INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

29th April 2016

Subject CT2 – Finance and Financial Reporting

Time allowed: Three Hours (10.30 – 13.30 Hrs.)

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATES

1. ***Please read the instructions on the front page of answer booklet and instructions to examinees sent along with hall ticket carefully and follow without exception.***
2. ***Mark allocations are shown in brackets.***
3. ***Attempt all questions, beginning your answer to each question on a separate sheet. <u>However, answers to objective type questions could be written on the same sheet</u>.***
4. ***Please check if you have received complete Question Paper and no page is missing. If so, kindly get new set of Question Paper from the Invigilator.***

AT THE END OF THE EXAMINATION
Please return your answer book and this question paper to the supervisor separately.

Q. 1) If interest rates are expected to rise in the future, which of the following types of bonds should be avoided by the issuer of bonds?

I. Stepped bond
II. Bond with a call option
III. Bond with a put option
IV. Index linked bond
V. Variable rate bond

A. IV and V
B. I, IV and V
C. All the above
D. III, IV and V **[2]**

Q. 2) In respect of company financing, which of the following should be avoided?

I. Funding current assets with equity capital
II. Reducing the debt burden of a company belonging to an industry facing decline
III. A high growth low risk company to be highly geared
IV. A high growth high risk company to be highly geared

A. IV only
B. I and IV
C. All the above
D. None of the above **[2]**

Q. 3) In India, which of the following are differences between corporate taxation and personal taxation?

I. Tax rates are generally level in corporate taxation while they are stepped/banded in personal taxation
II. There are no special reliefs in corporate taxation while they exist in personal taxation
III. Personal taxation is only levied on income that is actually received while corporate taxation taxes accrued income as well
IV. Double taxation is avoided in personal taxation but not in corporate taxation

A. I only
B. I and IV
C. All the above
D. I, III and IV **[2]**

Q. 4) Which of the following accounting concepts are likely to distort the true economic value of an entity as reflected by its statement of financial position?

I. Money measurement concept
II. Cost concept
III. Prudence
IV. Accrual concept

A. II only
B. II and III
C. All the above
D. I, II and III **[2]**

Q. 5) Siddharth Ltd holds 80% of the equity share capital of Vidya Ltd. These shares were acquired at a cost of INR 10 million. According to the latest available statement of financial position of Vidya Ltd, the company's equity has a value of INR 13 million. Also Vidya Ltd has not recorded a potential liability under a lawsuit filed by one of its customer claiming INR 1.5 million as damages for defective goods. The law suit has recently been decided in favour of the customer and the court has ordered Vidya Ltd to pay INR 1.5 million as damages.

The value of the goodwill while consolidating the statements of financial position of the two companies is:

A. NIL
B. INR 800,000
C. INR 400,000
D. INR 3 million **[2]**

Q. 6) The discount rate at which the Net Present Value of a series of cash flows is zero is known as:

A. Fixed Interest Rate
B. Forward Interest Rate
C. Internal Rate of Return
D. Risk Free Rate **[2]**

Q. 7) Which of the following are derivative instruments?

I. Options
II. Forward Contracts
III. Swaps
IV. Warrants

A. Only I & II
B. All are derivative instruments.
C. Only I, II & IV
D. Only I, II & III **[2]**

Q. 8) What is a Junk Bond?

A. A Bond which does not meet the usual requirements of income cover for institutional investors
B. A Bond which does not meet the usual requirements of both income cover and capital cover for institutional investors
C. A Bond which has defaulted or delayed in interest payment and or capital repayment.
D. A Bond which does not meet the usual requirements of capital cover for institutional investors **[2]**

Q. 9) Which type of entities are required to have legal documentation at the time of their formation?

I. Sole Proprietor / Sole Trader
II. Partnership
III. Limited Liability Partnership
IV. Limited Company

A. Only IV
B. III & IV
C. All
D. II, III and IV. **[2]**

Q. 10) Which of the following statements are true?

I. Agency theory tries to explain complex relationships and conflicting objectives within an organization.
II. Agency cost is incurred so that principals are motivated and incentivized to remove possible conflict of interest.
III. Well written agreements help in reducing conflict of interests.
IV. Information asymmetries cannot lead to conflict of interest

A. I. and III
B. All of the above
C. I. II. and III
D. II and III **[2]**

Q. 11) You have recently been appointed as a financial consultant to Infinity Pvt. Ltd., a business situated in the country of Novania. It is a newly formed company and the financial year ended 31 March 2017 will be its first year of operation.

Manufacturing operations require the company to buy a machine at a cost of INR 10 million. The machine will have a useful life of 10 years and it is estimated that the sales value of the machine at the end of its useful life will be INR 1.2 million. The company will be taxed @30% on its business income and 20% on capital gains. The taxes will be paid immediately at the end of each financial year. You can assume that the hurdle rate for making financial decisions is 8%.

The tax laws of Novania allow depreciation to be charged using the following three methods for the computation of taxable profits:

- A written down value method such that the asset value at the end of the estimated useful life exactly equals the estimated scrap value

- An accelerated depreciation method where depreciation for each year is calculated as follows:
  Depreciation for each Year t
  $$= (\text{Cost} - \text{Scrap value}) \times \frac{\text{Remaining useful life of asset including current year}}{\{n \times (n+1) \div 2\}}$$
  Where n is total useful life of the asset

- A method that allows depreciation for only four years at 22.5%, 20.0%, 17.5% and 15.0% respectively on the cost of the asset. No depreciation shall be allowed after 4 years.

i) Project the depreciation chargeable under each of the three methods for 10 years (4)

ii) Using the present value approach, evaluate which method would be most beneficial to Infinity Pvt. Ltd from a purely taxation perspective. (5)

iii) Identify the key assumptions inherent in your calculations for part ii). (2)

For the first year ended on 31 March 2017, the company made a profit (after depreciation, interest and provision for taxes) of INR 1.4 million. The profit was based on the financial statements prepared and presented by the internal accounts team on 10 April 2017.

On 21 April 2017 while the books of accounts were being checked by the auditors, they found an error in the records. The details of the error were as follows:

- Goods costing INR 100,000 and having a sales price of INR 125,000 which were distributed free at an industrial fair were recorded as credit sales made at the sales price to one of the customers who was involved in organising the fair.

iv) Identify all of the financial implications the error would have on the statement of comprehensive income and the statement of financial position. (4)

The following additional information was presented by the internal accounts team on 10 April 2017:

- Earnings per share = INR 14
- Current ratio = 5.75 (the current liabilities considered for the calculation of this ratio exclude provision for taxes)
- Interest cover = 5
- Interest rate on long term debt = 10% p.a. payable at the end of each year (loan was taken on 1 April 2016 and no repayment was made during the year)
- Face value of each share = INR 150
- Total of either sides of the statement of financial position as at 31 March 2017 = INR 25 million
- There are no preference shares issued by the company
- No dividend was paid by the company

v) You have been asked to prepare the statement of financial position as at 31 March 2017 after rectifying the various effects of the error described in section iv) above (8)

[23]

Q. 12) A newly formed country is debating whether it should mandate compliance with the international accounting standards. As a reputed member of the accounting profession in a neighbouring country, you have been asked for your advice.

i) Describe four advantages and four disadvantages of compliance with the international accounting standards. (4)

ii) List the various sources of regulations that influence the preparation of financial statements for companies in addition to the accounting standards. (2)

iii) Describe the additional information that cashflow statements provide which is not available in the statement of financial position and statement of comprehensive income. (2)

[8]

Q. 13) Mr. Aarhan has taken the following derivative positions on 1st April 2016:

- Long position in 5 futures of Bata Steel with a strike price of INR 280 expiring in 3 months. Each futures contract has 1000 shares of Bata Steel as underlying. The market price of each share of Bata Steel as at closure of trading on 1st April 2016 is INR 280

- Long position in 10 put option contracts of Bata Motors with a strike price of INR 500 expiring in 2 months. Each put option contract has 500 shares of Bata Motors as underlying. The option premium paid for each contract was INR 5,000. The market price of each share of Bata Motors as at closure of trading on 1st April 2016 is INR 500

- Short position in 7 call option contracts of BCS with a strike price of INR 1100 expiring in 1 month. Each call option contract has 100 shares of BCS as underlying. The option premium received for each contract was INR 7,000. The market price of each share of BCS as at closure of trading on 1st April 2016 is INR 1100.

Calculate the variation margin payable/receivable on 2nd April 2016 in each of the following circumstances:

	Scenario 1-Market price of each share at closure of trading on 2nd April 2016	**Scenario 2-Market price of each share at closure of trading on 2nd April 2016**
Bata Steel	305	269
Bata Motors	480	510
BCS	1150	1030

[6]

Q. 14) Ishaant Pvt. Ltd has a credit rating of B (Stable). Ishaant Pvt. Ltd. has experienced massive growth and profitability in the last two years but has been facing challenges in the last few months to meet its cash outflows, as the profits generated are being invested in working capital as well as the recent expansion undertaken to meet the ever-increasing demand. The expansion involved buying land and setting up a new plant. Ishaant Pvt. Ltd therefore needs to raise long term debt capital. However due to its credit rating, the banks are willing to lend money only at a substantially high interest rate. The company also plans to reduce its debt burden by going for an Initial Public offering in five years' time.

Please advise Ishaant Pvt. Ltd of three possible ways for it to raise debt capital at an interest rate lower than that at which the bank is prepared to lend. Also briefly explain the pros and cons of each approach if any and the remedial action **[3]**

Q. 15) Discuss the role, sources of funds and application of funds for the following financial institutions:

a) Investment Bank

b) Pension Scheme

c) Life Insurance Company **[7]**

Q. 16) ABC Company Limited is highly profitable and wants to expand its operations. The estimated cost of the expansion work is Rs. 1000 Mn out of which Rs. 500 Mns is to be met by loan funds. The company has received 2 offers from their bankers:

	Option 1	**Option 2**
Value of Loan	Rs. 500 Mn	US$ 8 Mn equal to Rs. 500 Mn
Interest	15% yearly at the end	8% yearly at the end (payable in US$)
Repayment Period	5 installments of Rs. 100 Mn each at end of each year.	5 installments of US$ 1.6 Mn each at end of each year.
Other Expenses	1% of value of loan at inception	2.5% of value of loan at inception.
Future Exchange Rates	NA	End of 1st Year - 1 US$ = Rs. 65 Thereafter to increase by Rs. 3 per annum

The company is liable to pay 25% Income Tax. Investment expenses, interest payments and foreign exchange fluctuations are tax deductible. The company has Rs. 1000 Mn of other income. Pre-tax cost of capital for the company is 12%.

i) Compare the total outflow of cash under each of the two options. (8)

ii) Using a discounted cash flow technique, evaluate both offers and suggest which option the company should choose. (4)

iii) Highlight any risk that the company should take care of. (2)

iv) If ABC Company Limited had a large volume of exports, explain whether your advice would be different. (1)

[15]

Q. 17) Growth Ltd. is a company with capital of Rs. 700 Mn. Out of this Rs. 500 Mn is equity capital and Rs. 200 Mn is debentures issued at 7.75% interest. It is listed on the stock exchange and its share price at the end of each month is benchmarked below against the market benchmark levels for the past year.

Months	**Market Benchmark Returns**	**Returns on Growth Ltd. Shares**
1	3.5%	4.6%
2	1.5%	3.0%
3	-1.2%	-4.0%
4	2.5%	-1.0%
5	-4.0%	-6.0%
6	-3.0%	-5.0%
7	-2.0%	-3.0%
8	1.5%	3.0%
9	1.5%	3.0%
10	1.7%	4.0%
11	2.0%	5.0%
12	3.0%	4.0%

A tax-free 7.5% 10 year central government bond (Rs. 500 par value) closed at Rs. 555.20 at day end yesterday. The tax rate applicable for Growth Ltd is 20%.

Growth Ltd wants to maintain its overall cost of capital at 7%.

The company has decided to issue another set of debentures at 8.375% interest to achieve the above target.

Calculate the value of Debentures to be issued. **[18]**

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