PART – B

Question No. 1 is compulsory.

Attempt any 4 questions out of remaining 5 questions

Marks

1. (a) A Ltd. is considering a merger with B Ltd. The data below are in the hands of both heard of Directors. The issue at hand is how many shares of A Ltd. should be exchanged for B Ltd. Both boards are considering three possibilities 20,000, 25,000 and 30,000 shares. You are required to construct a table demonstrating the potential impact in market value of each scheme on each set of shareholders. 6

	A Ltd.	**B Ltd.**	**Combined Post Merger Firm 'A'**
1. Current earning per year	2,00,000	1,00,000	3,50,000
2. Shares outstanding	50,000	10,000	-
3. Earnings per share (₹) (1 ÷ 2)	4	10	-
4. Price per share (₹)	40	100	-
5. Price - earning ratio [4 ÷ 3]	10	10	10
6. Value of firm (₹)	20,00,000	10,00,000	35,00,000
7. Expected Annual growth rate in Earnings in foreseeable future	0	0	0

Solution:

When 20,000 Shares are issued by A Ltd. to B Ltd.

	Market Value Before Merger	Market Value After Merger	Gain/(Loss)
A Ltd.	20,00,000	$\frac{35,00,000}{70,000} \times 50,000 =$ **25,00,000 – ½ M**	**5,00,000 - ½ M**
B Ltd.	10,00,000	$\frac{35,00,000}{70,000} \times 20,000 =$ **10,00,000 - ½ M**	**Nil - ½ M**

When 25,000 Shares are issued by A Ltd. to B. Ltd.

	Market Value Before Merger	Market Value After Merger	Gain/(Loss)
A Ltd.	20,00,000	$\frac{35,00,000}{75,000} \times 50,000 =$ **23,33,333 - ½ M**	**3,33,333 - ½ M**
B Ltd.	10,00,000	$\frac{35,00,000}{75,000} \times 25,000 =$ **11,66,667 - ½ M**	**1,66,667- ½ M**

When 30,000 Shares are issued by A Ltd. to B Ltd.

	Market Value Before Merger	Market Value After Merger	Gain/(Loss)
A Ltd.	20,00,000	$\frac{35,00,000}{80,000} \times 50,000 =$ **21,87,500 - ½ M**	**1,87,500 - ½ M**
B Ltd.	10,00,000	$\frac{35,00,000}{80,000} \times 30,000 =$ **13,12,500 - ½ M**	**3,12,500 - ½ M**

(b) An MNC company in USA has surplus funds to the tune of $ 10 million for six months. The Finance Director of the company is interested in investing in € for higher returns. There is a Double Tax Avoidance Agreement (DTAA) in force between USA and Germany. The company received the following information from London: 4

€/$ Spot	0.4040/41
6 months forward	67/65
Rate of interest for 6 months (p.a.)	5.95% - 6.15%
Withholding tax applicable for interest income	22%
Tax as per DTAA	10%

If the company invests in €, will it be beneficial ?

Solution:

$ 10 million converted @ € 0.4040/$ = $1,00,00,000 × 0.4040 = € 40,40,000 and invested @ 5.95% for 6 months will fetch:

$$€40,40,000 \left[1 + \frac{0.0595}{2}\right] = € 41,60,190$$

Interest earned = € (41,60,190 – 40,40,000) = **€ 1,20,190 – 1 M**

Withholding Tax@ 10% (in view of DTAA) = **€ 12,019 – 1 M**

Net interest eligible for repatriation = € 1,08,171

Amount repatriated after 6 months = € 1,08,171+€ 40,40,00 = € 41,48,171

Amount received at the forward rate of € 0.3976/$ $= \frac{€41,48,171}{0.3976} =$ **$1,04,33,026 – 1 M**

Additional amount fetched = $1,04,33,026 - $1,00,00,000 = **$ 4,33,026 – 1 M**

(c) Differentiate between Cash and Derivative Market. 4

Solution:

Cash Market	Derivative Market
Tangible assets are traded.	Contracts based on tangible or intangible assets like index or rates are

	traded
Even one share can be purchased.	Minimum lots are fixed.
More risky as compared to Derivative Market.	Less risky than Cash Market as in "Futures and Options" risk is limited upto 20%.
Cash assets are meant for consumption or investment.	Derivative contracts are for hedging, arbitrage or speculation.
A customer must open securities trading account with securities depository.	A customer must open a future trading account with derivative broker.
Buying securities in cash market involves putting up all the money upfront.	Buying futures simply involves putting up the margin money.
With the purchase of shares of the company, the holder becomes part owner of the company.	Buyers of the future do not become part owner of the company.

Any 4 Points – 1 Mark to each point

2. (a) Following information is available regarding expected return, standard deviation and beta of 6 share in the stock market: 5

Security	Expected Return	Beta	S.D (%)
1	5	0.70	9
2	10	1.05	14
3	11	0.95	12
4	12.5	1.10	20
5	15	1.40	17.5

Risk free rate of return is 4% and Market return is 6% and standard deviation is 10%.

Required:

Which security is undervalued and which is overvalued?

Solution:

Using capital Assets Pricing Model (CAPM), we shall find out which security is under-valued and which security is over -valued.

Required Rate of Return = $R_f + \beta (R_m - R_f)$

Security	Required Rate of Return (%)	Expected Return (%)	Status
1	$4 + 0.70(6 - 4) =$ **5.4 – ½ M**	5	**Over valued - ½ M**

2	4 + 1.05(6 - 4) = **6.10 - ½ M**	10	**Under Valued- ½ M**
3	4 + 0.95(6 - 4) = **5.90 - ½ M**	11	**Under Valued - ½ M**
4	4 + 1.10(6 - 4) = **6.20 - ½ M**	12.5	**Under Valued - ½ M**
5	4 + 1,40(6 - 4) = **6.80 - ½ M**	15	**Under Valued - ½ M**

Securities 2 to 6 are under- valued because their required rate of return is less than the expected rate of return. Security 1 is over-valued as its expected return is less than required rate of return.

(b) Tom Ltd. promoted by a Trans National company is listed on the stock exchange. The value of the floating stock is ₹ 22.5 crore. The MPS is ₹ 300. The capitalisalion rate is 20%. 5

The promoter's holding is to be restricted to 75% as per the norms of listing requirement. The Board of Directors have decided to fall in line to restrict the Promoters' holding to 75% by issuing Bonus Shares to minority shareholders while maintaining the same Price Earnings Ratio.

You are required to calculate:

(i) Bonus Ratio;

(ii) MPS after issue of Bonus Shares; and

(iii) Free float Market capitalisation after issue of Bonus Shares.

Solution:

1. No. of Bonus Shares to be issued:

Assuming, present promoter holding = 80%

Hence, total market value = Free float stock/20%

= ₹ 22.5 crores /0.20 = **₹ 112.5 crores – ½ M**

Total Number of Shares = ₹ 112.5 cr/₹ 300 = **0.375 crore shares - ½ M**

Number of shares with:

Promoters = 0.375 crore × 80% = 0.3 crore i.e. 30 lakhs

Others = 0.375 crore × 20% = 0.075 crore i.e.7.5 lakhs

Now, the promoters holding needs to be 75%

Therefore, total shares should be = 30 lakhs/75% = 40 lakhs

Shares with Minority should be = 40 lakhs – 30 lakhs = **10 lakhs – ½ M**

Bonus shares required = 10 lakhs – 7.5 lakhs = **2.5 lakhs - ½ M**

Bonus 2.5 lakhs for 7.5 lakhs i.e. **1 shares for 3 shares held. – 1 M**

2. **Market price after Bonus issue:**

$$\frac{\text{Total Market Value}}{\text{Total No. of shares after bonus issue}} = \frac{₹\ 112.5 \text{ crores}}{0.4 \text{ crores}} = ₹\ 281.25 - 1\ M$$

3. **Free Float Capitalization after Bonus Issue**

₹ 281.25 x 10 lakhs = **₹ 2812.5 lakhs i.e. ₹ 28.125 crore – 1 M**

(c) What are the external factors that affect capital budgeting decision. 4

Solution:

1. **Industry-Specific Risk: Risk that affect the entire industry in which the company operates**. These risks include regulatory restrictions on industry, changes in technologies, etc.
2. **Market Risk:** This **risk arises due to market related conditions like entry of substitute, changes in demand conditions, availability and access to resources etc.** For example, a thermal power project gets affected if the coal mines are unable to supply coal requirements of a thermal power company etc.
3. **Competition Risk:** This **risk is related with competition in the market**. This includes entry of rival, product dynamism and change in taste and preference of consumers, etc.
4. **Risk due to Economic Conditions:** These are the **risks which are related with macro-economic conditions like changes in monetary policies**, changes in fiscal policies like introduction of new taxes and cess, inflation, changes in GDP, changes in savings and net disposable income, etc.
5. **International Risk:** These are risks which are related with conditions which are **caused by global economic conditions** like restriction on free trade, restrictions on market access, recessions, bilateral agreements, political and geographical conditions etc.

(Any 4 – 1 mark each)

3. (a) XYZ company has current earnings of ₹ 3 per share with 5,00,000 shares outstanding. The company plans to issue 40,000, 7% convertible preference shares of ₹ 50 each at par. The preference shares are convertible into 2 shares for each preference shares held. The equity share has a current market price of ₹ 21 per share. 6

(i) What is preference shares' conversion value?

(ii) What is conversion premium?

(iii) Assuming that total earnings remain the same, calculate the effect of the issue on

the basic earning per share (a) before conversion (b) after conversion.

(iv) If profits after tax increases by ₹ 1 million what will be the basic EPS (a) before conversion and (b) after conversion.

Solution:

(i) Conversion value = Conversion ratio x price per share

= 2 shares × 21 = **₹ 42 – 1 M**

(ii) Conversion premium = $\frac{₹\ 50 - ₹42}{₹\ 42} \times 100$ = **19.048% - 1 M**

(iii) Before conversion

EAT (₹ 3 × 5,00,000 shares)	₹ 15,00,000
Less: Preference dividends (40,000 × ₹ 50 × 7%)	(₹ 1,40,000)
Earnings available for equity shareholders	**₹ 13,60,000 - ½ M**
Number of equity shares	5,00,000
EPS	**₹ 2.72 - ½ M**
After Conversion	
EAT	₹ 15,00,000
Number of equity shares (5,00,000 shares + 40,000 shares × 2)	**5,80,000 - ½ M**
EPS	**₹ 2.59 - ½ M**

(iv) Before conversion

Earnings available for equity shareholders	₹ 23,60,000
Number of equity shares	5,00,000
EPS	**₹ 4.72 – 1 M**
After Conversion	
EAT	₹ 25,00,000
Number of equity shares	**5,80,000 - ½ M**
EPS	**₹ 4.31- 1 M**

(b) Hindusthan Glasswares have a sum of D. Kumar 69,000 due from Danish buyer, three months from now (December 1, 2023). Spot rate ₹ /D. Kr. 8.00/8.20. The company concluded a forward contract with ICICI Mumbai when swap points for February D.Kr. were quoted by it at 20/50. 4

Required:

(i) Show the rate concluded under Forward Contract and the amount to be received

in ₹.

(ii) Does protection under forward contract advantageous to Hindustan Glasswares if on maturity date of contract, Spot D. Kumar were traded at ₹ 7.90/8.10.

Solution:

(i) Swap points are in ascending order. Hence, swap points are added to arrive at forward rate. So, forward rate is ₹ 8.20/8.70 per D. Kumar. Hindustan Glasswares have to receive D. Kumar. They will sell D. Kumar. Hence relevant rate is forward bid of **₹ 8.20 – 1 M.** Amount to be received in ₹ = **₹ 8.20 × 69,000 D. Kumar = ₹ 5,65,800. - 1 M.**

(ii) Relevant rate on maturity of forward contract is (spot bid) ₹ 7.90. If forward cover had not been taken, the firm has to **sell D. Kumar in the market in February 2024 at the spot of ₹ 7.90 – 1 M**, and would have been loser by ₹ 0.30 per D. Kumar. Receipts in rupees would have been ₹ 5,45,100, implying a **loss of ₹ 20,700. – 1 M**

Hence, protection under forward contract has been advantageous to Hindustan Glasswares.

(c) State the assumptions on which technical analysis is based. 4

Solution:

(i) The **market value of stock depends on the demand and supply** for a security.

(ii) The **demand and supply are** actually **governed by several factors which can be rational or irrational**.

(iii) **Stock prices generally move in trends which continue for a substantial period of time**. Therefore, if there is a bull market going on, there is every possibility that there will soon be a substantial correction which will provide an opportunity to the investors to buy shares at that time.

(iv) **Technical analysis relies upon chart analysis** which shows the past trends in stock prices **rather than the information.**

1 Mark to each point

4. (a) Smart Air Ltd. is a telecommunications firm that generate ₹ 300 lakhs in pre-tax operating income and reinvested ₹ 60 lakhs in the most recent financial year. As a result of tax deferrals, the firm has an effective tax rate of 20%, while its marginal tax rate is 40%. Both the operating income and the reinvestment are expected to grow 10% a year for 5 year and 5% thereafter. The firm's cost of capital is 9% and is expected to remain unchanged over time. 8

Estimate the value of smart Air Ltd. using the different assumptions about tax rates.

(i) The effective tax rate - 20% is to be considered.

(ii) The marginal tax rate - 40% is to be considered.

Solution:

(i) Value of Smart Air Ltd assuming the effective tax rate of 20% : (₹ in lakhs)

Year	Current	1	2	3	4	5
EBIT	300	330	363	399.3	439.23	483.15
EBIT (1 - T)	240	264	290.4	319.44	351.38	386.52
Reinvestment	60	66	72.6	79.86	87.85	96.63
FCFF	180	**198**	**217.8**	**239.58**	**263.53**	**289.89**
		½ M	**½ M**	**½ M**	**½ M**	**½ M**

PV of cash flows for 1st five years

= ₹ 198 × 0.917 + ₹ 217.8 × 0.842 + ₹ 239.58 × 0.772 + ₹ 263.53 × 0.708 + ₹ 289.89 × 0.650

= **₹ 924.92 lakhs - ½ M**

PV of Terminal Cashflows

$$= \frac{FCFF_5\ (1+g)}{Ke - g} \times \text{PVIF factor of Year 5}$$

$$= \frac{289.89\ (1+0.05)}{0.09 - 0.05} \times 0.650$$

= 7609.61 × 0.650

= **₹ 4946.25 lakhs - ½ M**

Value of smart Air Ltd. = ₹ 924.92 lakhs + ₹ 4946.25 lakhs = **₹ 5871.17 lakhs - ½ M**

(ii) Value of Smart Air Ltd. assuming marginal tax rate of 40%. (₹ in lakhs)

Year	Current	1	2	3	4	5
EBIT	300	330	363	399.3	439.23	483.15
EBIT (1 - T)	180	198	217.8	239.58	263.54	289.89
Reinvestment	60	66	72.6	79.86	87.85	96.63
FCFF	120	**132**	**145.2**	**159.72**	**175.69**	**193.26**
		½ M	**½ M**	**½ M**	**½ M**	**½ M**

PV of cash flows for 1st five years

= ₹ 132 × 0.917 + ₹ 145.2 × 0.842 + ₹ 159.72 × 0.772 + ₹ 175.69 × 0.708 + ₹ 193.26 × 0.650

= **₹ 616.61 lakhs - ½ M**

PV of Terminal Cashflows

$$= \frac{FCFF_5\ (1+g)}{Ke - g} \times \text{PVIF factor of Year 5}$$

$$= \frac{193.26\ (1+\ 0.05)}{0.09 - 0.05} \times 0.650$$

$$= 5073.08 \times 0.650$$

= **₹ 3297.50 lakhs - ½ M**

Value of smart Air Ltd. = ₹ 616.61 lakhs + ₹ 3297.50 lakhs = **₹ 3914.11 lakhs - ½ M**

(b) (i) A mutual fund had a Net Asset Value (NAV) of ₹ 60 at the beginning of the year. During the year a sum of ₹ 5/- was distributed as dividend besides ₹ 3 as capital gains distribution. At the end of the year NAV, was ₹ 70. Calculate total return for the year. 2

(ii) Suppose the aforesaid mutual fund in the next year gives a dividend of ₹ 5 and no capital gains distribution and NAV at the end of second year is ₹ 65. What is the return for the second year?

Solution:

(i) Total Return = $\frac{(70 - 60) + 5 + 3}{60} \times 100$ = **30% - 1 M**

(ii) Total Return = $\frac{(65 - 70) + 5 + 0}{70}$ = **0% - 1 M**

(c) Describe the types of ETF products that are available in the market. 4

Solution:

a) Index ETFs - Most ETFs are index funds that hold securities and attempt to replicate the performance of a stock market index.

b) Commodity ETFs - These invest in commodities, such as precious metals and futures.

c) Bond ETFs - Exchange-traded funds that **invest in bonds** are known as bond ETFs. They **thrive during economic recessions because investors pull their money out of the stock market and invest into bonds** (for example, government treasury bonds or those issues by companies regarded as financially stable). Because of this cause and effect relationship, the performance of bond ETFs may be indicative of broader economic conditions.

d) Currency ETFs - The funds are total return products where the investor gets access to the FX spot change, local institutional interest rates and a collateral yield.

1 Mark to each point

5. (a) The following quotes are available for 3 months options in respect of a share currently traded at ₹ 31. 5

Strike price ₹ 30.00

Call option ₹ 3.00

Put option ₹ 22.00

An investor devises a strategy of buying a call and selling the share and a put option.

(i) Show the arbitrage profitability if the rate of interest is 10% per annum.

(ii) What would the position if the strategy adopted is selling a call option and buying the share and a put option?

[Given PVIF (10% 0.25 Years) = 0.9756]

Solution:

(i) Investor is selling share and receives ₹ 31. He buys call option at ₹ 3. Thus the investor will get the share at ₹ 30 after a period 3 months whatever be the market price at that time. Thus, he must arrange such amount to invest at 10% per annum interest rate which will have maturity of ₹ 30 after 3 months so that he can purchase share if the current price at that time is more than ₹ 30.

The PV factor after 3 months is given as 0.9756. Thus he must invest ₹ 29.27 (30 x 0.9756) today to receive 30 after 3 months.

The investor sells a put option at ₹ 2. He thus is obliged to sell shares at ₹ 30 at the end of 3 months. He will certainly get the share as he has covered himself by a call option.

When investor buys a call and sells the share and a put option:

	₹	₹
Short Stock (means he sells share)	**31.00 - ½ M**	
Add: Put option (means he sells put option)	**2.00 - ½ M**	33.00
Less: Buy call option	**3.00 - ½ M**	
Invest	**29.27 - ½ M**	32.27
His arbitrage gain		**0.73 - ½ M**

(ii) He buys the share at current price of ₹ 31 and he also buys a put option at ₹ 2. In total he invests ₹ 33. From this strategy, he is sure to sell the share to receive ₹ 30

from the seller of put option if the price of share falls below ₹ 30 at the time after three months. He sells a call option and receives 3 meaning he would sell the share to the buyer of call option at ₹ 30 in case the price of share goes up beyond ₹ 30 at the end of 3 months. The present value of ₹ 30 after 3 months, is ₹ 29.27.

	₹	₹
Buying the stock at current price	**31.00 - ½ M**	
Buying the put option	**2.00 - ½ M**	33.00
Receive ₹ 30 after 3 months (PV ₹ 29.27)	**29.27 - ½ M**	
Receive ₹ 3 by selling call option	**3.00 - ½ M**	32.27
Net Loss		**0.73 - ½ M**

(b) M/s. Champu Ltd. is interested in expanding its operation and planning to install manufacturing plant at US. It requires 17.64 million USD (net of issue expenses/ floatation cost) to fund the proposed project. GDRs are proposed to be issued to finance this project. The estimated floatation cost of GDRs is 2%. 5

Additional information:

(i) Expected market price of share at the time of issue of GDR is ₹ 720 (Face Value ₹ 100)

(ii) Each GDR will represent two underlying Shares.

(iii) The issue shall be priced at 10% discount to the market price.

(iv) Expected exchange rate is INR/USD 79.

(v) Dividend is expected to be paid at the rate of 20% with growth rate of 12%.

Required:

1. You, as a financial consultant, are required to compute the number of GDRs to be issued and cost of the GDR.
2. What is your suggestion if the company receives an offer from a US Bank willing to provide an equivalent loan with an interest rate of 12%?
3. How much company can save by choosing the option as recommended by you?

Solution:

1. Computation of Number of GDRs to be issued and cost of GDR

Total USD required in Gross [$ 17.64 million/(1-0.02)]	= **$ 18 million - ½ M**
Issue price of GDR in ₹ [₹ 720 × 0.90 × 2 shares]	= **₹ 1296 - ½ M**
Issue price of GDR in $ [₹ 1296/₹/$ 79]	= $ 14.405
Dividend per GDR(D_1) [₹ 20 × 2]	= ₹ 40

Net Proceeds per GDR (P_0) [₹ 1296 × 0.98] = ₹ 1270.08

No. of GDRs to be issued $= \frac{\$ \text{ 18 million}}{\$ \text{ 14.405}} =$ **12,49,566 units – 1 M**

Cost of GDR $= \frac{D_1}{P_0} + g = \frac{₹ 40}{₹ 1270.08} + 0.12 =$ **15.15% - 1 M**

2. If company receives an offer for loan at 12% rate of interest, **it should accept the offer**. - **1 M**

3. Company would save **3.15%** (15.15% - 12.00%) on $ 17.64 million i.e. **$ 0.55566 million**. - **1 M**

(c) Explain the Forward Rate Agreement (FRA) 4

Solution:

A Forward Rate Agreement (FRA) is an agreement between two parties through which a **borrower/ lender protects itself from the unfavourable changes to the interest rate.** Unlike futures, FRAs are not traded on an exchange; thus are called **Over-The-Counter (OTC) product. – 1 M**

Following are main features of FRA:

- Normally it is used by banks to fix interest costs on anticipated future deposits or interest revenues on variable-rate loans indexed to Benchmark Interest Rate e.g. LIBOR, MIBOR etc.
- It is an off-Balance Sheet instrument.
- It **does not involve any transfer of principal**. The principal amount of the agreement is termed "notional" because, while it determines the amount of the payment, actual exchange of the principal never takes place.
- It is **settled at maturity in cash representing the profit or loss**. If the Reference Rate at maturity is above the agreed "Forward Interest Rate," the seller pays the buyer the increased interest cost on a notional principal. Conversely, if the Reference Rate falls below the forward rate, the buyer pays the seller for the decrease in interest cost.

Any 3 – 3 M

6. (a) Shivam Ltd. is considering two mutually exclusive projects A and B. Project A costs ₹ 36,000 and project B ₹ 30,000. You have been given below the net present value probability distribution for each project. 8

Project A		Project B	
NPV estimates (₹)	Probability	NPV estimates (₹)	Probability
15,000	0.2	15,000	0.1
12,000	0.3	12,000	0.4
6,000	0.3	6,000	0.4
3,000	0.2	3,000	0.1

(i) Compute the expected net present values of projects A and B.

(ii) Compute the risk attached to each project i.e. standard deviation of each probability distribution.

(iii) Compute the profitability index of each project.

(iv) Which project do you recommend? State with reasons.

Solution:

(i) Statement showing computation of expected net present value of Projects A and B:

Project A			Project B		
NPV Estimate	Probability	Expected Value	NPV Estimate	Probability	Expected Value
15,000	0.2	**3,000 - 0.25 M**	15,000	0.1	**1,500 - 0.25 M**
12,000	0.3	**3,600 - 0.25 M**	12,000	0.4	**4,800 - 0.25 M**
6,000	0.3	**1,800 - 0.25 M**	6,000	0.4	**2,400 - 0.25 M**
3,000	0.2	**600 - 0.25 M**	3,000	0.1	**300 - 0.25 M**
	1.0	EV = 9,000		1.0	EV = 9,000

(ii) Computation of Standard deviation of each project

Project A

P_i	X	(X -EV)	$P_i (X - EV)^2$
0.2	15,000	6,000	72,00,000
0.3	12,000	3,000	27,00,000
0.3	6,000	- 3,000	27,00,000
0.2	3,000	- 6,000	72,00,000
			Variance =1,98,00,000

Standard Deviation of Project A = $\sqrt{1,98,00,000}$ = **₹ 4,450 – 2 M**

Project B

P	X	(X - EV)	$P (X - EV)^2$
0.1	15,000	6,000	36,00,000

0.4	12,000	3,000	36,00,000
0.4	6,000	- 3,000	36,00,000
0.1	3,000	- 6,000	36,00,000
			Variance = 1,44,00,000

Standard Deviation of Project B = $\sqrt{1,44,00,000}$ = **₹ 3,795 – 2 M**

(iii) Computation of profitability of each project

Profitability index = $\frac{\text{Discount cash inflow}}{\text{Initial outlay}}$

In case of Project A : PI = $\frac{9,000 + 36,000}{36,000} = \frac{45,000}{36,000}$ = **1.25 - ½ M**

In case of Project B : PI = $\frac{9,000 + 30,000}{30,000} = \frac{39,000}{30,000}$ = **1.30 - ½ M**

(iv) In the selection of one of the two projects A and B, **Project B is preferable - ½ M** because the possible profit which may occur is **subject to less variation (or dispersion) - ½ M OR Much higher risk is lying with project A - ½ M.**

(b) B Ltd. is a highly successful company and wishes to expand by acquiring other firms. Its expected high growth in earnings and dividends is reflected in its PE ratio of 17. The Board of Directors of B Ltd. has been advised that if it were to take over firms with a lower PE ratio than its own, using a share for share exchange, then it could increase its reported earnings per share. C Ltd. has been suggested as a possible target for a takeover, which has a PE ratio of 10 and 1,00,000 shares in issue with a share price of ₹ 15. B Ltd. has 5,00,000 shares in issue with a share price of ₹ 12. 6

Calculate the percentage change in earnings per share of B Ltd. if it acquires the whole of C Ltd. by issuing shares at its market price of ₹ 12. Assume the price of B Ltd. shares remains constant.

Solution:

Total market value of C Ltd = 1,00,000 × ₹ 15 = **₹ 15,00,000 - ½ M**

PE ratio (given) = 10

Therefore, earnings = $\frac{₹\ 15,00,000}{10}$ = **₹ 1,50,000 - 1 M**

Total market value of B Ltd. = 5,00,000 × ₹ 12 = ₹ 60,00,000

PE ratio (given) = 17

Therefore, earnings = $\frac{₹\ 60,00,000}{}$ = **₹ 3,52,941 - 1 M**

17

The number of shares to be issued by B Ltd.

₹ 15,00,000 ÷ 12 = **1,25,000 - ½ M**

Total number of shares of B Ltd = 5,00,000 + 1,25,000 = **6,25,000 - ½ M**

The EPS of the new firm = $\frac{(₹\ 3,52,941 + ₹\ 1,50,000)}{6,25,000}$ = **₹ 0.80 - 1 M**

The present EPS of B Ltd = $\frac{₹\ 3,52,941}{5,00,000}$ = **₹ 0.71 -½ M**

% Change = $\frac{0.80 - 0.71}{0.71} \times 100$ = **12.67% - 1 M**