INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

9th September 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 inside the cover 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) Calculate the Corporate Tax payable @25% of Taxable Profits

	Amount (INR)
Profit Before Tax and Interest	50,00,000
Interest Paid	10,00,000
Expenses Disallowed for Taxation	8,00,000
R&D Expense Special Relief allowed for Taxation	5,00,000

A. Rs 10,75,000
B. Rs 6,75,000
C. Rs 9,25,000
D. Rs 13,25,000 **[2]**

Q. 2) Which of these investors would have a low investment preference in a company which offers a low dividend yield –

A. Investors who pay lower tax on capital gain and higher tax on income.
B. Investors who have no current need for cash.
C. Investors who pay high tax on income.
D. Investors who believe the company can reinvest the cash better than they can. **[2]**

Q. 3) In which of the following circumstances would it be inappropriate for a company to enter into an interest rate swap?

A. The company has a comparative advantage in borrowing at a fixed rate of interest.
B. The company has a comparative advantage in borrowing at a floating rate of interest.
C. The company has a floating rate loan and wishes to protect itself against interest rate rises.
D. The company wishes to create greater flexibility in the eventual settlement of its liabilities. **[2]**

Q. 4) An increase in the value of a non-current asset recognised in the revaluation reserve would NOT –

A. Increase the equity of the company.
B. Make the statement of financial position look stronger.
C. Increase the profit of the company.
D. Increase the other comprehensive income. **[2]**

Q. 5) Which of the following best describes the process of preparing consolidated financial statements for a group comprising a parent and an 80% subsidiary?

A. Cancel all relationships between the group members and add the figures for assets and liabilities together.
B. Cancel all relationships between the group members and add 80% of the subsidiary's assets and liabilities to the parent's.
C. Cancel 80% of all relationships between the group members and add the remaining figures for assets and liabilities together.
D. Cancel 20% of all relationships between the group members and add the remaining figures for assets and liabilities together. **[2]**

Q. 6) What is the meaning of the term "accrued interest" in parlance of bonds with coupons?

A. The amount of interest accumulated to date since the last coupon payment
B. The amount of interest accumulated to date since the date of issue
C. The amount of interest accumulated from now until the end of maturity
D. The amount of interest accumulated from now until the next coupon payment **[2]**

Q. 7) Which of the following statements are true about a "callable bond"?

A. The holder has a right to sell the bond back to the issuer for a predetermined price
B. The issuer has a duty to buy back the bond for a predetermined price
C. The issuer has an option to buy back the bond for a predetermined price
D. The holder has a right to buy the bond from the issuer at a future date at a predetermined price **[2]**

Q. 8) Which of the following is paid last if a company is wound up?

A. Eurobond
B. Mortgage Debentures
C. Unsecured Loan
D. Preference Shares **[2]**

Q. 9) Which of the following will dilute the value of equity in a business?

I. Warrants
II. Executive Stock Options
III. Eurobonds
IV. Convertible Loan Stock

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

Q. 10) Which of the following strategies will help a lending company to reduce its exposure to falling interest rates?

I. Swapping a fixed interest rate for a floating interest rate.
II. Purchase of a put option on an interest rate future
III. Purchase of a bond future
IV. Selling an interest rate future

A. I and III
B. All Strategies
C. I, II And III
D. II & III **[2]**

Q. 11) **i)** A company is planning to make a rights issue on the basis of one new share for every five shares currently held. The present share price is Rs 200. The rights issue will be priced at Rs 175 per share. The Board of Directors intend to use the funds raised for expansion plans and are confident this will increase the company's present market capitalization by 25%.

Calculate the expected price per share after the rights issue. (3)

ii) ABC Ltd. issues Rs 50,00,000 of convertible loan stock. Holders will have the option to convert each Rs 50 of stock into 4 ordinary shares in 1 years' time. The current share price is Rs 9 and the loan stock is trading at par. Calculate the Conversion premium. (2)

[5]

Q. 12) IDC Ltd. operates in two territories in India via two subsidiaries– North and West. The Directors of the company are keen to ensure that each region maximizes its potential and have decided to compare the performance of the two regions. The latest financial statements of each region are produced below –

Income Statements – for year ended 31st March 2016	**NORTH (Rs '000)**	**WEST (Rs'000)**
Revenue	1500	2500
Cost of Sales	600	950
Gross Profit	900	1550
Advertising & Distribution Cost	220	500
Administration Expenses	120	100
Operating Profit	560	950
Interest	25	12
Net Profit	535	938

Statement of Financial Position–As at 31st March 2016	**NORTH (Rs '000)**	**WEST (Rs'000)**
Non-current Assets	2000	2400
Trade Receivables	180	430
Total Assets	2180	2830
Equity	1500	2500
Loans	400	200
Current Liabilities	280	130
Total Equity & Liabilities	2180	2830

i) Compare the performance of the two divisions by calculating appropriate ratios for

a) Profitability (calculate two ratios) (3)

b) Liquidity (1.5)

c) Receivables Management (1.5)

ii) State the limitations of your analysis in (i), explaining why the directors should seek additional information before making changes to the operations of either subsidiary. (3)

[9]

Q. 13) **i)** Briefly explain the concept of 'Going Concern' (2)

ii) Discuss the difficulties associated with deciding whether the going concern concept is appropriate. (4)

[6]

Q. 14) The following information has been obtained from the company's book keeping records:

Balances as at 31st March 2016	
	INR '000
Advertising	66,000
Buildings – depreciation	45,000
Buildings – valuation	450,000
Administrative salaries	3,600
Cost of inventory consumed	435,000
Delivery vehicle running costs	51,000
Delivery vehicles – cost	375,000
Delivery vehicles – depreciation	255,000
Bank overdraft	1,650
Dividend paid (*incl. Dividend Tax @ 15%*)	150,000
Interest	38,400
Factory running costs	105,000
Land – valuation	840,000
Inventory at 31st March 2016	36,000
Loan (repayable 2021)	300,000
Machinery – cost	186,000
Manufacturing wages	195,000
Retained earnings	262,350
Revaluation reserve	240,000
Revenue	1,686,000
Sales salaries	84,000
Share capital	210,000
Trade payables	57,000
Trade receivables	126,000
Machinery – depreciation	84,000

The figures shown above do not include the following:

1. A revaluation exercise was conducted on 1st April 2015. Land was revalued at INR 1,000,000,000 and buildings at INR 500,000,000.

2. Depreciation has still to be charged as follows:
- Buildings – 3% of cost or valuation
- Delivery vehicles – 25% reducing balance
- Machinery – 20% of cost

Prepare the following statements in a form suitable for publication:

a) Income Statement
b) A statement of changes in equity, and
c) Statement of Financial Position
for the year ended 31st March 2016

[20]

Q. 15) **i)** What is the meaning of the term “money markets”? (2)

ii) Describe in detail the objectives of a central bank (monitored directly by government e.g. the Bank of England in the UK, and the Reserve Bank of India in India.) in “money markets” and how the bank achieves these objectives? (8)

[10]

Q. 16) You are an executive working in a country named ‘Dreamland’. In this country, the local currency is ‘CT’ and the risk-free interest rate prevailing is -2% (negative 2%). The currency is in deflationary mode and hence the cost of living falls 4% per annum (For example, if your annual expenses are 100,000 CT in the first year, then to maintain the same standard of living you have to spend 96%, i.e. 96,000 CT in the second year and so on).

You have just retired and have accumulated 1 Million CT over your working life. Your annual expenses are at the level of 100,000 CT in the first year. You expect to maintain your standard of living in the future.

i) You are considering an option to invest your accumulated funds in risk free avenues. You withdraw the amount needed for annual expenses at the beginning of each year starting from initial year.

Determine the cashflows involved in this option and the residual fund after 10 years. (3)

ii) You have an option to invest in deposits denominated in US$ which earn an interest rate of 3% per annum. The rate of exchange in the first year is 1 US$=5CT. Each year the rate will fall by 0.25CT i.e. 1 US$ = 4.75 CT in the second year and so on. You withdraw the amount needed for annual expenses at the beginning of each year starting from initial year; these are converted to CT instantly.

Determine the cashflows involved in this option and the residual fund after 10 years (converted back to CT at the end of 10 years). (4)

iii) Explain which of the above options you will choose for application of your retirement fund (1)

iv) Suppose that you decided to go for the investment in CT denominated deposits. You are sceptical of negative interest on your deposits and are thinking about hoarding the money in your basement. However you are also worried about the theft rates in the country.

Safe Money Ltd. has approached you with security solutions with safe deposit vault, CCTV cameras, burglary alarm systems etc. They guarantee the protection

of your money for security fees of 10000 CT per annum fixed. These rates are not expected to vary in future years.

Determine the cashflows involved in this option and the residual fund after 10 years.
Compare this option against option (i) above. (3)

v) You read about an insurance product which covers against theft of cash/money. The premium rate charged is based on the quantum of money involved. If the cash available (at the beginning of the year) is more than 750,000 CT then the premium rate is 2.5% of the cash at beginning. If the cash available is between 475,000 CT & 750,000 CT then the premium rate is 2.1% and below 475,000 CT, the premium rate is 0.5%.

Determine the cashflows involved in this option and the residual fund after 10 years.
Compare this option against option (i) above. (3)

vi) Would your answer be different in part (v) above if the premium rate for cash above 750,000 CT is renegotiated to 2.2%? (3)

vii) Assume that you could use more than one of the options out of (i), (iv), & (v) above over the next 10 years. Could you plan the future investment strategy so as to maximize the residual value at the end of 10 years?

If yes, then how much would be the maximized residual value at the end of 10 years? (3)

[20]

Q. 17) Financial data for ABC Ltd. as at 31st March 2016:

Ordinary Equity shares (Rs. 10 Face Value)	Rs. 120m
7.2% Preference shares (irredeemable, Rs 10 Face Value)	Rs. 100m
Bank borrowing for repayment 31st March 2019	Rs. 95m
Total equity and borrowings	Rs. 315m

Additional information:

- Preference shares are trading at Rs. 9.20 each on 31st March 2016
- Floating rate interest is payable on the bank borrowing at interbank rates plus 2%. Current interbank rates are 7.5%.
- ABC's share price is Rs.12.70 cum dividend on 31st March 2016, including a dividend of Rs. 0.20 per share
- Dividends have increased at an average compound growth rate of 12% over the past five years.

Corporate income tax is charged at 25% on taxable profits and is settled a year in arrears

i) Calculate ABC's cost of ordinary equity, using the dividend valuation model. (3)

ii) Calculate ABC's weighted average cost of capital on the Market Value basis (WACC). (7)

[10]

****