

PROFESSIONAL PROGRAMME EXAMINATION

DECEMBER 2009

FINANCIAL, TREASURY AND FOREX MANAGEMENT

Time allowed : 3 hours

Maximum marks : 100

- NOTE :** 1. *Answer FIVE questions including Question No.1 which is compulsory. All working notes should be shown distinctly.*
2. *Tables showing the present value of Re.1 and the present value of an annuity of Re.1 for 15 years are annexed.*

Question 1

Comment on any four of the following :

- (i) *Financial sector acts as conduit for the transfer of financial resources from net savers to net borrowers.*
 - (ii) *Under capital rationing, the standard net present value (NPV) decision rule no longer holds true.*
 - (iii) *Most businesses need cash funds to meet contingencies.*
 - (iv) *Apart from the retention of profits and capitalising the accumulated earnings, the bonus shares serve several other objectives.*
 - (v) *Foreign exchange risk can be managed both internally and externally.*
- (5 marks each)*

Answer 1(i)

In any economy, the financial sector plays a major role in the mobilization and allocation of savings. Financial institutions, instruments and markets which constitute the financial sector act as conduit for the transfer of financial resources from net savers to net borrowers, i.e. from those who spend less than they earn to those who spend more than they earn. The Financial sector performs this basic economic function of intermediation essentially through four transformation mechanisms :

- (i) *Liability-asset transformation (i.e., accepting deposits as a liability and converting them into assets such as loans);*
- (ii) *Size-transformation (i.e., providing large loans on the basis of numerous small deposits);*
- (iii) *Maturity transformation (i.e. offering savers alternate forms of deposits according to their liquidity preferences while providing borrowers with loans of desired maturities); and*
- (iv) *Risk transformation (i.e. distributing risks through diversification which substantially reduces risks for savers which would prevail while directly in the absence of financial intermediation).*

Answer 1(ii)

The term capital rationing refers to the situation where the funds available to a firm are limited. The implicit assumption with in the NPV decision rule does not hold true i.e. a firm cannot accept all positive NPV projects because of shortage of capital. Capital rationing is of two types - Hard and Soft, characterized by sources of capital expenditure constraints. Hard capital rationing occurs when constraints is externally imposed while soft rationing occurs, when constraints are imposed internally by management. As in the capital rationing NPV decision rule does not hold true, so it has to be modified. In single period rationing condition, the simple NPV decision rule is replaced by Feasibility set approach or Benefit cost ratio analysis and in multi-period capital rationing the optimal solution is obtained through linear programming.

Answer 1(iii)

This motive of holding cash takes into account the element of uncertainty associated with any form of business. The uncertainty can result in prolongation of the working capital operating cycle or even its disruption. It is possible that cost of raw materials or components might go up or the time taken for conversion of raw materials into finished goods might increase. For such contingencies, some amount of cash is kept by every firm. The motive of holding cash for contingencies is based on the need to maintain sufficient cash to act as a cushion to buffer against unexpected events. One never knows about the happening of natural calamities or sudden increase in cost of raw materials or any other factor such as strike, lock-out etc. Such events may seriously interrupt even the best planned financial plans and thus temporarily make the cash budget ineffective and non-existent. Therefore, the business should maintain larger cash balance than required for day to day transactions in order to avoid unforeseen situation arising because of insufficient cash.

Answer 1(iv)

The basic idea behind issue of bonus shares is the objective of retention of profits and capitalizing the accumulated earning for financing, from internal sources, the cost of company's expansion, modernization or diversification scheme. Issue of bonus shares does not affect the liquidity position of the company. The company issues bonus shares to serve the following ends :

- (a) to enhance the prosperity of the company by conserving the cash outflows;
- (b) increase in equity shares through bonus issue reduces the rate of dividend; Usually high rate of dividend may attract adverse notice to the general public or authorities towards profiteering;
- (c) to transfer the formal ownership of surplus and reserves to equity holders by issuing bonus shares;
- (d) with broad based equity structure, a company can better bargain the debt to balance its capital structure and increase earnings on equity shares through financing leverage;
- (e) creating liquidity and marketability of the equity shares by scaling down the market price of the shares.

Answer 1(v)

There are a number of techniques that can be used for internal hedging the exchange rate risk. It is easier to hedge transaction and translation risks internally than to hedge economic risk, due to difficulties associated with quantification of economic risks and long time periods over which exposure to economic risk occurs. The main internal techniques are matching, netting, leading and lagging and invoicing in the domestic currency but the degree to which firms hedge their exposures internally is often limited.

The foreign exchange risk can also be managed by external techniques. The most important methods are forward contracts futures and borrowing and lending in money market. Now a days a number of alternatives are available in the form of derivative instruments including, swaps and options.

Question 2

- (a) *Mona Machines Ltd. has provided you the following information for the year 2008:*

<i>Production for the year</i>	<i>...</i>	<i>69,000 units</i>
<i>Finished goods in store</i>	<i>...</i>	<i>Average 3 months</i>
<i>Raw materials in store</i>	<i>...</i>	<i>Average 2 months' consumption</i>
<i>Work-in-progress (assume 50% completion stage with full material consumption)</i>	<i>...</i>	<i>Average 1 month</i>
<i>Credit allowed by creditors</i>	<i>...</i>	<i>Average 2 months</i>
<i>Credit given to debtors (assume at selling price)</i>	<i>...</i>	<i>Average 3 months</i>
<i>Selling price per unit</i>	<i>...</i>	<i>Rs. 50</i>
<i>Raw material cost</i>	<i>...</i>	<i>50% of selling price</i>
<i>Direct wages</i>	<i>...</i>	<i>10% of selling price</i>
<i>Overheads</i>	<i>...</i>	<i>20% of selling price</i>

Company keeps Rs. 1,00,000 in cash. There is regular production and sale cycle, and wages and overheads accrue evenly. Wages are paid in the next month of accrual. Material is introduced in the beginning of production cycle.

You are required to calculate working capital requirement of Mona Machines Ltd. (10 marks)

- (b) *Silver Oak Ltd., an Indian company, is mainly engaged in international trade with US and UK. It is currently 1st January. It will have to make a payment of \$7,29,794 in the coming six months time. The company is presently considering the various alternatives in order to hedge its transactional exposure through its London office. The following information is available :*

Exchange Rates :

\$/£ Spot rate : 1.5617 - 1.5773

6-month \$ forward rate : 1.5455 - 1.5609

<i>Money Market Rates</i>	<i>Borrow</i>	<i>Deposit</i>
	(%)	(%)

<i>US Dollar</i>	6	4.5
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<i>Sterling</i>	7	5.5
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Foreign currency option prices (Cents per £ for contract size £12,500) :

<i>Exercise Price</i>	<i>Call Option (June)</i>	<i>Put Option (June)</i>
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<i>\$1.70/£</i>	3.7	9.6
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Suggest which of the following hedging option is the most suitable for Silver Oak Ltd. :

(i) *Forward exchange contract*

(ii) *Money market*

(iii) *Currency option.* (6 marks)

- (c) *Monark Ltd. is considering two alternative financial plans to start a new project. In Plan-I, it is likely to issue equity shares of Rs.16 lakh and 13% preference capital of Rs.4 lakh. In Plan-II, the company will issue equity shares of Rs.8 lakh, 13% preference capital of Rs.4 lakh, and 15% debentures of Rs.8 lakh. The face value of equity shares in both plans is Rs.10. Tax rate is 30%.*

You are required to determine level of EBIT at which the EPS would be same under both the plans. (4 marks)

Answer 2(a)**Computation of Net working capital of Mona Machines Limited**

<i>Nature of asset/liability</i>	<i>Basis of calculation</i>	<i>Amount (Rs.)</i>
(A) Current Assets		
(i) Raw Material Stock	Average 2 months $\frac{69,000 \times 25 \times 2}{12}$	2,87,500
(ii) Work-in-progress	Average 1 month	
(a) Raw material	$\frac{69,000 \times 25 \times 1}{12}$	1,43,750
(b) Wages (50% completion)	$\frac{69,000 \times 5 \times 1}{12 \times 2}$	14,375
(c) Overheads		
(50% completion)	$\frac{69,000 \times 10 \times 1}{12 \times 2}$	28,750
(iii) Finished goods stock	Average 3 months $\frac{69,000 \times 40 \times 3}{12}$	6,90,000

<i>Nature of asset/liability</i>	<i>Basis of calculation</i>	<i>Amount (Rs.)</i>
(iv) Sundry debtors (at selling price)	Average 3 months $\frac{69,000 \times 50 \times 3}{12}$	8,62,500
(v) Cash balance	Actual	1,00,000
	Total Current Assets.... (A)	21,26,875
(B) Current Liabilities		
(i) Creditors for materials	Average 2 months $\frac{69,000 \times 25 \times 2}{12}$	2,87,500
(ii) Creditors for wages	Average 1 month $\frac{69,000 \times 5 \times 1}{12}$	28,750
	Total Current Liabilities(B)	3,16,250
(c) Net working capital (A - B)		18,10,625

Answer 2(b)(i) *Using Forward Exchange Contract*

$$\text{\$ } 729794 / 1.5455 = \text{\pounds } 472206$$

(ii) *Using Money Market*

Silver Oak Ltd. must make a deposit now

Six months dollar deposit rate : $4.5/2 = 2.25\%$

$$Z \times 1.0225 = \text{\$ } 729794$$

$$Z = \frac{\text{\$ } 729794}{1.0225} = \text{\$ } 7,13,735$$

Hence amount required to be deposited @ 4.5% = \$ 713735

Cost of buying \$ 713735 at current spot rate is $713735 / 1.5617 = \text{\pounds } 457024$

Six months sterling borrowing rate = $7/2 = 3.5\%$

Interest for six months on £ 457024 = $(\text{\pounds } 457024 \times 0.035) = \text{\pounds } 15996$

Total Cost = £ 457024 + £ 15996 = £ 473020

(iii) *Using Currency option*

$$\text{Each contract will deliver} = 1.7 \times 12500 = \text{\$ } 21250$$

$$\text{No. of put option contract required} = 729794 / 21250 = 34.34 \text{ or } 34$$

$$\text{Cost of total contracts} = 0.096 \times 12500 \times 34 = \text{\$ } 40800$$

$$\text{Sterling cost of option} = 40800 / 1.5617 = \text{\pounds } 26,125$$

$$\text{Sterling required} = 34 \times \text{\pounds } 12500 = \text{\pounds } 425000 \text{ to buy } \$ 722500 \text{ @ } \$ 1.70$$

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Shortfall	=	729794 — 722500	=	7294
Cost of sterling using forward rate	=	7294/1.5455	=	4720 £
Total cost using option	=	26125+425000+4720	=	£ 455845

Therefore currency options are the cheapest mode of hedging transaction exposure.

Answer 2(c)

Point of indifference is that point where the EPS would be the same. Point of Indiff

$$\begin{aligned}
 &= \frac{(1-t) \text{EBIT} - P_1}{N_1} = \frac{(1-t) (\text{EBIT} - I) - P_2}{N_2} \\
 &= \frac{(1-0.3)(\text{EBIT} - 52,000)}{1,60,000} = \frac{[(1-0.3)(\text{EBIT} - 1,20,000) - 52,000]}{80,000} \\
 &= .7\text{EBIT} - 52,000 = 2[(.7\text{EBIT} - 84,000) - 52,000] \\
 &= .7\text{EBIT} - 52,000 = 1.4\text{EBIT} - 1,68,000 - 1,04,000 \\
 &= .7\text{EBIT} - 1.4\text{EBIT} = -1,68,000 - 1,04,000 + 52,000 \\
 &= -.7 \text{EBIT} = -2,20,000 \\
 &= \text{EBIT} = \frac{-2,20,000}{.7} = 3,14,286
 \end{aligned}$$

At the Rs. 3,14,286 of EBIT the EPS of both companies will same at Rs. 1.05.

Question 3

- (a) *Vaibhav Ltd. is engaged in manufacturing of machines used in construction. It is considering the possibility of purchasing from a supplier a component it now makes. A supplier has agreed to supply the component in the required quantities at a unit price of Rs. 18. The transportation and insurance charges are Re.1 per unit.*

Presently, the company produces the component from a single raw material in economic lots of 3,000 units at a cost of Rs.4 per unit. The average annual demand is 40,000 units. The annual holding cost for company is Re.0.50 per unit and it has set a minimum stock level of 800 units. The direct labour costs of the component are Rs. 12 per unit. The company also hires a machine at a rate of Rs.400 per month on which the components are produced. Suggest whether the company should produce or procure the component. (14 marks)

- (b) *Two companies Rita Ltd. and Gita Ltd. are considering to enter into a swap agreement with each other. Their corresponding borrowing rates are as follows:*

Name of Company	Floating Rate	Fixed Rate
Rita Ltd.	LIBOR	11%
Gita Ltd.	LIBOR + 0.3%	12.5%

Rita Ltd. requires a floating rate loan of £8 million while Gita Ltd. requires a fixed rate loan of £8 million.

- (i) Show which company had advantage in floating rate loans and which company has a comparative advantage in fixed loans.
- (ii) If Rita Ltd. and Gita Ltd. engage in a swap agreement and the benefits of the swap are equally split, at what rate will Rita Ltd. be able to obtain floating finance and Gita Ltd. be able to obtain fixed rate finance ?

Ignore bank charges.

(6 marks)

Answer 3(a)

Ordering cost can be obtained on the basis of EOQ equation = $EOQ = \sqrt{\frac{2AO}{C}}$

Let the ordering cost equal to M, so

$$EOQ = \frac{2AM}{C} \text{ or } 3000 = \sqrt{\frac{2 \times 40,000 \times M}{0.50}}$$

$$3000^2 = \frac{80,000 M}{0.50}$$

$$\text{OR } 3000 \times 3000 \times 0.50 = 80,000 M$$

$$M = \frac{45,00,000}{80,000} = \text{Rs. } 56.25$$

Ordering cost = Rs. 56.25

$$\begin{aligned} \text{Average Stock level} &= \text{Minimum Stock} + \frac{1}{2} \text{EOQ} \\ &= 800 + \frac{1}{2} (3000) = 2300 \text{ Units} \end{aligned}$$

Cost of making component (Annual basis)	Rs.
Ordering cost of 40000 units = 13.33 or 13 orders @ 56.25	731.25
Holding or storage cost = 2300 unit x 0.50	1150.00
Cost of direct material 40000 x 4	160000.00
Direct Labour Cost 40000 x 12	480000.00
Hire Charges 400 x 12 months	4800.00
Cost of manufacturing component	646681.25
Purchase cost of component = 40,000 x 18	720000.00
Add : Transportation and Insurance charges 40000 x 1	40000.00
Rs.	760000.00

Since the cost of manufacturing component is less than the purchase of Component, the Company should manufacture the component.

Answer 3(b)

- (a) Assuming LIBOR say for 10% company Gita Ltd. floating rate is three per cent more expensive than company Rita Limited rate; but its fixed rate is 12.5% which is more expensive than Rita Ltd.. Hence the company Rita Ltd. has a more comparative advantage in fixed rate loans and company Gita Ltd. has a comparative advantage in floating rate loans.

(b) Net Potential Gain = $(\text{LIBOR} - (\text{LIBOR} + 0.3) + (12.5 - 11))$

= $-0.3 + 1.5 = 1.2$ per cent

i.e. 0.6 per cent benefit to each company

Net floating rate cost to Rita Ltd. would be = $\text{LIBOR} - .6\%$

And net fixed rate cost to Gita Ltd. would be $12.5\% - .6\% = 11.9\%$

So the swapping the interest rate obligations, both companies would be benefitted to the extent of .6%.

Question 4

Distinguish between any four of the following :

- (i) *'Factoring' and 'bill discounting'.*
- (ii) *'Operating lease' and 'finance lease'.*
- (iii) *'Business risk' and 'financial risk'.*
- (iv) *'Efficient portfolio' and 'optimal portfolio'.*
- (v) *'Translation risk' and 'transaction risk'.*

(5 marks each)

Answer 4(i)**Factoring and Bill Discounting**

- (a) Under a bill discounting arrangement, the drawer undertakes the responsibility of collecting the bills and remitting the proceeds to the financing agency. On the other hand, under factoring agreement, the factor collects client's bills.
- (b) Bill discounting is always with recourse whereas factoring can be either with recourse or without recourse.
- (c) The finance house discounting bills does not offer any non-financial services unlike a factor which finances and manages the receivable of a client.

Answer 4(ii)**'Operating Lease' and 'Finance Lease'**

<i>Operating Lease</i>	<i>Finance Lease</i>
(a) It is a rental agreement where the lessee is committed to pay a periodic lease rental to the lessor.	It is like an installment loan. It is a legal commitment to pay for the entire cost of equipment plus interest over a period of time.

<i>Operating Lease</i>	<i>Finance Lease</i>
(b) It provides for maintenance expenses and taxes by lessor.	It excludes the provisions for maintenance or taxes which are paid separately by the lessee.
(c) Leasing company assumes risk of obsolescence.	Lessee assumes the risk of obsolescence.
(d) Contract period ranges from intermediate to short-run.	Contract period ranges from medium to long run.
(e) The financial commitment is restricted to regular rental payment.	The lessee involves a financial commitment similar to loan by a leasing company. It places lessee in a position of borrower.

Answer 4(iii)**Business Risk and Financial Risk**

Business Risk : The projects which carry the risk of not being able to successfully market the products fall within the category of business risk. For such risk premium is needed on investment proposed to be made in such project and so the expected rate of return on such investment will be higher than those in risk free investment.

Financial Risk : A project may carry financial risk when it is not able to generate sufficient funds to cover interest payments on its debts or pay dividend to the shareholders. Therefore, for investment in such project the rate of return is supposed to be higher.

Answer 4(iv)**Efficient Portfolio and Optimal Portfolio**

Efficient Portfolio : Efficient Portfolio is that which lies along the capital market line. These are the portfolios which offer

- (a) the maximum level of expected return for a given level of risk or
- (b) the minimum level of risk for a given level of return.

These portfolios lie along the efficient frontier of the set of all possible portfolios in a graph of portfolio returns against portfolio risk. It is not possible to determine that which portfolio an individual will prefer, as it would be decided by the risk-return attitude of investor.

Optimal Portfolio : The efficient portfolio which is best suited to the risk return characteristics of a particular individual investor is an optimal portfolio for the investor. It represents a tangency point of the individual investor's utility function or indifference curve on the efficient frontier.

Answer 4(v)**Translation Risk and Transaction Risk**

Translation Risk : It is also called accounting exposure. It refers to and deals with the probability that the firm may suffer a decrease in assets value due to devaluation of foreign currency even if no foreign exchange transaction has taken place. The risk is particularly relevant for the companies, which have subsidiaries in other countries. Due to translation exposure the values of assets, liabilities, expenses and profits of foreign subsidiaries may change. Two related decision areas are involved in translation exposure management , (a) Managing balance sheet items to minimize the net exposure (b) Deciding how to hedge against this exposure.

Transaction risk : Transaction risk refers to the potential change in the value of a foreign currency denominated transaction due to changes in the exchange rate. Credit purchases and sales as well as borrowing and lending denominated in foreign currencies and uncovered forward contracts are some examples of transaction exposure. Transaction exposure basically covers the following :

- (a) *Rate Risk* : It occurs (a) when there is mismatch of maturities and borrowings and (b) In foreign exchange, it results in net exchange positions
- (b) *Credit Risk* : A situation when borrower is not in a situation to pay
- (c) *Liquidity Risk* : Less chances of receiving payments.

Question 5

Alfa Ltd. is in the business of manufacturing bearings. Some more product lines are being planned to be added to the existing system. To manufacture the planned product lines, the firm needs a machine which if purchased outright will cost Rs. 10,00,000. Modern Hire-Purchase and Leasing Co. has offered two proposals as below :

Proposal - I (Hire-Purchase)

Rs. 2,50,000 will be payable on signing of the agreement. Three annual installments of Rs. 4,00,000 will be payable at the end of each year starting from year first. The ownership of the machine will be transferred automatically at the end of third year. The company will be able to claim depreciation on straight line basis with zero salvage value.

Proposal - II (Lease)

Rs. 20,000 will be payable towards initial service fee upon signing of the agreement which is tax-deductible expense. Annual lease rental of Rs. 4,32,000 is payable at the end of each year starting from the first year for a period of three years.

Evaluate the above two proposals and advise the company as to which proposal implies lesser cost given that tax-rate is 35% and discount rate is 20%. (Calculations may be rounded off to Rupee.)

(20 marks)

Answer 5**Proposal I (Machine on Hire Purchase)****Computation of Interest and Depreciation**

<i>Year</i>	<i>Hire Purchase (Rs.)</i>	<i>Interest (Rs.)</i>	<i>Cash Price (Rs.)</i>	<i>Depreciation (Rs.)</i>	<i>Interest and Depreciation (Rs.)</i>
0	2,50,000	—	2,50,000	—	—
1	4,00,000	2,25,000	1,75,000	3,33,333	5,58,333
2	4,00,000	1,50,000	2,50,000	3,33,333	4,83,333
3	4,00,000	75,000	3,25,000	3,33,334	4,08,334
	14,50,000	4,50,000	10,00,000	10,00,000	14,50,000

Workings :

The total hire purchase price is Rs. 14,50,000 and the cash price is Rs. 10,00,000. So the interest is Rs. 4,50,000 which is allocated in the ratio of hire purchase price outstanding i.e. 3:2:1

Computation of Present Value of Cash Outflows

<i>End of the Year</i>	<i>Hire Purchase Instalment (Rs.)</i>	<i>Tax shield @ 35% of Interest and debentures (Rs.)</i>	<i>Net Outflow (Rs.)</i>	<i>PV Factor (Rs.)</i>	<i>Present value of Outflows (Rs.)</i>
0	2,50,000	—	2,50,000	1.0000	2,50,000
1	4,00,000	1,95,417	2,04,583	0.8333	1,70,479
2	4,00,000	1,69,167	2,30,833	0.6944	1,60,290
3	4,00,000	1,42,917	2,57,083	0.5787	1,48,774
	Present value of outflows				7,29,543

Proposal II (Machine on Lease)**Computation of Present Value of Cash Outflows**

<i>End of the Year</i>	<i>Lease charges (Rs.)</i>	<i>Tax shield @ 35% (Rs.)</i>	<i>Net Outflow (Rs.)</i> <i>(Rs.)</i>	<i>PV Factor (Rs.)</i>	<i>Present value of Outflows</i>
0	20,000	7,000	13,000	1.0000	13,000
1	4,32,000	1,51,200	2,80,800	0.8333	2,33,991
2	4,32,000	1,51,200	2,80,800	0.6944	1,94,988
3	4,32,000	1,51,200	2,80,800	0.5787	1,62,499
Present value of outflows					6,04,478

Evaluation of Proposals

The present value of cash outflows in case of hire purchase is Rs. 7,29,543 and in case of lease is Rs. 6,04,478. So the lease option (Proposal II) implies lesser cost and the firm should procure the machine on lease basis.

Question 6

(a) The following data is related to Raman Ltd. :

Year	<i>Raman Ltd.</i>		<i>Nifty Average Index</i>	<i>Nifty Dividend Yield</i>	<i>Return on Government Stock</i>
	<i>Average Share Price</i>	<i>Dividend Per Share</i>			
3	278	14	2,600	4%	8%
2	294	17	2,990	6%	10%
1	326	18	3,040	6.5%	9%
Current	370	20	3,280	6.5%	9%

Calculate —

- (i) Expected return on shares of Raman Ltd.; and
- (ii) Beta (B) value using Capital Asset Pricing Model (CAPM). (14 marks)
- (b) Following facts are available for Astro Ltd. : (i) Cash turnover rate is 5; (ii) Annual cash outflow is Rs. 1,75,000; and (iii) Accounts payable can be stretched by 12 days.

What would be the effect of stretching accounts payable on the minimum operating cash requirements ? If the firm can earn 10% on its investments, what would be the savings on cost ? (Assume 360 days in a year.) (6 marks)

Answer 6(a)**Expected return on Raman Ltd.'s shares**

(a) Average percentage annual capital gain :

$$\text{Let } g = \text{average annual capital gain } 278 (1 + g)^3 = 370$$

$$\text{Therefore } g = \quad - 1 = 1.10 - 1.00 = 0.10 \text{ or } 10\%$$

(b) Average annual dividend yield :

Year	Div	÷ Share Price	=	Dividend Yield
III Year	14	÷ 278		0.050
II Year	17	÷ 294		0.058
1st Year	18	÷ 326		0.055
Current Year	20	÷ 370		0.054
Total				0.217

$$0.217 \div 4 = 0.054 \text{ or } 5.4 \%$$

The expected return on the Raman Company's share would be

$$E(r_A) = \text{Average annual capital gain} + \text{average dividend yield}$$

$$E(r_A) = 10\% + 5.4\% = 15.4\%$$

Expected Return on the market portfolio (Nifty) :

(i) Average annual percentage capital gain

Let g = average annual capital gain

$$2600 (1 + g)^3 = 3280$$

$$\text{Therefore } g = \sqrt[3]{(3280 \div 2600)} - 1 = 0.08 \text{ or } 8 \%$$

(ii) Average annual dividend yield

$$4 + 6 + 6.5 + 6.5 = 23\% \div 4 = 5.75 \%$$

Therefore the expected return on Nifty index acting as surrogate for market portfolio is :

$$E(r_M) = 8\% + 5.75 = 13.75$$

$$\text{Average annual risk-free return : } 8 + 10 + 9 + 9 = 36\% \div 4 = 9\%$$

So

$$E(r_A) = 15.4\%$$

$$E(r_M) = 13.75 \%$$

$$r_f = 9\%$$

β of the share can be found by using CAPM : $E(r_A) = r_f + (\beta_A (E(r_M) - r_f))$

$$15.4\% = 9.0\% + (\beta_A (13.75\% - 9\%))$$

$$= \beta_A$$

$$\beta_A = 1.347$$

Answer 6(b)

Cash cycle of the firm =

Present cash cycle = $360 \text{ days} / 5 = 72 \text{ days}$

Proposed cash cycle when accounts payable can be stretched by 12 days -

$$72 \text{ days} - 12 \text{ days} = 60 \text{ days}$$

Proposed cash turnover rate would be = $360 \text{ days} / 60 \text{ days} = 6$

Minimum operating cash requirement -

$$\text{Present} = \text{Rs. } 1,75,000 / 5 = \text{Rs. } 35,000$$

$$\text{Proposed} = \text{Rs. } 1,75,000 / 6 = \text{Rs. } 29,167$$

$$\text{Reduction in investment} = \text{Rs. } 35,000 - \text{Rs. } 29,167 = \text{Rs. } 5,833$$

$$\text{Therefore Savings in cost} = \text{Rs. } 5,833 \times 0.10 = \text{Rs. } 583.30$$

Question 7

Write notes on any four of the following :

- (i) *Financial instruments used for venture financing*
- (ii) *Factors affecting dividend policy of a firm*
- (iii) *Optimal capital structure*
- (iv) *Financing cost escalation*
- (v) *Domestic resource cost.* (5 marks each)

Answer 7(i)

Financial Instruments used for venture financing

The instruments used for venture financing can broadly be categorized into :

- *Equity Share Capital* : Venture Capital firm take ownership position but their stake does not exceed 49%. The venture capitalist holds the investment made for a prescribed minimum period. At the end of the period, it can divest its holdings either through sale of its holdings to the promoter at a mutually agreed price or through offer of sale in the secondary markets.

- *Conditional Loan* : The conditional loan either carries a low or no interest. In case no interest is charged, the loan carries a charge linked to the level of sale generated by the project on commercialization.
- *Income Notes* : Income notes are a combination of conventional and conditional loans.

The financing mix for each project is determined on the basis of factors such as the type of company (new or existing), contribution being made by promoters, the debt-equity ratio, the nature of the project being undertaken by the company and its project potential.

Answer 7(ii)

Factors affecting dividend policy of a firm

Firm-oriented matters relating to dividend policy can be grouped under the following categories, affecting directly or indirectly the determination and the appropriateness of the policy :

- (1) Firms' contractual obligations, restrictions in loan agreement and/or legal limitations/considerations; and insufficiency of cash to pay dividends.
- (2) Liquidity, credit standing and working capital requirements and considerations. Ability to borrow, nature of stockholders, degree of control, timing of investment opportunities, inflation and need to repay debt.
- (3) Need for expansion-availability of external finance, financial position of promoters, relative cost of external funds, the ratio of debt to equity.
- (4) Business cycle considerations.
- (5) Factors relating to future financing
- (6) Past dividend policies and stockholders relations.

Answer 7(iii)

Optimal Capital Structure

By the term optimal capital structure we mean a particular arrangement of various components of the structure (Debt and Equity) which is just in tune with the both the long term and short term objectives of the firm. A combination less or more than the optimal combination would be less than satisfying. Hence a sub-optimal combination would affect the achievement of the goal of maximization of the shareholders' wealth. Optimal capital structure is an ideal situation which can function as the benchmark of performance for a firm. But this benchmark is invincible and the firm can expect to achieve moderated or toned down versions of this benchmark depending upon dynamics of each project.

Answer 7(iv)

Financing Cost Escalation

Cost escalation results in the increase in project cost for many reasons viz. Delay in implementation of project, inflationary pressure on corporate purchasing etc.

Financing cost escalation will depend upon the corporate arrangements as to how the project cost has originally been financed. There may be the following different ways to treat the financing of cost escalation:

1. When the project is new and financed by owner fund only - In such cases, the raising of equity is costly but issue of right shares to existing shareholder could be planned and this cost be met out.
2. When the company is existing company and project cost is being financed by its internal funds - In this case the company can use its reserves and surplus in financing cost escalation.
3. Where the company has been using borrowed sums in addition to equity capital for financing the project cost, it can always make request for additional funds to the lending institutions to meet the cost escalations or over runs in the project cost. In case the cost escalation is of greater magnitude then the company will have to go to raise funds from equity holders besides raising loans from the institutions so as to maintain the debt equity ratio in the existing balanced and planned proportions.

Answer 7(v)

Domestic Resource Cost

Domestic Resource Cost (DRC) measures the resource cost of manufacturing a product as against the cost of importing/exporting it. It indicates the long term comparative advantage a country enjoys in the production of a particular product.

The output from any project adds to domestic availability implying a notional reduction in imports to the extent of output of the project or an addition to exports if the product is being exported. This in turn implies that foreign exchange is saved to the extent there is reduced imports or foreign exchange is earned to the extent there is increased exports.

However, in the setting up of the project itself and in the manufacturing of the product, foreign exchange outflows may be incurred in order to procure machinery, raw materials etc. The foreign exchange saved or earned thus has to be adjusted for such outflow.
