. 84	Central Govt.	Manufacture or Production in India of all goods	**(a)**Manufacturer or who collect the duty on behalf

Excise Tariff Act, 1985 and other central laws dealing with specific goods			- except those falling in Entry 51 of State list - but including medicinal and toilet preparations containing alcohol or opium, Indian hemp and other narcotic drugs and narcotics.	of manufacturer, **(b)**Warehouse keeper in case of warehouse goods, **(c)**Purchaser in case of molasses use for manufacture of other commodity, **(d)**Job Worker in case of job work.
Custom Act, 1962 and Customs Tariff Act, 1975	Entry No. 83	Central Govt.	On goods Imported into or Exported from, India	Importer or Exporter of goods
Service Tax – Finance Act, 1944	Entry No. 97	Central Govt.	Taxes on services	Service provider or receiver in case of reverse charge
Service Tax – Finance Act, 1944	Entry No. 92C	Central Govt.	Taxes on services	This entry has not yet come into force
*Central Sales Tax (CST), 1956	Entry No. 92A	Central Govt.	Inter-state sale or purchase of goods	Dealer
Article 246(3) - State List II of Seventh Schedule				
State Excise Laws	Entry No. 51	State Govt.	Manufacture or Production of- (a) alcoholic liquors for human consumption; (b)opium, Indian hemp and other narcotics drugs and narcotics	Manufacturer
Agriculture Tax	Entry No. 46	State Govt.	Agriculture Income	Person
Entry Tax or Octroi	Entry No. 52	State Govt.	Entry of goods into a local area for consumption	Company who sale the goods or Bidder's
Professional, Trade, calling and Employment Tax	Entry No. 59	State Govt.	Professional, Trade, callings and Employment	Professional, Trade, callings and Employment

***Note:** Central sales Tax is levied by Central Government, it is administered by State Government and tax collected in such State is retained by that State Government itself. The tax collected is retained by the State in which it is collected. CST Act is administered by Sales Tax authority of each State.

(b) Surcharge on Income-tax for the assessment years 2014-15 is as follows:

	If total income is up to ₹ 1crore	**If total income is in the range of ₹1crore - ₹10 crore**	**If total income is above ₹ 10 crore**
Surcharge (as a percentage of income-tax)			
Individual/ HUF/ AOP/ BOI/ artificial juridical person	Nil	10%	10%
Firm	Nil	10%	10%
Co-operative society	Nil	10%	10%
Local authority	Nil	10%	10%
Domestic company	Nil	5%	10%
Foreign company	Nil	2%	5%

Surcharge: The amount of income-tax computed in accordance with the above rates and special rates specified in section 111A (relating to short term capital gain on shares sold through recognised stock exchange) and section 112 (relating to long-term capital gain) shall be increased by a surcharge at the rate as prescribed above of such income-tax in case of a person having a total income exceeding ₹1 crore.

Marginal relief:

- The total amount payable as income-tax and surcharge on total income exceeding ₹1crore (i.e income exceeding ₹ 1 crore);
- shall not exceed the total amount payable as income-tax on a total income of ₹1 crore by more than the amount of income that exceeds ₹1 crore.

Cess: 'Education Cess' @2%, and 'Secondary and Higher Education Cess (SHEC)' @1% on income tax (inclusive of surcharge, if applicable) shall be chargeable.

In case of assessees whose income has increased marginally over ₹1 crore, the burden of his tax liability would be more in comparison to the income over ₹ 1 crore because of surcharge.

To give relief to such assesees, the concept of marginal relief is enacted and extended/offered, which is to be made operative as follows:

Alternative Method 1: **(Amount in ₹)**

Total Income	Tax on total income excluding surcharge	Surcharge @10%of tax	Income tax and surcharge under normal computation	Tax under marginal relief computation **[Tax on ₹ 1crore plus Tax @100% of income over ₹ 1crore** Tax on ₹ 1crore = 1crorex 30% = 30 lakh**]**	Normal tax or tax under marginal relief, whichever is lower **(Lower of D or E)**	Tax including surcharge, EC and SHEC
A	**B**	**C**	**D** =B+C	**E**	**F**	**G**
1,01,00,000	30,30,000	1,51,500	**31,81,500**	30,00,000 + 1,00,000 **=31,00,000**	31,00,000	**31,93,000**
1,02,00,000	30,60,000	1,53,000	**32,13,000**	= 30,00,000+ 2,00,000 **= 32,00,000**	32,00,000	**32,96,000**
1,02,10,000	30,63,000	1,53,150	**32,16,150**	30,00,000 + 2,10,000 **=32,10,000**	32,10,000	**33,06,300**
1,02,15,000	30,64,500	1,53,225	**32,17,725**	30,00,000 + 2,15,000 **= 32,15,000**	32,15,000	**33,11,450**
1,02,18,000	30,65,400	1,53,270	**32,18,670**	30,00,000 + 2,18,000 **=32,18,000**	32,18,000	**33,14,540**
1,02,19,000	30,65,700	1,53,285	**32,18,985**	30,00,000 + 2,19,000 **= 32,19,000**	32,18,985 (No marginal relief)	**33,15,560**
1,02,20,000	30,66,000	1,53,300	**32,19,300**	30,00,000 + 2,20,000 **= 32,20,000**	32,19,300 (No marginal relief)	**33,15,880**

Note:-

No marginal relief is available in case of Education Cess & SHEC.

Alternative Method 2: **(Amount in ₹)**

Total Income	Tax on total income excluding surcharge	Surcharge @10%of tax	Surcharge due to marginal relief **[Additional income – Tax on additional income]**	**Tax including surcharge but excluding EC and SHEC**	**Tax including surcharge, EC and SHEC**
A	**B**	**C**	**D**	**E**	**F**
1,01,00,000	30,30,000	1,51,500	**1,00,000 – 30,000 = 70,000**	30,30,000 + 70,000 **= 31,00,000**	31,93,000
1,02,00,000	30,60,000	1,53,000	**2,00,000 – 60,000 = 1,40,000**	30,60,000 + 1,40,000 **= 32,00,000**	32,96,000
1,02,10,000	30,63,000	1,53,150	**2,10,000 – 63,000 = 1,47,000**	30,63,000 + 1,47,000 **= 32,10,000**	33,06,300
1,02,15,000	30,64,500	1,53,225	**2,15,000 – 64,500 = 1,50,500**	30,64,500 + 1,50,500 **= 32,15,000**	33,11,450
1,02,18,000	30,65,400	1,53,270	**2,18,000 – 65,400 = 1,52,600**	30,65,400 + 1,52,600 **=32,18,000**	33,14,540
1,02,19,000	30,65,700	1,53,285	**2,19,000 – 65,700 = 153,300 (No marginal relief)**	30,65,700 + 1,53,285 **=32,18,985**	33,15,560
1,02,20,000	30,66,000	1,53,300	**2,20,000 – 66,000 = 1,54,000 (No marginal relief)**	30,66,000 + 1,53,300 = **32,19,300**	33,15,880

Note:-

(i) Additional income means the income in excess of ₹ 1 crore

(ii) No marginal relief is available in case of Education Cess and SHEC.

(c) Assessment procedure under Income Tax Act, 1961 & Wealth Tax Act, 1957

Activity	Income Tax Act, 1961	Wealth Tax Act, 1957
Return	Section 139(1)	Section 14
Return of Loss	Section 139(3)	---
Belated return	Section 139(4)	Section 15
Revised return	Section 139(5)	Section 15
Return by whom to be signed	Section 140	Section 15A
Self Assessment	Section 140A	Section 15B
Scrutiny Assessment	Section 143(3)	Section 16(2) & (3)
Best Judgment Assessment	Section 144	Section 16(5)
Escaping Assessment	Section 147	Section 17
Time limit for completion of assessment	Section 153	Section 17A
Appeal	Section 246A	Section 23
Appeal to Appellate Tribunal	Section 253(1) & (2)	Section 24 & 26
Revision	Section 263 & 264	Section 25
Appeal to High Court/ National Tax Tribunal	Section 260A	Section 27A
Appeal to supreme Court	Section 261	Section 29
Refunds	Section 240	Section 34A

(d) Tax Liability on Transfer of House Property

Rabi transferred a house property to his wife Mina on 01.04.2013. The house property was let out during the year yielding a rental income of ₹20,000 per month. Let us ascertain the tax implication.

Solution:

Unlike Indian Contract Act, 1872, Income Tax Act, 1961 as well as Wealth Tax Act, 1957 do not consider love and affection as an adequate consideration.

According to Section 64(1)(iv) of Income Tax Act, 1961, if any asset (other than house property) transferred to spouse without adequate consideration (other than in connection with an agreement to live apart), any income derived from that asset shall be deemed to be the income of the taxpayer who has transferred the asset.

According to Section 4(1)(a)(i) of Wealth Tax Act, 1957, any asset transferred to spouse without adequate consideration (other than

in connection with an agreement to live apart), shall be included in the net wealth of the transferor as "Deemed Asset".

In the given case, as the asset is a house property, the income derived from that house property will not be clubbed to the income of Rabi. However, the house property shall be considered as "Deemed Asset" u/s 4(1)(a)(i) of the Wealth Tax Act, 1957 and included in the net wealth of Rabi.

(e) Tax consequence - Assets used for business purpose later used for Scientific purpose and vice-versa

Example 1:
MRT Ltd. purchased a machine as on 01.04.2011 at a cost of ₹8,00,000. The machine was used up to 31.03.2013 for normal production. From 01.04.2013, it is being using for scientific research purpose.
(i) State the tax consequences of the above as per Income Tax Act, 1961.
(ii) What if, the above machinery was first used for scientific purpose and then transferred to the production department? Consider the same date as above.
Solution:

(i) Machinery transferred to Scientific Research purpose

Particulars	Amount (₹)
Cost	8,00,000
Less: Depreciation @ 15% for the year 2011-12	1,20,000
W. D. V. as on 01.04.2012	6,80,000
Less: Depreciation @ 15% for the year 2012-13	1,02,000
W. D. V. as on 01.04.2013	5,78,000

In the years 2011-12 & 2012-13, the depreciation of ₹1,20,000 and ₹1,02,000 respectively would be allowed as deduction u/s 32.

In the year 2013-14, the 100% of the W. D. V. of the machine i.e. ₹5,78,000 will be allowed as deduction u/s 35.

(ii) Machinery transferred from Scientific Research purpose

In this case, the whole cost of the machine i.e. ₹8,00,000 would be allowed as deduction u/s 35 at the year of purchase i.e. 2011-12.

As full cost of the machine has already been deducted in the year of purchase, the W. D. V. of the machine so transferred as on 01.04.2013 will be Nil. Hence, the company will not get any depreciation benefit u/s 32 further for the machine.

(5) On application of Game theory

Two firms are competing for business under the conditions so that one firm's gain another firm's loss. Firm A's pay-off matrix is given below:

		Firm B		
		No advertising	Medium advertising	Heavy advertising
Firm A	No advertising	10	5	-2
	Medium advertising	13	12	15
	Heavy advertising	16	14	10

Suggest optimal strategies for the two firms and the net outcomes thereof.

Solution:
Clearly, the first column is dominated by the second column as all the elements of the first column are greater than elements of second column. Thus eliminating first column, we get

		Firm B	
		Medium advertising	Heavy advertising
Firm A	No advertising	5	-2
	Medium advertising	12	15
	Heavy advertising	14	10

Again, first row is dominated by second and third row as all the elements of first row as all the elements of first row are less than the respective elements of second and third row. Hence, eliminating first row, we obtain the following 2 x 2 pay- off matrix.

		Firm B	
		Medium advertising	Heavy advertising
Firm A	Medium advertising	12	15
	Heavy advertising	14	10

As the pay-off matrix does not possess any saddle point, the firm will use mixed strategies. The optimum mixed strategy for firm A is determined by:

$$p_1 = \frac{10-14}{12+10-(14+15)} = \frac{4}{7} \text{ and } P_2 = 1 - p_1 = \frac{3}{7}$$

And for the firm B is given by :

$$Q_1 = \frac{10-15}{12+10-(14+15)} = \frac{5}{7} \quad q_2 = 1 - q_1 = \frac{2}{7}$$

The expected value of the game (corresponding to the above strategies) is given by:

$$V = \frac{12\times10-14\times15}{(12+10)-(14+15)} = \frac{90}{7}$$

Hence, the optimum strategies for the two firms are:

	No advertising	Medium advertising	Heavy advertising
S_A =	0	$\frac{4}{7}$	$\frac{3}{7}$

	No advertising	Medium advertising	Heavy advertising
S_B =	0	$\frac{5}{7}$	$\frac{2}{7}$

and the value of the game $v = \frac{90}{7}$

(6) On Preparation of Consolidated Financial Statements - some practical issues

(a) Treatment of Unrealised Profit

From the following information determine the amount of unrealized profit to be eliminated and the apportionment of the same. Om Ltd. holds 80% Equity shares of Shanti Ltd.

I. Om Ltd. sold goods costing ₹7,50,000 to Shanti Ltd. at a profit of 25% on Cost Price. Entire stock were lying unsold as on the date of Balance Sheet.

II. Again, Om Ltd. sold goods costing ₹13,50,000 on which it made a profit of 25% on Sale Price. 60% of the value of goods were included in closing stock of Shanti Ltd.

III. Shanti Ltd. sold goods to Om Ltd. for ₹12,00,000 on which it made a profit of 20% on Cost . 40% of the value of goods were included in the closing stock of Om Ltd.

Solution: Situation I

Transaction	Sale by Om Ltd. to Shanti Ltd. [Holding → Subsidiary]
Nature of Transfer	Downstream Transaction
Profit on Transfer	Cost ₹7,50,000 × Profit on Cost i.e. 25% = ₹1,87,500
% of Stock included in Closing Stock	100%
Unrealised Profit to be eliminated i.e. to be transferred to the Stock Reserve	₹ 1,87,500 × 100% = ₹1,87,500
Share of Majority – Reduced from Group Reserve	₹ 1,87,500 × 100% = ₹1,87,500
Share of Minority	Unrealised Profit in case of a Downstream Transaction is fully adjusted against Group Reserves. Minority Interest is not relevant here.

Situation II

Transaction	Sale by Om Ltd. to Shanti Ltd. [Holding → Subsidiary]
Nature of Transfer	Downstream Transaction
Profit on Transfer	Cost ₹13,50,000 × Profit on Sale Price i.e.25% ÷ Cost on Sale i.e. 75% = ₹4,50,000
% of Stock included in Closing Stock	60%
Unlealised Profit to be eliminated i.e. to be transferred to the Stock Reserve	₹ 4,50,000 × 60% = ₹2,70,000
Share of Majority – Reduced from Group Reserve	100% × ₹2,70,000 = ₹2,70,000
Share of Minority	Unrealised Profit in case of a Downstream Transaction is fully adjusted against Group Reserves. Minority Interest is not relevant here.

Situation III

Transaction	Sale by Shanti Ltd. to Om Ltd. [Subsidiary → Holding]
Nature of Transfer	Upstream Transaction
Profit on Transfer	Sale ₹12,00,000 × Profit on Cost 20% ÷Sale to Cost 120% =₹2,00,000
% of Stock included in Closing Stock	40%
Unlealised Profit to be eliminated i.e to be reduced from Closing Stock	₹ 2,00,000 × 40% = ₹80,000
Share of Majority – Reduced from Group Reserve	Share of Majority i.e. 80% × Unrealised Profit ₹80,000 = ₹64,000
Share of Minority – Reduced from Minority Interest	Share of Majority i.e. 20% × Unrealised Profit ₹80,000 = ₹16,000

(b) Purchase of Shares in Lots

Following are the balances in the Balance Sheet of Blue Ltd. and Green Ltd.

- As on 31.03.2013 Equity Share Capital (₹10): Blue Ltd. ₹80,000; Green Ltd. ₹1,00,000.
- As on 31.03.2013 shares of Green Ltd. held by Blue Ltd. is ₹99,000.
- Profit and Loss A/c balances as on 31.03.2013 of Blue Ltd. is ₹22,000 and Green Ltd. is ₹30,000.
- Net Profit during 2012-13 included in above were : Blue Ltd. ₹18,000; Green Ltd. ₹9,000.
- Both the companies have proposed a dividend of 10% which is yet to be recorded.
- On 01.04.2012, Blue Ltd. was formed and on the same day it acquired 4,000 shares of Green Ltd. at ₹55,000.
- On 31.07.2012, 10% dividend was received from Green Ltd. and also bonus shares at 1:4 were received. The dividend was credited to P&L A/c.
- On 31.08.2012 Blue Ltd. purchased another 3,000 shares of Green Ltd. at ₹44,000. Analyse the profit.

Solution:

Company Status	Date of Acquisition
Holding Co.– Blue Ltd. Subsidiary Co.– Green Ltd.	Lot 1 4,000 Shares = 01.04.12 Bonus 1,000 Shares 31.07.12 Lot 2 3,000 Shares = 31.08.12

Period	No. of Shares acquired	Status
Before 01.04.12	All shares acquired i.e. 80%	Pre-acquisition
01.04.12 to 31.08.12	Shares acquired on 31.08.12 i.e. 30%	Pre-acquisition
01.04.12 to 31.08.12	Shares acquired before 31.08.12 i.e. 40%	Post acquisition
After 31.08.12	All shares acquired i.e. 80%	Post acquisition

Holding Status:

Holding Company = 80%
Minority Interest = 20%
Date of Consolidation = 31.03.2013

Analysis of Profit & Loss Account of Green Ltd.

P&L balance on 31.03.2013	₹ 30,000
Less: Proposed Dividend for FY 2012-13 (₹ 1,00,000×10)**(Note 1)**	(₹10,000)
Correct Profit	**₹ 20,000**

Balance as on 01.04.2012	
Balance as on 31.03.2013	₹30,000
Less: Net Profit during 2012-13	(₹9,000)
Less: 2012-13 Dividend	(₹1,000)
Capital Profit	**₹20,000**
Profit from 01.04.12 to 31.03.13	
Profit during 2012-13	**₹9,000**
Less: Dividend for 2012-13	**(₹9,000)**
Revenue Profit	**NIL**

Note :
1. Dividend declared and paid by Green Ltd. is ₹10,000 (₹1,00,000 × 10%).

Dividend for 2012 – 13
Dividend for 2012-13 ₹10,000

Out of Profit as at 01.04.2012 ₹1,000 Out of Profit for FY 12-13 ₹9,000

01.04.12 to 31.08.12 (5 Months) ₹3,750
01.09.12 to 31.03.13 (7 Months) ₹5,250

Consolidation of Balances

Particulars	Total ₹	Minority Interest ₹	Pre-Acquisition ₹	Post Acquisition
Green Ltd. (Holding 80%, Minority 20%)				P&L A/c ₹
Equity Capital	1,00,000	20,000	80,000	
Profit and Loss A/c	20,000	4,000	16,000	
Proposed Dividend	10,000	2,000	1,925 (Note 2)	6,075 (Note 3)
Minority Interest		26,000		
Total [Cr.]			97,925	
Cost of Investment [Dr.]			(99,000)	
Parent's Balance				10,000
For consolidated Balance Sheet			1,075 Goodwill	16,075

Note:

2. **Pre-acquisition : [80 % × ₹1,000 = ₹800] + [30% × ₹3,750] = ₹1,925.**
3. **Post acquisition : [50% × 3,750 = ₹1,875] + [80% × ₹5,250] = ₹6,075.**

(7) Calculation of Deferred Tax Asset/Liability

Let us consider an example on calculating Depreciation under both Companies Act,1956 and Income Tax Act,1961 and ascertain DTA/DTL arising therefrom:

A second hand machine was purchased on 1.4.2010 for ₹4,00,000. Overhauling and installation expenses for the same machine amounted to ₹1,00,000. Another machine was purchased for ₹2,00,000 on 4.10.2010.

On 01.10.2012, the machine installed on 1.4.2010 was sold for ₹2,50,000. Dismantling charges for the machine sold on 1.10.2012 were ₹10,000. On the same date another machine was purchased for ₹ 8,00,000 and was commissioned on 31.12.2012. Under the existing practice, the company provides depreciation @ 10% p.a. on original cost.

Show Statement of Depreciation under Companies Act, 1956 and Income Tax Act, 1961.

Solution: Statement of Depreciation under Companies Act, 1956

Date	Particulars	M-1 (₹)	M-2 (₹)	M-3 (₹)	Total Dep. (₹)
1.4.10	Purchase Cost (including Overhauling)	5,00,000			
4.10.10	Purchase		2,00,000		
31.03.11	Dep@10%	50,000	10,000		60,000
1.4.11	W.D.V	4,50,000	1,90,000		
31.03.12	Dep@10%	50,000	20,000		70,000
1.4. 12	W.D.V	4,00,000	1,70,000		
1.10.12	Purchase			8,00,000	
	Dep. @10%	25,000			
	W.D.V	3,75,000			
	Add: Dismantling Charge	10,000			
		3,85,000			
	Sold for	2,50,000			
	Loss on sale	1,35,000			
31.03.13	Dep.@ 10%		20,000	40,000	85,000
1.4.13	W.D.V.		1,50,000	7,60,000	

Statement of Depreciation under Income Tax Act, 1961

Particulars	Amount (₹)	Total Dep. (₹)
W.D.V. as on 01.04.2010	Nil	
Add: Purchase :		
Put to use 180 days or more 5,00,000		
Put to use less than 180 days 2,00,000	7,00,000	
	7,00,000	
Less: Depreciation-		
At full rate (5,00,000 ×15%) 75,000		
At half rate (2,00,000 × 15% × 50%) 15,000	90,000	90,000
W.D.V. as on 01.04.2011	6,10,000	
Less: Depreciation-		
At full rate (6,10,000 ×15%)	91,500	91,500
W.D.V. as on 01.04.2012	5,18,500	
Less: Net Consideration Received from sale of 2nd hand machinery	2,40,000	
	2,78,500	
Add: Purchase-		
Put to use 180 days or more 8,00,000		
Put to use less than 180 days Nil	8,00,000	
	10,78,500	
Less: Depreciation-		
At full rate (10,78,500 ×15%)	1,61,775	1,61,775
W.D.V. as on 01.04.2013	9,16,725	

To ascertain the impact of depreciation as computed above under income tax Act & under Companies Act for the computation of Deferred tax assets or deferred tax liability as per AS 22.

In this example, we took two assumptions –

(i) we extent the sum for ten years for better understanding of the impact of Deferred tax assets of deferred tax liability or their reversal.

(ii) Rate of substantive tax rate is 30% for all the years.

Computation of Deferred Tax Asset/ Liability (Amount in ₹)

Year	A/cing Depn.	Accumulated Accounting Depn.	Income Tax Depn.	Accumulated depn. under Income tax	Timing Diff.	Accumulated DTA / (DTL)
(1)	(2)	(3)	(4)	(5)	(6)=(3)-(5)	7 [(6)x30%]
1	**60,000**	**60,000**	**90,000**	**90,000**	**(30,000)**	**(9,000)**
2	**70,000**	**1,30,000**	**91,500**	**1,81,500**	**(51,500)**	**(15,450)**
3	**85,000**	**1,30,000 + 85,000 - 1,25,000 =90,000**	**1,61,775**	**3,43,275**	**(2,53,275)**	**(75,982)**
4	20,000 + 80,000 =1,00,000	1,90,000	9,16,725 X 15% =1,37,509	**4,80,784**	**(2,90,784)**	**(87,235)**
5	1,00,000	2,90,000	1,37,509 x 85% =1,16,883	**5,97,667**	**(3,07,667)**	**(92,300)**
6	1,00,000	3,90,000	1,16,883 x 85% =99,350	**6,97,017**	**(3,07,017)**	***(92,105)**
7	1,00,000	4,90,000	99350 x 85% =84,447	**7,81,464**	**(2,91,464)**	**(87,439)**
8	1,00,000	5,90,000	84447 x 85% =71,800	**8,53,264**	**(2,63,264)**	**(78,979)**
9	1,00,000	6,90,000	71,800 x 85% =61,030	**9,14,294**	**(2,24,294)**	**(67,288)**
10	1,00,000	7,90,000	61,030 x 85% =51,875	**9,66,169**	**(1,76,169)**	**(52,851)**
Total	9,15,000		9,66,169			

*** From sixth year deferred tax liability has decreases subsequently which denotes reversal of deferred tax liability.**

*** Loss on sale of assets is permanent difference, hence not considered for calculation of deferred tax asset/liability.**

(8) On Cost Audit - Computation of Net Worth

Companies Act, 1956
Definition [Section 2(29A)]
"net worth" means the sum total in the paid-up capital and free reserves after deducting the provisions or expenses as may be prescribed.
Explanation.- For the purpose of this clause, "free reserve" means all reserves created out of the profits and share premium account but does not include reserves created out of revaluation of assets, write back of depreciation provisions and amalgamation.
This definition & explanation of net worth is used in different sections of the Act.

Companies Bill 2013 ***[referred as a Bill, though received assent of the President of India on 30th August,2013. However, date of enactment is yet to be notified]***
[..... represents at the beginning of phrases referred herein states continuation of the preceding and at the end represents continued thereafter. This representation is for ease of reference to relevant extracts only and does not intend to make any material departure from the provisions as stated in the Bill]

Definitions [Clause 2(57)]
"net worth" means the aggregate value of the paid-up share capital and all reserves created out of the profits and securities premium account, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write-back of depreciation and amalgamation.

Acceptance of deposits from public by certain Companies [Clause 76]
Notwithstanding anything contained in section 73, a public company, having such net worth or turnover as may be prescribed, may accept deposits from persons other than its members subject to compliance with the requirements provided in sub-section (2) of section 73 and subject to such rules as the Central Government may, in consultation with the Reserve Bank of India, prescribe….

Corporate Social Responsibility [Clause 135]

Every company having **net worth of rupees five hundred crore or more**, or turnover of rupees one thousand crore or more or a net profit of rupees five crore or more during any financial year shall constitute a Corporate Social Responsibility Committee of the Board consisting of three or more directors, out of which at least one director shall be an independent director…..

Right of member to copies of audited financial statement [Clause 136]

……

Provided further that the Central Government may prescribe the manner of circulation of financial statements of companies having such net worth and turnover as may be prescribed……

Central Government to specify audit of items of cost in respect of certain companies [Clause 148]

(1) Notwithstanding anything contained in this Chapter, the Central Government may, by order, in respect of such class of companies engaged in the production of such goods or providing such services as may be prescribed, direct that particulars relating to the utilisation of material or labour or to other items of cost as may be prescribed shall also be included in the books of account kept by that class of companies:

Provided that the Central Government shall, before issuing such order in respect of any class of companies regulated under a special Act, consult the regulatory body constituted or established under such special Act.

(2) If the Central Government is of the opinion, that it is necessary to do so, it may, by order, direct that **the audit of cost records of class of companies**, which are covered under sub-section (1) and which **have a net worth of such amount** as may be prescribed or a turnover of such amount as may be prescribed, shall be conducted in the manner specified in the order.

(3) The audit under sub-section (2) shall be conducted by a Cost Accountant in practice who shall be appointed by the Board on such remuneration as may be determined by the members in such manner as may be prescribed……..

Companies (Cost Accounting Records) Rules, 2011

Application [Rule 3]

These rules shall apply to every company, including a foreign company as defined under section 591 of the Companies Act 1956, which is engaged in the production, processing, manufacturing, or mining activity and wherein, **the aggregate value of net worth as on the last date of the immediately preceding financial year exceeds five crores** of rupees or wherein the aggregate value of the turnover made by the company from sale or supply of all products or activities during the immediately preceding financial year exceeds twenty crores of rupees or wherein the company's equity or debt securities are listed or are in the process of listing on any stock exchange, whether in India or outside India.

Provided that these rules shall not apply to a company which is a body corporate governed by any special Act.

Provided further that these rules shall not apply to the activities or products covered in any of the following rules:-

(a) Cost Accounting Records (Bulk Drugs) Rules, 1974
(b) Cost Accounting Records (Formulation) Rules, 1988
(c) Cost Accounting Records (Fertilizers) Rules, 1993

(d) Cost Accounting Records (Sugar) Rules, 1997
(e) Cost Accounting Records (Industrial Alcohol) Rules, 1997
(f) Cost Accounting Records (Electricity Industry) Rules, 2001
(g) Cost Accounting Records (Petroleum Industry) Rules, 2002
(h) Cost Accounting Records (Telecommunications) Rules, 2002

[In our opinion, In the cost Audit Report, the cost auditor of the company should disclosed/analyse the financial position of the company and make ratio analysis like Profitability Ratios, Other Financial Ratios etc., which includes Return on capital employed, return on Net worth etc. which is disclosed vide-]

***Para 9 of Annexure to Cost Audit Report - Financial Position and Ratio Analysis* -**

This statement is required to be furnished for the company as a whole. The sources of figures for calculation of the respective ratios are audited Balance Sheet, Profit & Loss Account and Cost Statements prepared for cost audit purposes.

The figures for the year under audit and figures for the immediately preceding financial year are required to be provided. In the original notification of Cost Audit Report Rules, the requirement was for furnishing of figures for two previous years. However, the Costing Taxonomy notified requires figures for only the first previous year only.

The different elements in this para as notified in the Cost Audit Report Rules were based on the terminology and structure of pre-Revised Schedule VI. Since the composition of many of the elements has undergone a change in the Revised Schedule VI, there is a necessity to define the composition of different elements in this para in the context of the Revised Schedule VI. The Costing Taxonomy has also used the terminology of the Revised Schedule VI. The labels used in the Costing Taxonomy are given in brackets next to the elements used in the format of the Cost Audit Report Rules. Thy element-wise explanation and the corresponding element under Revised Schedule VI are given in our study material.

Wherein Capital Employed and Net worth includes –

(1) Capital Employed means average of net fixed assets (excluding intangible assets, effect of revaluation of fixed assets, and capital-in-progress) plus net current assets existing at the beginning and close of the financial year.

(2) Net worth means share capital plus reserve and surplus (excluding revaluation reserves) less accumulated losses and intangible assets.

In the definition of Net Worth provided under the rules, there is no reference to the fund deployed by the company in Capital work-in-progress and Fixed Assets held for sale. However, the intent of the law here is to measure the operational efficiency of the funds deployed by the company in operations. Keeping this principle in mind, it would be appropriate if the shareholder's funds deployed for Non-operational Assets, such as, Capital Work-in-progress and Fixed assets held for sale be excluded from the calculation of the **Operation Net Worth.** This is depends up on the situation of the case and/or vary from case to case.

Liabilities	₹	Assets	₹
Equity Share Capital	35,00,000	Goodwill	2,00,000
Preference Share Capital	5,00,000	Land & Building	6,50,000
Reserves & Surplus	3,50,000	Plant & Machinery	2,50,000
11% Mortgage Loan	3,20,000	Furniture & Fittings	4,00,000
10% Debentures	2,25,000	Capital Work –in-progress	27,00,000
Sundry Creditors	75,000	Investment [Long Term]	1,50,000
Bank Overdraft	40,000	Stock in Trade	2,50,000
Pre-received Incomes	20,000	Sundry Debtors	1,50,000
Outstanding Expenses	17,000	Cash at Bank	1,35,000
Bills Payable	8,000	Cash in Hand	15,000
		Bills Receivable	45,000
		Accrued Incomes	15,000
		Prepaid Expenses	10,000
		Discount on Issue of Shares	70,000
		Preliminary Expenses	15,000
Total	50,55,000	Total	50,55,000

Additional information:
(i) Ignore the impact of Revised Schedule VI
(ii) PBT during the year 2012-13 is ₹5,00,000
Compute (a)Net Worth, (b) Operational Net Worth, (c) Return on Net Worth & (d) Return on Operational Net worth.

Solution:

(a) Net Worth

Share Capital		35,00,000
(+)	Preference Share Capital	5,00,000
(+)	Reserves & Surplus	3,50,000
(-)	Discount on Issue of Shares	70,000
(-)	Preliminary Expenses	15,000
		42,65,000

(b) Operational Net Worth [in relation to Cost Audit]

Share Capital	35,00,000
(+)Preference Share Capital	5,00,000
(+) Reserves & Surplus	3,50,000
(-) Intangible Assets (Goodwill)	2,00,000
(-) Capital Work-in-progress	27,00,000
(-)Discount on Issue of Shares	70,000
(-) Preliminary Expenses	15,000
	13,65,000

(c) Return on Net Worth

Return on Net worth = (PBT/ Net Worth)x 100
= (5,00,000/42,65,000)x100
= 11.72%

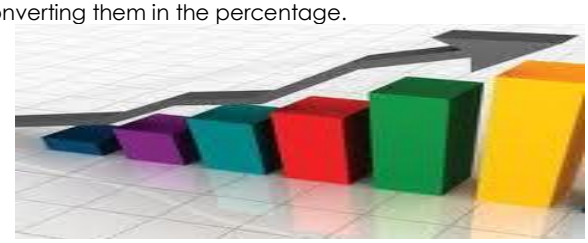
(d) Return on Operational Net Worth [in relation to Cost Audit]

Return on Operational Net worth= (PBT/Operational Net Worth)x 100
= (5,00,000/13,65,000)x100 = 36.63%

In the above example, return on operational net worth is calculated by Cost Accountant for Audit report "Para 9 of Annexure to Cost Audit Report - Financial Position and Ratio Analysis". The purpose of this ratio is to reflect the actual return on operational net worth i.e. efficiency of the management in utilization of resources.

(9) Statistical Tools to Analyse Financial Statements

Trend analysis is one of the tools for the analysis of the company's financial statements for the investment purposes. In a trend analysis, the financial statements of the company are compared with each other for the several years after converting them in the percentage.



According to **Simpson and Kafka, "Trend, also called secular or long-term trend, is the basic tendency of the series…….to grow or decline over a period of time. The concept of trend does not include short range oscillations, but rather the steady movement over a long time."**

Trend is the general, smooth, long term average tendency. It is not that increase or decrease should be in one direction throughout. But an overall tendency may be up or downward or stable. These tendencies are results of some external forces that are merely steady for a long period or change very gradually over a long period.

The method of least square is used here to illustrate the trend in the following examples:

Example 1:

Year	2006	2007	2008	2009	2010	2011	2012
Sales Value (₹ in crores)	672	824	967	1204	1464	1758	2057

Fit a straight line trend for the above data and estimate the sales value (in ₹ crores) for the year 2016.

Let the straight line trend is represented by the equation y = a + bt. The values of a and b will be determined by solving the normal equations

$$\sum y = na + b\sum t \text{ and}$$

$$\sum yt = a\sum t + b\sum t^2$$

Here, since the number of years is odd the mid year, i.e. year 2009 is taken as original and one year as unit.

Fitting of Straight Line Trend

Year	Sales Value (₹ crores) (y)	t = Year-2009	t^2	yt
2006	672	-3	9	-2016
2007	824	-2	4	-1648
2008	967	-1	1	-967
2009	1204	0	0	0
2010	1464	1	1	1464
2011	1758	2	4	3516
2012	2057	3	9	6171

$\therefore \sum t = 0, \sum t^2 = 28, \sum yt = 6520, n = 7, \sum y = 8946$

From normal equation, 8946=7a+b×0 or 8946=7a or a=1278

6520=a×0+b×28 or 6520=28b or b=232.9

Then the trend equation is y=1278+232.9t with origin year 2009 and t unit =1 year.

The value of t for 2016 will be 7. Hence the estimate for the year 2016 is y=1278+232.9×7= 1278+1630.3= 2908.3 (₹ crores).

Note: When the number of years is even the origin is placed in the midway between the two middle years and the unit is taken to be ½ year instead of one year. With this change of origin and scale we have again

$$\sum t = 0 \text{ and } a = \frac{\sum y}{n} \text{ and } b = \frac{\sum yt}{\sum t^2}$$ Ex

ample 2:

Trend equation for yearly sales (₹ in '000) for a commodity is y=81.6+28.8x, unit of x=1 year and origin: 30th June 2012. Adjust the trend equation to find the monthly trend values with January 2013 as origin and find the trend value for March 2013.

Annual trend equation on reduction to monthly trend values becomes —

$$y_e = \frac{81.6}{12} + \frac{28.8}{144}x = 6.8 + 0.2x \quad \ldots\ldots(1)$$

origin: 30th June 2012 ; x unit = one month

y units: average monthly sales (₹ in '000)

We are to adjust the trend equation (1) by shifting the origin at January (i.e. middle of January 2013). It means we are to shift the origin 6.5 months hence, i.e. we to change x by (x+6.5) to get the new trend equation.

Hence the new trend equation becomes —

$$y_e = 6.8 + 0.2(x + 6.5) \text{ or } y = 8.1 + 0.2x \quad \ldots\ldots(2)$$

origin: Jan 2013 ; x unit= 1 month,

y unit= average monthly sales (₹ in '000)

For trend value in March 2013, putting x=2 in equation (2) we get the trend values which is

y_e = 8.1+0.2×2 = 8.1+0.4 = 8.5 (₹ in '000)

(10) Estimation of Free Cash Flows

Estimation of cash flows is an important step of a valuation process and the nature of cash flows that would be used in the calculation would depend on the perspective of the investor doing the analysis. Free cash flow concept focuses on the cash generated from operations in excess of that needed for reinvestment. Analysts frequently value firms based on the present value of expected future free cash flow. If a firm is not expected to generate free cash flow in the future, it is unlikely to be available.

Free cash flow valuation defines the value of the firm to be the present value of its expected future cash flows discounted at the company's cost of capital. Free cash flow available to the firm (FCFF) represents cash flow available to both debt and equity holders. Free cash flow to equity (FCFE) is what remains after debt holders have received their contractually obligated payments namely interest.

A company generates revenue by selling its products and services, while incurring expenses. To produce revenue a firm not only incurs operating expenses, but it also must invest money in real estate, buildings and equipment, and in working capital to support its business activities. Also, the company must pay income taxes on its earnings. The amount of cash that's left over after the payment of these investments and taxes is known as Free Cash Flow to the Firm (FCFF).

This cash flow represents the return to all providers of capital, whether debt or equity. It can be used to pay off debt, repurchase shares, pay dividends or be retained for future growth opportunities. It is the hard cash that is available to pay the company's various claim holders, especially the shareholders.

FCFF = NOP – Taxes – Net Investment – Net changes in Working Capital

Or

FCFF = NI + Non Cash Charges + Interest (1−t) – Net Investment – Net Changes in Working Capital

A positive value would indicate that the firm has cash left after expenses. A negative value, on the other hands, would indicate that the firm has not generated enough revenue to cover its costs and investment activities.

FCFF can be calculated from the statement of cash flows as follows:

FCFF = Cash flow from operations + After-tax interest expenses – Capital Expenditure

Free Cash Flow to Equity (FCFE) is a measure of how much cash can be paid to the equity shareholders of the company after all expenses, reinvestment and debt repayment. Free cash flow to equity (FCFE) represents the cash flow a company generates after necessary expenses and expenditures and after satisfying the claims of debt holders. It can be calculated from Free Cash Flow to the Firm (FCFF) as follows:

FCFE = FCFF – After tax interest expense + Net Borrowing

If the company borrows more in a year than it repays it will have additional funds that could be distributed to shareholders, which is why net borrowing is added to FCFF in order to determine FCFE.

Once the free cash flows are estimates from the right perspective, the value of the firm is the sum of the present values of the free cash flows for a "planning period" plus the present value of the cash flows beyond the planning horizon (i.e. the terminal value),

$$\text{i.e.} = \sum_{t=1}^{T} \frac{FCF_t}{(i+k)^t} + \frac{FCF_{t+1}}{k-g} \times \frac{1}{(1+k)^T}$$

If FCF is positive then the company has done a good job of managing its cash. If FCF is negative then the company may have to look for other sources of funding such as issuing additional shares or debt financing. If a company has a negative FCF and has to seek debt financing, there will be additional interest expense as a result and the net income of the company will suffer. Free cash flow is one indicator of the ability of a company to return profits to shareholders through debt reduction, increasing dividends, or stock buybacks. All of these scenarios result in an increased shareholder yield and a better return on your investment.

To find the value of a firm, debt holders and/or contributors of debt and equity capital, would discount FCFF by weighted average cost of capital (WACC). Similarly, the equity shareholders would discount FCFE by cost of equity.

There are two major approaches to determine cost of equity. An equilibrium model- either CAPM or Arbitrage Pricing Theory (APT) and the government security (bond) yield plus risk premium method.

Example 1: Assume that the following details are given for a company:

Sales ₹ 50,00,000; Costs ₹ 37,50,000; Depreciation ₹10,00,000; Tax 35%: Change in Net Working Capital ₹50,000; Change in Capital Spending ₹5,00,000

The Free Cash Flow to Firm (FCFF) for the given data can be calculated as follows:

Sales− Costs−Depreciation	₹ 2,50,000
Less: Tax @ 35%	₹ 87,500
PAT	₹ 1,62,500
Add: Depreciation	₹ 10,00,000
Less: Change in Net Working Capital	₹ 50,000
Less: Change in Capital Spending	₹ 5,00,000
Free Cash Flow to Firm (FCFF)	₹ 6,12,500

Example 2: If in the above example if interest of ₹ 50,000 is given and the company resorts to net borrowing of ₹ 2,50,000 in the year, we can find FCFE as follows:

We first find Free Cash Flow to Firm (FCFF) for the given data:

Sales – Costs – Depreciation	₹ 2,50,000
Less: Tax @ 35%	₹ 87,500
PAT	₹ 1,62,500
Add: Depreciation	₹ 10,00,000
Less: Change in Net Working Capital	₹50,000
Less: Change in Capital Spending	₹ 5,00,000
Free Cash Flow to Firm (FCFF)	₹ 6,12,500
Less: After tax Interest Expenses i.e. I × (1−T)	₹ 32,500
Add: Net Borrowing	₹ 250,000
Free Cash Flow to Equity (FCFE)	₹8,30,000

Example 3: Calculating FCFF and FCFE

EBITDA	₹10,000
Depreciation	₹4,000
Interest	₹1,500
Tax Rate	30%
Purchase of Fixed Assets	₹5,000
Changing IN working capital	₹500
Net borrowing	₹800
Common dividends	₹2,000

Calculating FCFF from Net Income

NI = (EBITDA – Depreciation – Interest) (1 – t)

NI = (₹10,000 – ₹4,000 – ₹1,500) (1– 0.30) = ₹ 3,150

FCFF = NI + Non Cash Charges + Interest (1–t) – Net Investment – Net changes in Working Capital

FCFF = ₹ 3,150 + ₹ 4,000+ ₹ 1,500 (1– 0.30) – ₹ 5,000–₹500 = ₹2,700

Calculating FCFF from EBIT and EBITDA

EBIT = EBITDA – Depreciation = ₹ 10,000 – ₹4,000 = ₹ 6,000

FCFF = EBIT (1 – t) + Depreciation – Net Investment – Net changes in Working Capital

FCFF = ₹ 6,000 (1 – 0.30) + ₹ 4,000 – ₹5,000 – ₹500= ₹ 2,700

FCFF = EBITDA (1 – t) + Depreciation (tax rate) – Net Investment – Net changes in Working Capital

FCFF = ₹ 10,000 (1– 0.30) + ₹4,000(0.30)–₹ 5,000–₹ 500 = ₹ 2,700

Calculating FCFF from CFO

CFO = NI + Depreciation – Net changes in Working Capital

CFO = ₹ 3,150 + ₹ 4,000 – ₹ 500 = ₹ 6,650

FCFF = CFO + Interest (1-t) – Net Investment

FCFF = ₹ 6,650 + ₹ 1,500 (1 – 0.30) – ₹ 5,000 = ₹ 2,700

Calculating FCFE from FCFF, Net Income, and CFO

FCFE = FCFF – Interest (1 – t) + Net Borrowing

FCFE = ₹ 2,700 – ₹ 1,500 (1– 0.30) + ₹ 800 = ₹ 2,450

FCFE = NI + Non Cash Charges – Net Investment – Net changes in Working Capital + Net Borrowing

FCFE = ₹ 3,150 + ₹ 4,000 – ₹ 5,000 – ₹500 + ₹ 800 = ₹ 2,450

FCFE = CFO – Net Investment + Net Borrowing

FCFE = ₹ 6,650 – ₹ 5,000 + ₹ 800 = ₹ 2,450

Calculating FCFE & FCFF on a Uses Basis

Net payments to debt holders = Interest (1 – t) + Debt Repayment – Debt issuances

Net payments to debt holders = ₹ 1,500 (1 – 0.30) + ₹ 0 – ₹ 800 = ₹ 250

Net payments to stockholders = Cash Dividends + Share repurchases – Stock issuances

Net payments to stockholders = ₹ 2,000+ 0 – 0= ₹2,000

Δ Cash Balance = CFO ± Cash from investing activities ± Cash from financing activities

Δ Cash Balance = ₹ 6,650 – ₹ 5,000 + ₹ 800 – ₹ 2,000 = ₹ 450

FCFF = ₹ 450 + ₹ 250 + ₹ 2,000 = ₹ 2,700

FCFE = ₹ 450 + ₹2,000 = ₹ 2,450

Forecasting FCFF & FCFE

FCFF = EBIT (1 – t) – Δ Capital expenditures – Δ Net changes in Working Capital

FCFE = NI – (1 – Debt to Asset Ratio) (Net Investment – Depreciation) – (1- Debt to Asset Ratio) Net changes in Working Capital

Example 4 : Forecasting FCFF & FCFE

Sales	₹ 40,000
Sales growth	₹ 2,000
EBIT	₹ 6,000
Tax Rate	30%
Purchases of Fixed Assets	₹ 8,000
Depreciation	₹ 7,000
Change in working capital	₹ 500
Net income margin	10%
Debt Ratio	40%

Sales growth = ₹ 2,000 / ₹ 40,000 = 5%

EBIT margin = ₹ 6,000 / ₹ 40,000 = 15%

Incremental FC/Sales growth= $\frac{(₹\,8{,}000 - ₹\,7{,}000)}{₹\,2{,}000}$ =50%

Incremental WC/ Sales growth = $\frac{₹500}{₹2{,}000}$ = 25%

Forecasting FCFF

Sales = ₹ 2,000 + ₹ 40,000 = ₹42,000

EBIT = ₹ 42,000 × 15 % = ₹ 6,300

EBIT (1– t) = ₹ 6,300 (1– 0.30) = ₹4,410

Incremental FC = ₹ 2,000 × 50% = ₹ 1,000

Incremental WC = ₹ 2,000 × 25% = ₹ 500

FCFF = EBIT (1 – t) – Δ Capital expenditures – Δ Net changes in Working Capital

FCFF = ₹ 4,410 – ₹ 1,000 – ₹ 500 = ₹ 2,910

Forecasting FCFE

Sales = ₹ 2,000 + ₹ 40,000 = ₹ 42,000

Net Income = ₹ 42,000 × 10% = ₹ 4,200

Incremental FC = ₹ 2,000 × 50% = ₹ 1,000

Incremental WC = ₹ 2,000 × 25% = ₹ 500

FCFE = NI – (1-Debt to Asset Ratio) (Net Investment – Depreciation) – (1– Debt to Asset Ratio) Net changes in Working Capital

FCFE = ₹ 4,200 – (1– 0.40) (₹ 1,000) – (1– 0.40) (₹ 500)

= ₹ 3,300

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Students/Readers are requested to do send your views/ queries/observations/request for academic inputs by e-mail to e.newsletter@icmai.in

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