Institute of Actuaries of India

Subject CT2 – Finance and Financial Reporting

November 2013 Examinations

INDICATIVE SOLUTIONS

Solution 1 :

B) Is issued at a discount and redeemed at par.   **[2 Marks]**

Solution 2 :

A) 5.26 %   **[2 Marks]**

Solution 3 :

A) II), III) and IV)   **[2 Marks]**

Solution 4 :

D) None of the above   **[2 Marks]**

Solution 5 :

C) Those incurred in training the work force   **[2 Marks]**

Solution 6 :

B) A change in the rate of income tax   **[2 Marks]**

Solution 7 :

B) 1 & 2   **[2 Marks]**

Solution 8 :

A) In general the market value of investment trust is lower than the net present value   **[2 Marks]**

Solution 9 :

D) 10.40%   **[2 Marks]**

Solution 10 :

B) 6.40%   **[2 Marks]**

Solution 11 :

i)

	Sole trader	Limited Company
Source of finance	Sole trader	Shareholders
Legal Identity	Not separate	Separate
Documentation	None	Quite a lot e.g. Memorandum and articles of association
Disclosure	None	Financials statements has to be published
Tax	Sole trader pays Individual tax	Corporation tax

[2 Marks]

ii) Multi-currency loans: where the bank acts as a middle man and arranges to borrow money in whichever currency looks the best value to borrow in. The bank then swaps the loan into sterling or whatever currency is required.

Syndicated loans: where the loan facility is provided by a group of banks. This would be used where the sums to be borrowed are larger than any one bank would happily lend on a single project.

[2 Marks]

iii)
1. Raising new finance for companies and governments (the "primary" or "new issue" market)
2. Providing a secondary market for investors.

[2 Marks]

[Total Marks – 6]

Solution 12 :

i) Medium term Finance

> Hire purchase
> Credit sale
> Leasing
> Bank loan
Short term finance
> Bank overdraft
> Trade credit
> Factoring
> Bills of exchange
> Commercial paper   **[4 Marks]**

ii) Generally the long term finance is more expensive than the short term finance because of following reasons:
1. Long term finance require longer term commitment from the lender and to compensate for longer commitment higher return is required
2. The default risk increase with increase in the loan term. To compensate for higher default risk in long term finance higher return is expected

3. Uncertainty related to higher inflation is higher in case of long term finance and hence higher return is required.   **[2 Marks]**
[Total Marks-6]

Solution 13 :

1. Selling dollar in the open market thus increasing the demand for rupee
2. Increasing the interest rates thus attracting more dollar for investment
3. Prohibition of investments outside India thus restricting demand for dollar
4. Lowering the ceiling on outward remittance thus increasing flow of dollar to India
5. Increasing the liquidity in the market thus making funds available to productive sector.
[4 Marks]

Solution 14 :

1. Gilts
2. Local authority bonds
3. Bulldogs
4. Ordinary Shares
5. Preference shares
6. Debentures
7. Unsecured loan stoack
8. Eurobonds
[2 Marks]

Solution 15 :

i)

A financial instrument whose value depends on the value of the underlying asset is called a derivative.

Four derivatives are:

a) Futures

A futures contract is a standardised, exchange tradable contract between two parties to trade a specified asset on a set date in the future at a specified price.

The main types are

    i)   Bond Futures
    ii) Short interest rate futures
    iii) Stock index futures
    iv) Currency futures

b) Forwards:

A forward contract is a non-standardised and privately negotiated contract between two parties to trade a specified asset on a set date in the future at a specified price.

c) Options:

An option gives an investor the right, but not the obligation, to buy or sell a specified asset on a specified future date.

The seller (writer) of an option has the obligation to honour the option given to the buyer.

The buyer of the option may benefit from favourable movement in the price of the underlying asset but is protected from adverse movements. However this comes at a cost- the option premium.

The two main types are:

i) Call option
ii) Put Option

d) Swaps:
A swap is a contract between two parties under which they agree to exchange a series of payments according to a prearranged formula.

The two main types are:
i) Interest rate swap
ii) Currency swap

[6 Marks]

ii)

Two primary uses of derivatives is as follows:
a) Hedging
Derivatives are used to protect oneself from the adverse movements in the value of the underlying asset.

E.g. If an investor wishes to buy an asset in the future but wants to lock in the price that he pays, he could buy a futures contract to but he will not be able to gain from fall in the price of the asset at the time of buying. An option in this case would be beneficial as he could allow the option to lapse and buy the asset in the open market at a price less than the strike price of the option. However he will have pay an option premium

b) Speculation
To earn money from the anticipated movement in value of the underlying asset

E.g. If an investor expects the price of a stock to fall in the next three months, he couls buy a put option or short sell a futures contract. An option will restrict his risk to the amount of the initial premium paid but a futures contract will leave him exposed to a greater risk if the price of the stock rises in 3 months.

[2 Marks]

iii)

The derivatives allow the investor to gain large exposures to underlying assets at very low cost i.e only margins are paid in case of futures, swaps and by the writer of the option while premium is paid when an option is bought.

E.g. If a person has Rs 1,000 and expects that price of stocks of XYZ Ltd to increase in 3 months. The price of the stock today is Rs 100 while the price of the option with 10 underlying stocks of XYZ Ltd. is Rs 10 each. If he uses his money to directly buy stocks he will be able to buy only 10 stocks while if he uses the money to buy options, he can gain exposure to 1000 stocks of XYZ Ltd. If at the end of 3 months the price of XYZ Ltd.'s stocks rises to Rs 110, he will gain only Rs 100 if he had bought the stocks directly but by using the option, his gain will be Rs 9,000 [(Rs 10/stock × 1000 stocks) – Rs 1,000 Premium]

[1 Mark]
[Total Marks-9]

Solution 16 :

a)

Statement showing depreciation on Motor vehicles and Plant and machinery and the balance of Plant and machinery as on 31st March 2012

Particulars	Amount Rs. Million	Marks
Total depreciation for the year	255.00	
(Less) Depreciation on Motor vehicles for the year[(192/80%)*20%]	-48.00	1
Depreciation attributable to Plant and machinery	207.00	0.5
Balance of Plant and machinery as on 31st March 2013	1,535.00	
(Add) Depreciation charged for the year	207.00	0.5
(Less) New Machinery purchased during the year	**-277.00**	0.5
Balance of Plant and machinery as on 31st March 2012	1,465.00	0.5

[3 Marks]

b)

Statement showing the balance of Equity share capital and Other reserves as on 31st March 2012.

Particulars	Amount Rs. Million	Marks
Equity Share Capital as on 31st March 2013	1,500	
(Add) Equity Share Capital bought back [(1500/3)*4]----(A)	500	0.5
Equity Share Capital as on 31st March 2012	2,000	0.5
Total Payment on Buyback (B)	900	
Total Premium Paid [B - A]	400	0.5
Balance of Other Reserves as on 31st March 2013	1,100	
Balance of Other Reserves as on 31st March 2012	1,500	0.5

[2 Marks]

c)

Statement showing the profits retained for the year and the balance of Retained earnings as on 31st March 2012.

Particulars	Amount Rs. Million	Marks
Operating Profit for the year	662.50	
(Less) Interest paid	-7.50	0.5
(Add) Profit on sale of investments	2.00	1
Profit for the year attributable to Equity shareholders	**657.00**	0.5
(Less) Dividend paid to equity shareholders	-150.00	1
(Less) Dividend paid to preference shareholders	-10.00	1
Profit transferred to Retained Earnings (A)	**497.00**	0.5
Balance of Retained Earnings as on 31st March 2013 (B)	1,322.00	
Balance of Retained Earnings as on 31st March 2012 (B) - (A)	**825.00**	0.5

[5 Marks]

d)

Statement showing Cash balance as on 31st March 2012.

Particulars	Amount Rs. Million	Marks
Cash balance as on 31st March 2013	300	
(Add) Net decrease in Cash and Cash Equivalents during the year	1,000	0.5
Cash balance as on 31st March 2012	1,300	0.5

[1 Mark]

e)

Statement of financial position as at 31st March 2012

Particulars	Amount Rs Million	Amount Rs Million	Marks
ASSETS			
Non-current assets		1,905	
Land	200		0.5
Plant and machinery	1,465		0.5
Motor vehicles	240		0.5
Investments		135	1
Current assets		3,095	
Inventory	550		0.5
Trade receivables	1,100		0.5
Loan to employees	125		0.5
Prepaid salary	20		0.5
Cash	1,300		
Total assets		5,135	
EQUITY AND LIABILITIES			
Equity share capital		2,000	0.5
Preference share capital		100	1
Other reserves		1,500	0.5
Retained earnings		825	0.5
Total equity		4,425	
Non current liabilities			
Long term borrowings		100	1
Current liabilities		610	
Trade payables	560		1
Provision for compensation to customer	50		1
Total equity and liabilities		5,135	

[10 Marks]
[Total Marks-10]

Solution 17 :

i)

Statement for Compuatation of Taxable Income for the F.Y 2012-13			
Particulars	Amount	Amount	Marks
Salary Income		19,00,000	0.5
Capital Gain on Flat		10,22,407	0.5
Sale Proceeds	27,00,000		
(-) Brokerage Paid	54,000		0.5
(-) Indexed cost of acquisition	16,23,593		1
[(10,50,000*852)/551]			
Gain on sale of foreign currency		6,046	1
[(86.80 - 78.00) * GBP 687.00]			
Income from Marking of scripts		81,300	1
[(73170/900)*1000]			
Winning from betting on horses		50,000	0.5
Total Income		30,59,753	
(Less) Investments eligible for tax saving		1,00,000	0.5
Net Taxable Income		29,59,753	0.5

[6 Marks]

ii)

Computation of Net Tax payable by Mr Singh for F.Y. 2012-13			
Particulars	**Amount**	**Amount**	**Marks**
Tax on above Income		6,15,685	
Betting income	15,000		0.5
Tax on Long term capital gains (1022407*20%)	2,04,481		0.5
Tax on all other income not considered above	3,96,204		1.5
Tax already paid/deducted		423130	
on Betting	15000		0.5
on Salary	400000		1.5
Witholding tax on UK Income [(73170/900)*100]	8130		1
Net tax payable		1,92,555	0.5

[6 Marks]

[Total Marks-12]

Solution 18:

i)

1. Political risk: what if government calls off the project or land acquisition fails, change of government
2. Inflation: actual cost of wages, raw material is higher than expected
3. Delay in the completion of construction - may lead to penalty
4. Fluctuation in the currency rates: there is risk of deterioration of INR higher than expected
5. Delay in payment from government
6. Agency problems – additional cost related to agency problem may be incurred
7. Failure to follow safety norms – may lead to penalty
8. Poor quality of project – may lead to penalty
9. Natural calamity – financial loss and delay in completion
10. Long approval delay: such projects require approval from environment ministry etc.
11. Increasing cost of capital – financial loss
12. Breakdown of Machinery – financial loss and delay in completion of project
13. Legal Issues – additional costs and delay in completion
14. Fraud – by employees lead to financial loss
15. Crime at work site – Legal issues and delay in completion of work

[5 Marks]

ii)

Amount in crore

Year	Exchange rate	Amount Borrowed in USD	Interest Payment in USD	Total outgo in USD	Total cashflow in INR
O	60.00	8.33	0.00	8.33	500.00
1	63.00	0.00	0.25	-0.25	-15.75
2	66.15	0.00	0.25	-0.25	-16.54
3	69.46	0.00	0.25	-0.25	-17.36
4	72.93	-8.33	0.25	-8.58	-625.99

[4 Marks]

iii)   Amount in crore

Year	Cashflow from government (+)	Raw material cost (-)	Wages (-)	Loan Cashflow	Cost of Machinery (-)	Net Cashflow	Discount rate	Net PV
0	0.00	500.00	100.00	500.00	500.00	-600.00	1.00	-600.00
1	0.00	1000.00	120.00	-15.75		-1135.75	0.85	-962.50
2	0.00	1250.00	150.00	-16.54		-1416.54	0.72	-1017.34
3	0.00	500.00	100.00	-17.36		-617.36	0.61	-375.75
4	8000.00	0.00	0.00	-625.99		7374.01	0.52	3803.43
								847.85

[7 Marks]

iv)

Amount in crore

year	Exchange rate	Amount Borrowed in USD	Interest Payment in USD	Total outgo in USD	Total cashflow in INR
o	60.00	8.33	0.00	8.33	500.00
1	57.00	0.00	0.25	-0.25	-14.25
2	54.15	0.00	0.25	-0.25	-13.54
3	51.44	0.00	0.25	-0.25	-12.86
4	48.87	-8.33	0.25	-8.58	-419.47

Amount in crores

Year	Cashflow from government (+)	Raw material cost (-)	Wages (-)	Loan Cashflow	Cost of Machinery (-)	Net Cashflow	Discount rate	Net PV
0	0.00	500.00	120.00	500.00	500.00	-620.00	1.00	-620.00
1	0.00	1000.00	144.00	-14.25		-1158.25	0.85	-981.57
2	0.00	1250.00	180.00	-13.54		-1443.54	0.72	-1036.73
3	0.00	500.00	120.00	-12.86		-632.86	0.61	-385.18
4	8000.00	0.00	0.00	-419.47		7580.53	0.52	3909.95
								886.48

[4 Marks]

[Total Marks-20]

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