

## PAPER – 2 : STRATEGIC FINANCIAL MANAGEMENT

Question No.1 is compulsory.

Candidates are also required to answer any **five** questions out of the remaining **six** questions.

Working notes should form part of the respective answer.

### Question 1

- (a) The Asset Management Company of the mutual fund (MF) has declared a dividend of 9.98% on the units under the dividend reinvestment plan for the year ended 31<sup>st</sup> March, 2021. The investors are issued additional units for the dividend at the rate of closing Net Asset Value (NAV) for the year as per the conditions of the scheme.

The closing NAV was ₹ 24.95 as on 31<sup>st</sup> March, 2021. An investor Mr. X who is having 20,800 units at the year-end has made an investment in the units before the declaration of the dividend and at the rate of opening NAV plus an entry load of ₹ 0.04. The NAV has appreciated by 25% during the year.

Assume the face value of the unit as ₹ 10.00.

You are required to calculate:

- (i) Opening NAV,
  - (ii) Number of the units purchased,
  - (iii) Original amount of the investment. **(5 Marks)**
- (b) The Bank BK enters into a Repo for 9 days with Bank NE in 6% Government bonds 2022 for an amount of ₹ 2 crore. The other relevant details are as follows:

First Leg Payment (Start Proceed)	₹ 2,00,06,750
Second Leg Payment (Repayment Proceed)	₹ 2,00,31,759
Initial Margin	1.25%
Days of accrued interest	240

Assume 360 days in a year.

You are required to calculate:

- (i) Repo Rate
  - (ii) Dirty Price and
  - (iii) Clean Price **(5 Marks)**
- (c) M/s. SKPD Ltd. employs certainty-equivalent approach in the evaluation of risky investments. The finance department of the company has developed the following information regarding a new project:

Year	Expected CFAT (₹)	Certainty equivalent quotient
0 (Initial Outlays)	300,000	1.0
1	140,000	0.8
2	130,000	0.7
3	120,000	0.6
4	115,000	0.4
5	80,000	0.3

Following is the other information:

- (i) The firm's cost of equity capital is 18%;
- (ii) Cost of debt is 9%;
- (iii) Present risk free rate of interest in the Market on the treasury bonds is 6%, which will rise by 200 basis points from 4th year onwards.

Year (t)	1	2	3	4	5
PVIF (6%, t)	0.943	0.890	0.840	0.792	0.747
PVIF (8%, t)	0.926	0.857	0.794	0.735	0.681

You are required to :

- (i) To find out the viability of the project; and
  - (ii) To advise on the popularity of this method. **(5 Marks)**
- (d) NM Ltd. (NML) is aspiring to enter the capital market in a three years' time. The Board wants to attain the target price of ₹ 70 for its shares at the end of three years. The present value of its shares is ₹ 52.03. The dividend is expected to grow at a rate of 15% for the next three years. NML uses dividend growth model for its projections.

The required rate of return is 15%.

You are required to calculate the amount of dividend to be declared by the board in the base year so as to achieve the target price.

Period (t)	1	2	3
PVIF (15%, t)	0.8696	0.7561	0.6575

**(5 Marks)**

### Answer

- (a) (i) Let N be the opening NAV, then
- $$N(1 + 0.25) = ₹ 24.95$$
- $$N = ₹ 19.96$$
- i.e., beginning NAV = ₹ 19.96

(ii) Let X be the number of units purchased

Then ending units = 20,800

Accordingly,

$$20800 = X + \frac{0.998X}{24.95}$$

$$20800 = \frac{24.05X + 0.998X}{24.95}$$

$$X = 20000$$

Thus, number of units to be purchased = 20,000

(iii) **Original amount of investment**

Initial NAV	₹ 19.96
Entry Load	₹ 0.04
	₹ 20.00
Number of funds purchased	20,000
Amount of investment	₹ 4,00,000

(b) (i) Second Leg = Start Proceed  $\times \left( 1 + \text{Repo Rate} \times \frac{\text{No. of days}}{360} \right)$

$$₹ 2,00,31,759 = ₹ 2,00,06,750 \times \left( 1 + \text{Repo Rate} \times \frac{9}{360} \right)$$

$$1.00125 = \left( 1 + \text{Repo Rate} \times \frac{9}{360} \right)$$

$$\text{Repo Rate} = 0.05 = 5\%$$

(ii) First Leg (Start Proceed) = Nominal Value  $\times \frac{\text{Dirty Price}}{100} \times \frac{100 - \text{Initial Margin}}{100}$

$$₹ 2,00,06,750 = ₹ 2,00,00,000 \times \frac{\text{Dirty Price}}{100} \times \frac{100 - 1.25}{100}$$

$$10003.375 = 98.75 \times \text{Dirty Price}$$

$$\text{Dirty Price} = ₹ 101.30$$

(iii) Dirty Price = Clean Price + Interest Accrued

$$101.30 = \text{Clean Price} + 100 \times \frac{240}{360} \times 6\%$$

$$\text{Clean Price} = ₹ 97.30$$

(c) (i) **Statement Showing the Net Present Value of Project**

Year end	Cash Flow (₹) (a)	C.E. (b)	Adjusted Cash flow (₹) (c) = (a) × (b)	Applicable PVIF (d)	Present Value (₹) (e) = (c) × (d)
1	1,40,000	0.8	112,000	0.943	1,05,616
2	1,30,000	0.7	91,000	0.890	80,990
3	1,20,000	0.6	72,000	0.840	60,480
4	1,15,000	0.4	46,000	0.735	33,810
5	80,000	0.3	24,000	0.681	16,344
Total PV of Cash Flows					2,97,240
Less: Initial Investment					3,00,000
Net Present Value					- 2,760

**Decision:** Since the net present value of the Project is negative, it should not be accepted.

(ii) In Certainty Equivalent approach we incorporate risk to adjust the cash flows of a proposal so as to reflect the risk element and also adjust future cash flows rather than discount rates. But the procedure for reducing the forecasts of cash flows is implicit and likely to be inconsistent from one investment to another. Therefore, it is not popular.

(d) Present value of Share = PV of Stream of Dividend upto 3 years + PV of Target price of share after 3 years

$$₹ 52.03 = \text{PV of Stream of Dividend upto 3 years} + 70.00 \times 0.6575$$

$$\text{PV of Stream of Dividend upto 3 years} = ₹ 52.03 - ₹ 46.03 = ₹ 6$$

Let Base Dividend is  $D_0$ , then

$$₹ 6 = D_0 (1+g) \times \text{PVIF} (15\%, 1) + D_0 (1+g)^2 \text{PVIF}(15\%, 2) + D_0 (1+g)^3 \text{PVIF} (15\% , 3)$$

$$₹ 6 = D_0 (1.15) \times 0.8696 + D_0 (1.15)^2 \times 0.7561 + D_0 (1.15)^3 \times 0.6575$$

$$₹ 6 = D_0 + D_0 + D_0 = 3D_0$$

$$D_0 = ₹ 2$$

Thus, Company should declare a dividend of ₹ 2 in base year.

**Question 2**

- (a) XL Limited (XLL) is considering a proposal to expand its plant capacity and is seriously considering equipment on lease for a period of three years. The CFO has advised that an amount of ₹ 15,78,039 will be available during the next three years. This amount can be utilized towards annual lease rent to be paid at the end of the each year. However, this amount will be available in an increasing manner such that they are in the ratio of 1:2:3 over the next three years.

LF Limited (LFL), a leasing company, can provide the required equipment. Depreciation is to be charged at Written Down Value (WDV) basis at the rate of 20%. Marginal Income Tax Rate of LFL is 30%. The required rate of return is 12%.

Ignore salvage value.

You are required to calculate the cost of equipment (to be leased), which can be supported by the cash flow of XLL.

Year (t)	1	2	3
PVIF (12%, t)	0.893	0.797	0.712

**(8 Marks)**

- (b) An investor has recently purchased substantial number of 7 year 6.75% ₹ 1,000 bond with 5% premium payable on maturity at a required Yield to Maturity (YTM) of 9%. However, due to a financial crunch he is looking to sell these bonds and has got a proposal from another investor, who is willing to purchase these bonds by shelling out a maximum amount of ₹ 897 per bond. Investors follow intrinsic value method for valuation of bonds.

- (i) You are required to determine

- (1) The Market Price, Duration and Volatility of the bond and
- (2) Required YTM of the new investor

- (ii) What is relationship between the price of the bond and YTM?

Period (t)	1	2	3	4	5	6	7
PVIF (9%, t)	0.917	0.842	0.772	0.708	0.650	0.596	0.547

**(8 Marks)**

**Answer**

- (a) The amount to paid as lease rent for 3 years will be computed as follows:

Let R the rent of first year then

$$1R + 2R + 3R = \text{Rs } 15,78,039$$

$$R = ₹ 2,63,006.50$$

Thus, yearly rent payment by XL Ltd. will be as follows

Year 1	₹ 2,63,006.50
Year 2	₹ 5,26,013.00
Year 3	₹ 7,89,019.50
	₹ 15,78,039.00

Let X be the Cost of equipment to be leased thus PV Cash inflows (Net of taxes) of LFL

Year (a)	Lease (b)	Dep. (c)	Lease after Tax (d)	Cash Flow (e = c + d)
1	2,63,006.50	0.20X	1,84,104.55 – 0.14X	1,84,104.55 + 0.06X
2	5,26,013.00	0.16X	3,68,209.10 – 0.112X	3,68,209.10 + 0.048X
3	7,89,019.50	0.128X	5,52,313.65 – 0.896X	5,52,313.65 + 0.0384X

Now we shall equalize PV of cash flows to cost of machine as follows:

$$X = 0.893(1,84,104.55 + 0.06X) + 0.797(3,68,209.10 + 0.048X) + 0.712(5,52,313.65 + 0.0384X)$$

$$X = 1,64,405.36 + 0.05358X + 2,93,462.65 + 0.03826X + 3,93,247.32 + 0.02734X$$

$$X - 0.11918X = 8,51,115.33$$

$$X = 9,66,276.12$$

Thus, the Cost of equipment to be leased should be ₹ 9,66,276.12

**(b) (i) (1) (A) Market Price of Bond**

$$= 1,000 \times 6.75\% \times (\text{PVIAF } 9\%, 7) + 1,050 \times (\text{PVIF } 9\%, 7)$$

$$= 67.50 \times 5.032 + 1050 \times 0.547$$

$$= 339.66 + 574.35 = 914.01$$

**(B) Duration of Bond**

Year	Cash flow	P.V. @ 9%		Proportion of bond value	Proportion of bond value x time (years)
1	67.50	0.917	61.898	0.0677	0.0677

2	67.50	0.842	56.835	0.0622	0.1244
3	67.50	0.772	52.110	0.0570	0.1710
4	67.50	0.708	47.790	0.0523	0.2092
5	67.50	0.650	43.875	0.0480	0.2400
6	67.50	0.596	40.230	0.0440	0.2640
7	1117.50	0.547	611.273	0.6688	4.6816
			914.011		5.7579

Duration of the Bond is 5.758 years

**Alternatively, as per Short Cut Method**

$$D = \frac{1 + YTM}{YTM} - \frac{(1 + YTM) + t(c - YTM)}{c[(1 + YTM)^t - 1] + YTM}$$

Where YTM = Yield to Maturity

c = Coupon Rate

t = Years to Maturity

$$= \frac{1.09}{0.09} - \frac{1.09 + 7(0.0675 - 0.09)}{0.0675 [(1.09)^7 - 1] + 0.09} = 5.72$$

**(C) Volatility of Bond-**

$$\text{Volatility} = \text{Duration} / (1 + YTM) = 5.758 / (1 + 0.09) = 5.28$$

**(2) Required yield of new Investor**

$$= 67.50 \text{ PVIAF}(r, 7) + 1050 \text{ X PVIF}(r, 7)$$

Now, Let us discount the cash flow by 9%

$$\text{PV @ 9\%} = 67.50 \text{ X } 5.032 + 1050 \text{ X } 0.547$$

$$= 339.66 + 574.35 = 914.01$$

$$\text{NPV @ 9\%} = 914.01 - 897 = ₹17.01$$

Since, NPV of bond is positive, We need to increase discount rate say 12%

$$= 67.50 \text{ PVIAF}(12\%, 7) + 1050 \text{ X PVIF}(12\%, 7)$$

$$= 67.50 \text{ X } [0.893 + 0.797 + 0.712 + 0.636 + 0.567 + 0.507 + 0.452] + 1050 \text{ X } 0.452$$

$$= 67.50 \text{ X } 4.564 + 474.60$$

$$= 308.07 + 474.60 = 782.67$$

$$\text{NPV @ 12\%} = 782.67 - 897 = - ₹114.33$$

Now we use interpolation formula

$$K_e = \text{LR} + \frac{\text{NPV at LR}}{\text{NPV at LR} - \text{NPV at HR}} \times \Delta r$$

$$= 9\% + \frac{17.01}{17.01 - (-114.33)} \times 3\%$$

$$= 9\% + \frac{17.01}{131.34} \times 3\%$$

$$= 9\% + 0.39\% = 9.39\%$$

(ii) Relationship between the price of the bond & YTM is opposite or inverse

### Question 3

- (a) SM Limited has a market capitalization of ₹ 3,000 crore and the current earnings per share (EPS) is ₹ 200 with a price earnings ratio (PER) of 15. The Board of directors is considering a proposal to buy back 20% of the shares at a premium which can be supported by the financials of the company. The Board expects post buy back market price per share (MPS) of ₹ 3057. Post buy back PER will remain same. The company proposes to fund the buy back by availing 8% bank loan since available resources are committed for expansion plans.

Applicable income tax rate is 30%.

You are required to calculate :

- (i) The interest amount which can be paid for availing the bank loan,
- (ii) The loan amount to be raised and
- (iii) The premium per share and percentage premium paid over the current MPS.

**(12 Marks)**

- (b) Aggressive Ltd., is proposing to fund its expansion plan of ₹ 12 crore by making a rights issue. The current market price (CMP) is ₹ 40. The Board is willing to offer a discount of 20% on the CMP for the rights issue. The Board is also desirous that the fall in Ex-right price of the shares be restricted to 10% of CMP.

You are required to calculate:

- (i) The number of new equity shares to be offered for each rights held,
- (ii) Theoretical value of right and
- (iii) The total number of equity shares to be issued.

**(4 Marks)**

**Answer**

(a) Current Market Price of Share = ₹ 200 × 15 = ₹ 3,000

$$\begin{aligned} \text{No. of Shares} &= \frac{\text{Market capitalisation}}{\text{Market price of share}} \\ &= \frac{\text{₹ 3,000 crore}}{\text{₹ 3,000}} = 1 \text{ crore} \end{aligned}$$

No. of Shares proposed to Buyback = 20% of 1 core = 20 Lakh

Post Buy back per share (₹) = ₹ 3,057

PE Ratio = 15

$$\text{Post Buy back EPS} = \frac{3057}{15} = ₹ 203.80$$

EAT = ₹ 203.80 × 80 Lakh = ₹ 16,304 Lakh

$$\text{Pre Tax Earning after Buyback} = \frac{16,304}{(1-0.30)} = ₹ 23,291.429 \text{ Lakh}$$

Earning Before Buyback = ₹ 200 × 100 = 20,000 Lakh

$$\text{Pre Tax Earning before Buyback} = \frac{20,000}{(1-0.30)} = ₹ 28571.429 \text{ Lakh}$$

Particulars	
Pre Tax Earning before Buyback	₹ 28571.429 Lakhs
Pre Tax Earning after Buyback	₹ 23291.429 Lakhs
Interest which can be paid for availing bank loan	₹ 5,280.00 Lakhs
Loan Amount raised = $\frac{5280 \text{ lakh}}{0.08}$	₹ 66,000 Lakhs
Amount paid for Buy back of Share	₹ 66,000 Lakhs
No. of Shares Bought back	20 Lakhs
Share Buyback price per share = 66,000/20 Lakhs	₹ 3,300
Current Market Price per share (₹ 200 × 15)	₹ 3,000
Premium	₹ 300

$$\% \text{ Premium over current market price} = \frac{300}{3000} \times 100 = 10\%$$

- (b) (i) Number of new equity shares to be offered for each rights head

$$\text{Subscription Price} = ₹ 40 \times 0.80 = ₹ 32 \text{ per share}$$

$$\text{Ex Right Price to be restricted to} = ₹ 40 \times 0.90 = ₹ 36$$

Let R be the ratio in which right share to be issued then

$$₹ 36 = \frac{₹ 40 + ₹ 32 \times R}{1 + R}$$

$$36 + 36R = ₹ 40 + 32R$$

$$R = 1$$

Thus, 1 equity share be offered for each share held.

- (ii) Theoretical Value of right = ₹ 36 – ₹ 32 = ₹ 4

- (iii) No. of equity share to be issued =  $\frac{₹ 12 \text{ crore}}{₹ 32} = 37,50,000$  or 0.375 shares

#### Question 4

- (a) *M/s. Poor Ltd. (PL) has logged in a credit sales of ₹ 6 crore for the year ended 31<sup>st</sup> March, 2021. The receivables are 15% of credit sales. The average financing cost of receivables is 5%. Administration cost and Bad debts, on an average, amount to 2% and 7% of the receivables respectively. PL, as per an internal assessment, expects that the Bad debts may rise to 10% of the receivables in the coming year.*

*PL is actively looking for a factor who can undertake management of credit administration on non-recourse basis. Factor, as per industry norms, will maintain a receivable collection period of 30 days and keeps a reserve of 20% of the receivables. The Factor charges an interest rate of 7% per annum on the advances.*

*You are required to advise*

- (i) *The maximum amount which PL can offer as the commission to the Factor,*
- (ii) *Whether a deal can be structured, if Factor requires a commission of 2.5% on the credit sales,*
- (iii) *Whether a deal is possible by negotiation wherein PL may offer extra commission due to savings on account of probable increase in Bad debts and the Factor, who is also eager to get business offers a 20% discount on its commission. (12 Marks)*
- (b) *M/s. Strong an AMC has floated a dividend bonus plan on 1<sup>st</sup> April, 2016 at a certain net asset value (NAV). The fund has a robust growth and has declared a bonus of 1:5 (1 bonus unit for 5 right units held) on 30<sup>th</sup> September, 2017 and a second bonus of 1:4 (1 bonus unit for 4 right units held) on 30<sup>th</sup> September 2019. The fund, as on 31<sup>st</sup> March 2021, has generated an average yield of 17.5%.*

Mr. Optimistic has made an investment of ₹ 16 lakhs in the plan before the declaration of the first bonus and remain invested thereafter.

The following information is also available :

Date	01.04.2016	30.09.2017	30.09.2019	31.03.2021
NAV (₹)	?	85	92	100

You are required to advise to Mr. Optimistic the opening NAV, which is required by him to calculate the capital appreciation. **(4 Marks)**

**Answer**

**(a) (i) Working Notes:**

Particulars	₹
(a) Estimated Receivables (15% of ₹ 6,00,00,000)	90,00,000
(b) Estimated Receivables under Factor $\left(6,00,00,000 \times \frac{30}{360}\right)$	50,00,000
Reduction in Receivables (a – b)	40,00,000

**Total Savings (A)**

(a) Reduction in finance costs (5% of ₹40,00,000)	₹ 2,00,000
(b) Saving of Administration costs (2% of ₹ 90,00,000)	₹ 1,80,000
(c) Saving of Bad debts (7% of ₹ 90,00,000)	₹ 6,30,000
Total (a + b + c)	₹ 10,10,000

**Total Cost of Factoring (B)**

(a) Net Interest on advances by Factor Interest (₹ 50,00,000 x 80% = ₹ 40,00,000 @ 7%) = ₹ 2,80,000 <b>Less-</b> Overdraft Interest rate (₹ 50,00,000 x 80% = ₹ 40,00,000 @ 5%) = ₹ 2,00,000	₹ 80,000
(b) Total Saving due to factoring	₹ 10,10,000
Maximum amount of Commission offered by PL (b – a)	₹ 9,30,000

**(ii)**

(a) Required commission by factor (2.5% of ₹ 6,00,00,000)	₹ 15,00,000
(b) Maximum commission offered by PL	₹ 9,30,000
Deficit in Commission (a – b)	₹ 5,70,000

So, Deal cannot be structured.

(iii)

(a) Additional savings on account of probable loss in Bad Debts (3% of ₹ 90,00,000)	₹ 2,70,000
(b) Maximum amount of commission offered by PL	₹ 9,30,000
Total amount offered	₹ 12,00,000
Commission after discount of 20% by factor (80% of ₹ 15,00,000)	₹ 12,00,000

**Yes, Deal is possible****Alternative Solution based on 365 days in a year**

(i) Working Notes:

Particulars	₹
(a) Estimated Receivables (15% of ₹ 6,00,00,000)	90,00,000
(b) Estimated Receivables under Factor $6,00,00,000 \times \frac{30}{365}$	49,31,507
Reduction in Receivables (a – b)	40,68,493

**Total Savings (A)**

(a) Reduction in finance costs (5% of ₹40,68,493)	₹ 2,03,425
(b) Saving of Administration costs (2% of ₹ 90,00,000)	₹ 1,80,000
(c) Saving of Bad debts (7% of ₹ 90,00,000)	₹ 6,30,000
<b>Total (a + b + c)</b>	<b>₹ 10,13,425</b>

**Total Cost of Factoring (B)**

(a) Net Interest on advances by Factor Interest (₹ 49,31,507 x 80% = ₹ 39,45,206 @ 7%) = ₹ 2,76,164 <b>Less- Overdraft Interest rate</b> (₹ 49,31,507 x 80% = ₹ 39,45,206 @ 5%) = ₹ 1,97,260	₹ 78,904
(b) Total Saving due to factoring	₹ 10,13,425
Maximum amount of Commission offered by PL (b – a)	₹ 9,34,521

(ii)

(a) Required commission by factor (2.5% of ₹ 6,00,00,000)	₹ 15,00,000
(b) Maximum commission offered by PL	₹ 9,34,521
Deficit in Commission (a – b)	₹ 5,65,479

**So, Deal cannot be structured.**

(iii)

(a) Additional savings on account of probable loss in Bad Debts (3% of 90,00,000)	₹ 2,70,000
(b) Maximum amount of commission offered by PL	₹ 9,34,521
Total amount offered	₹ 12,04,521
Commission after discount of 20% by factor (80% of 15,00,000)	₹ 12,00,000

**Yes, Deal is possible**

(b)

Particulars	
(a) Amount invested by Mr. Optimistic as on 01/04/2016	₹ 16,00,000
(b) Gain during 5 years (16,00,000 x 17.5% x 5 years)	₹ 14,00,000
(c) Value of investment as on 31/03/2021 (a + b)	₹ 30,00,000
(d) NAV as on 31/03/2021	₹ 100 per Unit
(e) Total number of units as on 31/03/2021 (c / d)	30000 Units
Total units before second bonus = 30,000 x 4/5	24000 Units
Total units before first bonus = 24,000 x 5/6	20000 Units
NAV as on 01/04/2016 = 16,00,000/ 20000	₹ 80 per Unit

**Question 5**

(a) Mr. X is having 1 lakh shares of M/s. Kanniyaka Ltd. The beta of the company is 1.40.

Mr. Y a financial advisor has suggested having the following portfolio:

Security	Beta	% holding
S	1.20	10
K	0.75	10
P	0.40	30
D	1.40	50
		<b>100</b>

Market Return is 12%

Risk free rate is 8%

You. are required to calculate the following for the present investment and suggested portfolio:

(i) What is the expected return based on CAPM and also

- (1) If the market goes up by 2.5%.
- (2) If the market goes down by 2.5%
- (3) If the market gives Negative Returns of 2.5%
- (ii) If the probability of market giving negative return is more, please advise Mr. X whether to continue the holdings of M/s. Kannayaka Ltd. or to buy the portfolio as per the suggestion of Mr. Y. If so why? **(10 Marks)**
- (b) M/s. Raghu Ltd. is interested in expanding its operation and planning to install manufacturing plant at US. It requires 8.82 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%.

Additional information:

- (i) Expected market price of share at the time of issue of GDR is ₹ 360 (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 72.
- (v) Dividend is expected to be paid at the rate of 20% with growth rate of 12%.
- (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?

**(6 Marks)**

**Answer**

**(a) Working Notes -**

Calculation of Portfolio Beta suggested by Mr. Y

Security	Beta	Wt. of Holding	Beta x Wt. of Holding
S	1.20	0.1	0.120
K	0.75	0.1	0.075
P	0.40	0.3	0.120
D	1.40	0.5	0.700
Total		1.0	1.015

Portfolio Beta is 1.015

Calculation of Expected Return based on CAPM at present situation-

Particulars	Risk Free Rate ( $R_f$ )	Beta	Market Return	Risk Premium = $R_m - R_f$	Beta X Risk Premium	Expected Return
a	b	c	d	$e = d - b$	$f = c \times e$	$g = b + f$
Kannyaka Ltd.	8	1.400	12	4	5.600	13.60
Portfolio	8	1.015	12	4	4.060	12.06

(i) (1) Calculation of Expected Return based on CAPM if market goes up by 2.5% :

Particulars	Risk Free Rate ( $R_f$ )	Beta	Market Return	Risk Premium = $R_m - R_f$	Beta X Risk Premium	Expected Return
a	b	c	d	$e = d - b$	$f = c \times e$	$g = b + f$
Kannyaka Ltd.	8	1.400	14.5	6.5	9.100	17.10
Portfolio	8	1.015	14.5	6.5	6.598	14.60

(2) Calculation of Expected Return based on CAPM if market goes down by 2.5% :

Particulars	Risk Free Rate ( $R_f$ )	Beta	Market Return	Risk Premium = $R_m - R_f$	Beta X Risk Premium	Expected Return
a	b	c	d	$e = d - b$	$f = c \times e$	$g = b + f$
Kannyaka Ltd.	8	1.400	9.5	1.5	2.100	10.10
Portfolio	8	1.015	9.5	1.5	1.523	9.52

(3) Calculation of Expected Return based on CAPM if market gives negative returns of 2.5% -

Particulars	Risk Free Rate ( $R_f$ )	Beta	Market Return	Risk Premium = $R_m - R_f$	Beta X Risk Premium	Expected Return
a	b	c	d	$e = d - b$	$f = c \times e$	$G = b + f$
Kannyaka Ltd.	8	1.400	-2.5	-10.5	-14.700	-6.70
Portfolio	8	1.015	-2.5	-10.5	-10.658	-2.66

- (ii) If the probability of market giving negative return is more, It is advisable to Mr. X to buy the portfolio suggested by Mr. Y because Beta of the portfolio is less than of Kanyaka Ltd.

**(b) Net Issue Size = \$ 8.82 million**

$$\text{Gross Issue} = \frac{8.82}{0.98} = \$9.00 \text{ million}$$

$$\text{Issue Price per GDR in ₹ (360 x 2 x 90\%)} \quad \text{₹ 648}$$

$$\text{Issue Price per GDR in \$ (₹ 648/ ₹ 72)} \quad \$ 9.00$$

$$\text{Dividend Per GDR (D}_1\text{)} = ₹ 20 \times 2 = \quad ₹ 40$$

$$\text{Net Proceeds Per GDR} = ₹ 648 \times 0.98 = \quad ₹ 635.04$$

**(1) (a) Number of GDR to be issued**

$$\frac{\$ 9.00 \text{ million}}{\$ 9} = 1.00 \text{ million}$$

**(b) Cost of GDR**

$$k_e = \frac{40.00}{635.04} + 0.12 = 18.30\%$$

- (2) If the company receives an offer from US Bank willing to provide an equivalent amount of loan with interest rate of 12%, it should accept the offer.
- (3) If the offer is accepted there will be net saving of 6.30%.

**Question 6**

- (a) On 1<sup>st</sup> October, 2020 Mr. Guru, an exporter, enters into a forward contract with the Bank to sell USD 1,00,000 on 31<sup>st</sup> December 2020 at INR/USD 75.40. However, at the request of the importer, Mr. Guru received the amount on 30<sup>th</sup> November, 2020. Mr. Guru requested the bank take delivery of the remittance on 30<sup>th</sup> November, 2020 i.e. before due date.

The inter-bank rate on 30<sup>th</sup> November 2020 was as follows:

Spot INR/USD 75.22-75.27

One Month Premium 10/15

Assume 365 days in a year.

- (i) If bank agrees to take early delivery then what will be net inflow to Mr. Guru assuming that the prevailing prime lending rate is 18% per annum.
- (ii) If Mr. Guru can deploy these funds in USD, he gets return at the rate of 3% per annum. Which is better? Why?

- (b) Mr. Mammen, an Indian investor invests in a listed bond in USA. If the price of the bond at the beginning of the year is USD 100 and it is USD 103 at the end of the year. The coupon rate is 3% payable annually.

Find the return on investment in terms of home country currency if :

- (i) USD is Flat.
- (ii) USD appreciates during the year by 3%.
- (iii) USD depreciates during the year by 3%.
- (iv) Indian Rupee appreciates during the year by 5%.
- (v) Will your answer differs if Mr. Mammen invests in the bond just before the interest payable.

**Answer**

- (a) (i) **If Bank agrees to take early delivery-**

**Working Notes-**

- (1) Swap Difference

(a) Bank Sells at Spot Rate on 30 <sup>th</sup> November 2020	₹ 75.22
(b) Bank Buys at Forward Rate of 31 <sup>st</sup> December 2020 (75.27 + 0.15)	₹ 75.42
Swap loss per US\$ (a – b)	- ₹ 0.20
Swap loss for US\$ 1,00,000 (1,00,000 x -0.20)	₹ 20,000

- (2) Interest on Outlay Funds

(a) On 30 <sup>th</sup> November Bank sells at	₹ 75.22
(b) It buys from customer at	₹ 75.40
Outlay of Funds per US\$ (b – a)	₹ 0.18
Interest on Outlay fund for US\$ 1,00,000 for 31 days (US\$100000 x 00.18 x 31/365 x 18%)	₹ 275.18

- (3) Charges for early delivery

Swap loss	₹ 20,000.00
Interest on Outlay fund for US\$ 1,00,000 for 31 days	₹ 275.18
Total charges of early delivery	₹ 20,275.18

Net Inflow to Mr. Guru

Amount received on sale (₹ 75.40 x 1,00,000)	₹ 75,40,000
Less: Charges for early delivery payable to bank	₹ 20,275.18
Net Inflow to Mr. Guru	₹ 75,19,724.82

(ii) If Mr. Guru deploys these funds in US\$, then inflow will be -

Receipt of US\$ on 30 <sup>th</sup> November 2020	US\$ 1,00,000
Add: Interest for 31 Days $\left(1,00,000 \times 3\% \times \frac{31^*}{365}\right)$	US\$ 254.79
US\$ available on 31 <sup>st</sup> December 2020 for sale	US\$ 1,00,254.79

Sale of US\$ 1,00,000 to bank as per agreed rate (₹ 75.40)	₹ 75,40,000.00
Sale of US\$ 254.79 @ ₹ 75.32 i.e. Forward Rate	₹ 19,190.78
Amount of Inflows	₹ 75,59,190.78

**Advice:** Since Cash Inflow will be higher in deployment of funds option the same should be chosen.

(b) (i) If USD is flat

$$\begin{aligned} \text{Return} &= \frac{(\text{Price at end} - \text{Price at beginning}) + \text{Interest}}{\text{Price at beginning}} \\ &= \frac{(103 - 100) + 3}{100} \\ &= \frac{3 + 3}{100} = 0.06 \text{ say } 6\% \end{aligned}$$

(ii) If USD appreciates by 3%

$$(1+0.06)(1+0.03) - 1 = 1.06 \times 1.03 - 1 = 0.0918 \text{ i.e. } 9.18\%$$

(iii) If USD depreciates by 3%

$$(1+0.06)(1-0.03) - 1 = 1.06 \times 0.97 - 1 = 0.0282 \text{ i.e. } 2.82\%$$

(iv) If Indian Rupee is appreciated by 5%

$$(1+0.06)(1-0.05) - 1 = 1.06 \times 0.95 - 1 = 0.007 \text{ i.e. } 0.7\%$$

(v) No, our answer will not differ even if Mr. Mammen invests in bond just before the interest is payable.

**Question 7**

Attempt any **four** of the following :

- (a) Unrelated companies come together to form an entity. What this relationship is called? Discuss briefly the features of this entity.
- (b) Investors are the lifeline of the capital markets. Who are the other participants giving lifeline to capital markets ? Briefly discuss any one.
- (c) "Liquidity is the effectiveness of working capital management, corporate policies for stock and creditors, management and ability of the corporate to meet their commitment in the short run." This is one of the ingredients in credit rating analysis. What are the other ingredients of the model ? Discuss briefly.
- (d) There exists a vast difference between Project and Parent cash flow ? What are these factors ? Briefly discuss.
- (e) "Cross-Border M & A is a popular route for global growth and overseas expansion." Do you agree or disagree? Justify your stand. **(4 x 4 = 16 Marks)**

**Answer**

- (a) Unrelated companies come together to form an entity. Such relationship is called conglomerate merger.

Such mergers involve firms engaged in unrelated type of business operations. In other words, the business activities of acquirer and the target are neither related to each other horizontally (i.e., producing the same or competing products) nor vertically (having relationship of buyer and supplier).

**Features:**

- ❖ In a pure conglomerate merger, there are no important common factors between the companies in production, marketing, research and development and technology.
  - ❖ There may however be some degree of overlapping in one or more of these common factors. Such mergers are in fact, unification of different kinds of businesses under one flagship company.
  - ❖ The purpose of merger remains utilization of financial resources, enlarged debt capacity and also synergy of managerial functions.
- (b) Though investors are the lifeline of any capital markets. Since a vibrant capital market the capital market should be capable enough to attract the savings of investors. Investors belong to various categories such as Retail Investors, Institutional Investors like mutual funds, insurance companies and Foreign Portfolio Investors.

However other important participants of capital markets are as follows:

- ❖ **Stock Exchange:** Stock Exchange is a place where securities issued by issuer companies are listed and traded. The term is synonymously used for secondary market.

- ❖ **Depository:** A depository is an organisation which holds securities (like shares, debentures, bonds, government securities, mutual fund units etc.) of investors in electronic form at the request of the investors through a registered Depository Participant. It also provides services related to transactions in securities. In India there are two depositories namely National Securities Depository Limited (NSDL) and Central Depository Services (India) Limited (CDSL).
  - ❖ **Intermediaries:** Intermediaries are those entities which offer various services in relation to the capital markets. There are various categories of intermediaries such as stock brokers, merchant bankers, underwriters etc.
- (c) Although the 'Liquidity' is the effectiveness of working capital management, corporate policies for stock and creditors, management and the ability of the corporate to meet their commitment in the short run but other ingredient of CAMEL Model of Credit Rating are as follows:
- (i) **Capital** – Composition of Retained Earnings and External Funds raised; Fixed dividend component for preference shares and fluctuating dividend component for equity shares and adequacy of long-term funds adjusted to gearing levels; ability of issuer to raise further borrowings.
  - (ii) **Assets** – Revenue generating capacity of existing / proposed assets, fair values, technological / physical obsolescence, linkage of asset values to turnover, consistency, appropriation of methods of depreciation and adequacy of charge to revenues. Size, ageing and recoverability of monetary assets viz receivables and its linkage with turnover.
  - (iii) **Management** – Extent of involvement of management personnel, team-work, authority, timeliness, effectiveness and appropriateness of decision making along with directing management to achieve corporate goals.
  - (iv) **Earnings** – Absolute levels, trends, stability, adaptability to cyclical fluctuations ability of the entity to service existing and additional debts proposed.
- (d) There exists a big difference between the project and parent cash flows due to tax rules, exchange controls.

Management and royalty payments are returns to the parent firm. The basis on which a project shall be evaluated depend on one's own cash flows, cash flows accruing to the parent firm or both.

Evaluation of a project on the basis of own cash flows entails that the project should compete favourably with domestic firms and earn a return higher than the local competitors. If not, the shareholders and management of the parent company shall invest in the equity/government bonds of domestic firms. A comparison cannot be made since foreign projects replace imports and are not competitors with existing local firms. Project evaluation based on local cash flows avoid currency conversion and eliminates problems associated with fluctuating exchange rate.

For evaluation of foreign project from the parent firm's angle, both operating and financial cash flows actually remitted to it form the yardstick for the firm's performance and the basis for distribution of dividends to the shareholders and repayment of debt/interest to lenders. An investment has to be evaluated on the basis of net after tax operating cash flows generated by the project. As both types of cash flows (operating and financial) are clubbed together, it is essential to see that financial cash flows are not mixed up with operating cash flows.

- (e) Yes, I agree with the statement that "Cross-border M&A is a popular route for global growth and overseas expansion" since Cross-border M&A is also playing an important role in global M&A especially true for developing countries such as India.

Major factors that motivate multinational companies to engage in cross-border M&A in Asia include the following:

- Globalization of production and distribution of products and services.
- Integration of global economies.
- Expansion of trade and investment relationships on international level.
- Many countries are reforming their economic and legal systems and providing generous investment and tax incentives to attract foreign investment.
- Privatization of state-owned enterprises and consolidation of the banking industry.