

CA FINAL

AFM

MODLE TEST PAPER

Sample Notes

Curated By:-

CA, CPA Vinod Kumar Agarwal

(AIR 2 - CA Foundation, AIR 4 - CA Inter, AIR 24 - CA Final)



ABOUT

CA VINOD KUMAR AGARWAL

(AIR-2nd, 4th & 24th IN FOUNDATION,
INTER & FINAL RESPECTIVELY)

SUMMARY

Founder Member of A.S. Foundation, India's Leading Academy for C.A. Course, CA Vinod Kumar Agarwal is a fellow member of ICAI and a past member of the Board of Studies, ICAI. With a teaching experience of twenty years, he has guided more than 1,00,000 students and is ranked as one of the best teachers for Accounts and Financial Management at Intermediate level and Financial Reporting and SFM at Final Level. He has authored books on Accounts, Advanced Auditing for CA Final, Auditing for Intermediate, Accounting Standards, Ind AS, Costing and Financial Management, and his books have sold more than 2,00,000 copies.

PUBLICATIONS AND ACHIEVEMENTS

- A merit holder in all the three levels of exams conducted by ICAI (2nd rank, 4th rank, and 24th rank in CA Foundation, CA Intermediate and CA Final respectively).
- Scored 99 marks in Accountancy in CA Foundation.
- Authored books on Accounts, Advanced Auditing for CA Final, Auditing for Intermediate, Accounting Standards, Ind AS, Costing and Financial Management.
- Compiled a book "No Truth, Only Interpretations", a book on motivation, inspiration and guidance.
- Compiled a book, "Mind Candy", a book on motivation.
- Compiled a book, "Sweet Voice", a book on inspirational quotes.
- Working experience with India's top firms like M/s. S.B. Billimoria and A.F. Ferguson (both member firm of Deloitte).
- Published article in the Students Newsletter of ICAI on "Valuation of Equity Shares" and "Stock Market Index".
- Presented a paper on "Corporate Governance and Role of Auditor" in National Students Conference held in Goa.

EDUCATION

- Passed the Certified Public Accountant (CPA) (USA) exam in 2007.
- Post-graduation from Pune University with First Class.
- Graduation from B.M.C.C, Pune with distinction.
- Passed the Diploma in Business Finance Conducted by ICFAI, Hyderabad.
- Passed the Derivative Module test conducted by National Stock Exchange.
- Also appeared for UPSC exam and cleared Mains twice.

TEACHING EXPERIENCE

- Teaches Accounts, Advanced Accountancy, Financial management and Economics for Finance at CA Intermediate Level and Financial Reporting and Advanced Financial Management (AFM) at CA Final level.
- Pioneer of creating and distributing video tutorials in pen drives/google drive among students.
- Produced All India Toppers (1st Rank) in CPT examination and final examination apart from more than 250 all India merit- holders.
- More than 30000 Facebook subscribers, more than 42000 YouTube subscribers.
- Sold more than 40000 video lectures in pen-drive and google-drive mode.
- In 2019, launched a brand VKNOW, to become a national brand for digital learning.

TEACHING APPROACH

- Simple and effective way of teaching through concept building, class-room practice, home-exercise, and power-point presentation.
- A large variety of problems are solved in the class to meet the examination requirements.
- Notes are updated frequently covering amendments and exam problems.

CA FINAL – AFM
MODEL TEST PAPER - I

The question paper comprises two parts, Part I and Part II.
Part I comprises Case Scenario based Multiple Choice Questions (MCQs)
Part II comprises questions which require descriptive type answers.

Time Allowed – 3 Hours

Maximum Marks – 100

PART I – Case Scenario based MCQs (30 Marks)

Part I is compulsory

*** CASE STUDY 1 ***

- State National Bank is a scheduled commercial bank having branches all over India. The Balance Sheet of the bank is at INR 20,000 crore. Year 2019 was a positive year, where the deposits increased by 19% and significant improvement in Net Interest Earned (NEA) Ratio was achieved. This was the result of right mix of sector-based diversification and robust management of stressed cases.
- The strategy meeting of the Board of Directors was held in the last week of December 2019. The Board lauded the management for their performance in spite of challenging atmosphere in the domestic environment owing to slowdown in sectors like auto and real estate and growing uncertainty in the international market coupled with Brexit, Trade wars, Climate Change and other geo political events.
- The Board evaluated the strategy demonstrated by the senior managerial personnel on the growth plan for the year 2020. The plan stipulated aggressive growth in deposits and CASA (Current Account-Saving Account) balances through existing branch networks through competitive saving and term deposit rates. Further the strategy carved out an elaborate plan on exposure increase to Real Estate, Consumer loans, Credit Cards products and Personal Loans.
- After deliberate discussion, the Board opined that the bank should adopt a conservative approach for the year 2020. This approach will safeguard bank from riskier exposures to troubled sectors and any slowdown or recessionary headwinds that may arise during the year.
- However the Board was keen on moving ahead with expansion of deposits and CASA base so as to strengthen the Balance sheet of the bank and also popularize the franchise in the investment space.
- The treasury head of the Bank, Anurjit Sen, however pointed out that the approach could lead to severe asset liability mismatches. On one hand, there would be growing deposits and CASA balances and on the other hand due to conservative approach there would not be enough loan opportunities for lending. The situation will give rise to high liquidity balances on the banks Balance Sheet.
- Anurjit also suggested that the surplus liquidity balances could be deployed in money market instruments to manage the asset liability gaps.
- The Board held further discussion over the risk as well as the solution submitted by Anurjit and agreed that the surplus liquidity be managed by using money market instruments.

The Board once again thanked the attendees and concluded the meeting with best wishes for year 2020

MULTIPLE CHOICE QUESTIONS:

1. State National Bank acquires 6.45 GS 2029 on auction by RBI of Face value of INR 200 crores. The Bond was issued for a period of 10 years on 7 October 2019 with maturity date fixed as 7 October 2029. The coupon rate of the Bond was fixed at 6.45% per annum. Coupon to be paid semi annually on 7 October and 7 April each calendar year.
Determine the amount of interest to be received on the bond holding on the first coupon payment date.
(a) 64,676,712.33 (b) 129,353,424.66 (c) 65,575,000.00 (d) 64,500,000.00
2. A 91 day Treasury bill was issued by Government of India on 8 January 2020 maturing on 9 April 2020. 2020 is a leap year i.e February 2020 has 29 days. The day convention for yield computation for this Treasury Bill is.....
(a) 364 (b) 365 (c) 360 (d) 366
3. Which of the below money market instrument is not issued on a front-ended negotiable, i.e issued at discount and payable at face value on maturity?
(a) Commercial Paper (b) Certificate of Deposit (c) Short Term deposit (d) Treasury Bill
4. The State National Bank subscribed to the issue of a Certificate of Deposit issued by Gramin Commercial Bank for a period of 1 year. The CD with denominated face value of INR 100,000/- each was issued at a discount of 8.25%. 6 Months, hence, the Bank is considering to sell its Gramin Commercial Bank CD holdings in the secondary market.
Determine the price at which the CD was issued and what amount shall the bank expect on sale on each CD assuming there has been no change in the market yield. (8.25% p.a.)
(a) Issue price INR 95,875; expected sale price 91,750 (b) Issue price INR 91,750; expected sale price 95,875

CASE STUDY 2

- One fine morning Zahir woke with the beep sound of Whatsapp message in his mobile. Half woke up thinking it to be some urgent message from his boss read the message from his one friend Joseph who accidentally sent the same to him instead of Tahir.
- Joseph who is lawyer by profession and employed with a leading law firm handling the legal matters listed companies. Last year he was also handling a legal case of Rajendra Holidays.
- Since Zahir has no interest in the Stock Market without understanding the message further forwarded the same to his friend Kanjibhai (a jobber in stock market).
- A few days later Zahir received a call from Kanjibhai inviting him on a party bash at coming Saturday at one of the 5 Star Hotel of the city. To the utter surprise of Zahir, Kanjibhai who never offered a cup of tea to anyone and always in debt is organizing such a big party. Zahir called back Kanjibhai to know the exact of organizing such party. Kanjibhai expressed there is no special occasion only few of his friends have been invited as a matter of change from daily life.
- On Saturday evening Zahir reached the venue of party where other friend were already there. On asking what is reason for this party from all friends, Kanji told he made a huge profit from the stock market and after repaying his old debts now he is buying a small office of his own to work as sub-broker.
- During the party after consuming a lot of alcohol Kanji gone out of control and started shouting it is because Zahir who made him rich. Since earlier one or two occasions Kanji had gone out of control after consuming alcohol no one paid heed to his loose talks.
- Next morning as a daily routine Zahir was enjoying reading a financial daily. One stock market news catches his attention. After reading the news he approaches you requesting you to provide him answers on the under-mentioned questions.

MULTIPLE CHOICE QUESTIONS

1. The following is not a systematic risk.
(a) Business Risk (b) Purchasing Power Risk (c) Market Risk (d) Interest Rate Risk
2. When a Collateralized Debt Obligation (CDO) does not acquire original assets but does a 'default swap', it is called
(a) Cash CDO (b) Market Value CDO (c) Swap CDO (d) Synthetic CDO
3. Which of the following Fund focuses on trends that are likely to result in the 'out-performance' by certain sectoral funds.
(a) Contra Fund (b) Index Fund (c) Thematic Fund (d) Hedge Fund
4. Certificate of Deposit is a negotiable instrument.
(a) Front-ended (b) Back-ended (c) Face Value (d) None of these
5. If the standard deviation of changes of spot and future prices of Copper are 4% and 6% respectively and hedge ratio is 0.60 then, correlation coefficient among these prices shall be
(a) 0.25 (b) 0.60 (c) 0.75 (d) 0.90

*** CASE STUDY 3 ***

Recently SEBI has come out with a circular relating to categorization and rationalization of Mutual Fund Schemes. (The Extract of some of the relevant portion is as per Exhibit – 1).

Exhibit 1

EXTRACTS FROM SEBI CIRCULAR

All Mutual Funds/Asset Management Companies (AMCs)/ Trustee Companies/Boards of Trustees of Mutual Funds/ AMFI
Sir/ Madam,

SUBJECT: CATEGORIZATION AND RATIONALIZATION OF MUTUAL FUND SCHEMES

It is desirable that different schemes launched by a Mutual Fund are clearly distinct in terms of asset allocation, investment strategy etc. Further, there is a need to bring in uniformity in the characteristics of similar type of schemes launched by different Mutual Funds. This would ensure that an investor of Mutual Funds is able to evaluate the different options available, before taking an informed decision to invest in a scheme.

In order to bring the desired uniformity in the practice, across Mutual Funds and to standardize the scheme categories and characteristics of each category, the issue was discussed in Mutual Fund Advisory Committee (MFAC). Accordingly, it has been decided to categorize the MF schemes as given below:

Categories of Schemes, Scheme Characteristics and Type of Scheme (Uniform Description of Schemes):

The Schemes would be broadly classified in the following groups:

- Equity Schemes
- Debt Schemes
- Hybrid Schemes
- Solution Oriented Schemes
- Other Schemes

Definition of Large Cap, Mid Cap and Small Cap:

In order to ensure uniformity in respect of the investment universe for equity schemes, it has been decided to define large cap, mid cap and small cap as follows:

Large Cap: 1st -100th company in terms of full market capitalization

Mid Cap: 101st -250th company in terms of full market capitalization

Small Cap: 251st company onwards in terms of full market capitalization

MULTIPLE CHOICE QUESTIONS

- In an open ended scheme, redemption period is
 - Definite
 - Indefinite
 - 5 years
 - 10 years
- Gilt Funds mainly invested in
 - Government Securities
 - Only in Debt Securities
 - Only in shares
 - Mix of debt and equity
- seeks to generate long term capital appreciation by investing in equity and equity related instruments including equity derivatives as well as debt instruments.
 - Focused Fund
 - Arbitrage Fund
 - Index Funds
 - Dynamic Equity Funds
- Index value on a particular date is calculated as
 - Index on previous day x Total market capitalization for current day/Total market capitalization of the previous day
 - Index on current day x Total market capitalization for current day/Total market capitalization of the previous day
 - Index on previous day x Total market capitalization for previous day/Total market capitalization of the current day
 - Index on current day x Total market capitalization for previous day/Total market capitalization of the current day
- While Sharpe ratio measures, the Treynor Ratio measures only the
 - Total Risk; Systematic Risk
 - Unsystematic Risk; Systematic Risk
 - Systematic Risk; Unsystematic Risk
 - Systematic Risk; Total Risk
- A bank rediscounted a commercial bill with a face of `100 @12% for 3 months. The sale value is `96.8. The yield to the investor will be
 - 15.39%
 - 14.08%
 - 13.22%
 - 12.8

PART II – DESCRIPTIVE QUESTIONS - (70 MARKS)

Question I is compulsory. Candidates are required to answer any four questions from the remaining five questions. Wherever necessary, suitable assumptions may be made and disclosed by way of a note. Working Notes should form part of answers.

QUESTION : 1

(a) Reliable Industries Ltd. (RIL) is considering a takeover of Sunflower Industries Ltd. (SIL). The particulars of 2 companies are given below:

| Particulars | Reliable Industries Ltd | Sunflower Industries Ltd. |
|--------------------------|-------------------------|---------------------------|
| Earnings After Tax (EAT) | ` 20,00,000 | ` 10,00,000 |
| Equity shares O/s | 10,00,000 | 10,00,000 |
| Earnings per share (EPS) | 2 | 1 |
| PE Ratio (Times) | 10 | 5 |

- (i) Calculate the market value of each Company before merger. **(2 Marks)**

- (ii) Calculate the market value of the Post-merger RIL assuming that the management of the shareholders of SIL will accept an offer of one share of RIL for four shares of SIL and there are no synergic effects. Also, calculate the new price per share. **(3 Marks)**
- (iii) Evaluate whether the shareholders of RIL better or worse off than they were before the merger. **(1 Mark)**
- (iv) Calculate the new post-merger EPS and Price per share if the management of RIL estimates that the earnings will increase by 20% due to synergic effects. **(3 Marks)**
- (v) Evaluate whether the shareholders are better off or worse off than before the merger. **(1Mark)**

(b) Compare and contrast startups and entrepreneurship. Describe the priorities and challenges which startups in India are facing. **(4 Marks)**

QUESTION : 2

(a) Mr. Dayal is interested in purchasing equity shares of ABC Ltd. which are currently selling at ₹ 600 each. He expects that price of share may go upto ₹ 780 or may go down to ₹ 480 in three months. The chances of occurring such variations are 60% and 40% respectively. A call option on the shares of ABC Ltd. can be exercised at the end of three months with a strike price of ₹ 630.

- (i) Recommend the combination of share and the option which Mr. Dayal should select if he wants a perfect hedge. **(2 Marks)**
- (ii) Analyze and calculate the value of option today. (the risk free rate is 10% p.a.) **(2 Marks)**
- (iii) Calculate the expected rate of return on the option. **(2 Marks)**

(b) M/s. Parker & Co. is contemplating to borrow an amount of ₹ 60 crores for a Period of 3 months in the coming 6 month's time from now. The current rate of interest is 9% p.a., but it may go up in 6 month's time. The company wants to hedge itself against the likely increase in interest rate.

The Company's Bankers quoted an FRA (Forward Rate Agreement) at 9.30%p.a.

Analyze the effect of FRA and actual rate of interest cost to the company, if the actual rate of interest after 6 months happens to be (i) 9.60% p.a. and (ii) 8.80% p.a. **(6 Marks)**

(c) Explain Financial Risk from the point of view of Stakeholder, Company and the Government. **(4 Marks)**

QUESTION : 3

(a) On 1 April 2015, Sunidhi was holding a portfolio of 10 securities whose value was ₹ 9,94,450, the weighted average of beta of 9 securities was 1.10.

Since she was expecting a fall in the prices of the shares in near future to hedge her portfolio she sold 5 contract of NIFTY Futures (Multiplier of 25) expiring in May 2015, which was trading at 8767.07 on 1 April.

- (a) Calculate the beta of the 10th security.
- (b) Reconcile the reasons in spite of 2% fall in the market as per Sunidhi's apprehension if she would have earned some profit on her cash position. **(7 Marks)**

(b) Odessa Limited has proposed to expand its operations for which it requires funds of \$ 15 million, net of issue expenses which amount to 2% of the issue size. It proposed to raise the funds through a GDR issue. It considers the following factors in pricing the issue:

- (i) The expected domestic market price of the share is ₹ 300
- (ii) 3 shares underly each GDR
- (iii) Underlying shares are priced at 10% discount to the market price
- (iv) Expected exchange rate is ₹ 60/\$

Calculate the number of GDR's to be issued and cost of GDR to Odessa Limited, if 20% dividend is expected to be paid with a growth rate of 20%. **(7 Marks)**

QUESTION : 4

(a) Following is the data regarding six securities:

| | U | V | W | X | Y | Z |
|-------------------------------|----|----|----|---|----|----|
| Return (%) | 10 | 10 | 15 | 5 | 11 | 10 |
| Risk (%) (Standard deviation) | 5 | 6 | 13 | 5 | 6 | 7 |

- (i) Recommend at least three securities which shall be selected among the six securities mentioned above. **(3 Marks)**
- (ii) Assuming perfect correlation, evaluate whether it is preferable to invest 80% in security U and 20% in security W or to invest 100% in Y. **(3 Marks)**

(b) SAM Ltd. has just paid a dividend of ₹ 2 per share and it is expected to grow @ 6% p.a. After paying dividend, the Board declared to take up a project by retaining the next three annual dividends. It is expected that this project is of same risk as the existing projects. The results of this project will start coming from the 4th year onward from now. The dividends will then be ₹ 2.50 per share and will grow @ 7% p.a.

An investor has 1,000 shares in SAM Ltd. and wants a receipt of atleast ₹ 2,000 p.a. from this investment.

Evaluate whether the market value of the share is affected by the decision of the Board. Evaluate also as to how the investor can maintain his target receipt from the investment for first 3 years and improved income thereafter, given that the cost of capital of the firm is 8%. (4 Marks)

(c) Explain Dow Jones theory. (4 Marks)

QUESTION : 5

(a) A Mutual Fund having 300 units has shown its NAV of ₹ 8.75 and ₹ 9.45 at the beginning and at the end of the year respectively. The Mutual Fund has given two options:

- (i) Pay ₹ 0.75 per unit as dividend and ₹ 0.60 per unit as a capital gain, or
- (ii) These distributions are to be reinvested at an average NAV of ₹ 8.65 per unit.

Evaluate the difference it would make in terms of return available and which option is preferable. (4 Marks)

(b) Closing values of BSE Sensex from 6th to 17th day of the month of January of the year 200X were as follows:

| Days | Date | Day | Sensex |
|------|------|-----|------------|
| 1 | 6 | THU | 14522 |
| 2 | 7 | FRI | 14925 |
| 3 | 8 | SAT | No Trading |
| 4 | 9 | SUN | No Trading |
| 5 | 10 | MON | 15222 |
| 6 | 11 | TUE | 16000 |
| 7 | 12 | WED | 16400 |
| 8 | 13 | THU | 17000 |
| 9 | 14 | FRI | No Trading |
| 10 | 15 | SAT | No Trading |
| 11 | 16 | SUN | No Trading |
| 12 | 17 | MON | 18000 |

Calculate Exponential Moving Average (EMA) of Sensex during the above period. The 30 days simple moving average of Sensex can be assumed as 15,000. The value of exponent for 30 days EMA is 0.062.

Give detailed analysis on the basis of your calculations. (6 Marks)

(c) Describe various securitization instruments. (4 Marks)

QUESTION : 6

(a) The following information is given for 3 companies that are identical except for their capital structure:

| | Orange | Grape | Apple |
|-------------------------|----------|----------|----------|
| Total invested capital | 1,00,000 | 1,00,000 | 1,00,000 |
| Debt/assets ratio | 0.8 | 0.5 | 0.2 |
| Shares outstanding | 6,100 | 8,300 | 10,000 |
| Pre tax cost of debt | 16% | 13% | 15% |
| Cost of equity | 26% | 22% | 20% |
| Operating Income (EBIT) | 25,000 | 25,000 | 25,000 |
| Net Income | 8,970 | 12,350 | 14,950 |

The tax rate is uniform 35% in all cases.

(i) Calculate the Weighted average cost of capital for each company. (2 Marks)

(ii) Calculate the Economic Value Added (EVA) for each company. (2 Marks)

(iii) Recommend on the basis of EVA, which company would be considered for best investment by giving reasons. (1 Mark)

(b) A Ltd. of U.K. has imported some chemical worth of USD 3,64,897 from one of the U.S. suppliers. The amount is payable in six months time. The relevant spot and forward rates are:

Spot rate USD 1.5617-1.5673
6 months' forward rate USD 1.5455 –1.5609

The borrowing rates in U.K. and U.S. are 7% and 6% respectively and the deposit rates are 5.5% and 4.5% respectively. Currency options are available under which one option contract is for GBP 12,500. The option premium for GBP at a strike price of USD 1.70/GBP is USD 0.037 (call option) and USD 0.096 (put option) for 6 months period.

The company has three choices:

- (i) Forward cover
- (ii) Money market cover, and
- (iii) Currency option

Recommend the alternative (among the three choices mentioned above) that would be preferable by the company. (9 Marks)

CA FINAL – AFM
MODEL TEST PAPER – I - SOLUTION

ANSWERS TO THE CASE STUDY - 1

1. (d) Principal amount of Bonds purchase for coupon computation = 200 crores
Rate of Interest = 6.45 % per annum

Coupon payment date = 7 April 2020.

No of days for coupon computation:

October 2019 - 23

November 2019 - 30

December 2019 - 30

January 2020 - 30

February 2020 - 30

March 2020 - 30

April 2020 - 7

Total = 180

(For Indian G sec bonds the day count convention is 30 / 360, thus number of days in a month is taken as 30 and number of days in a year is taken as 360)

Interest amount = INR 200 crores x 6.45% x 180/360

= INR 64,500,000

2. Option d
3. Option C
4. Option B

Reason : Issue price = Face value – (Face Value x Discount Yield x Duration of the CD in months / 12)
Issue Price = 100,000
(100,000 x 8.25% x 12 / 12)

Issue price = INR 91,750

Expected Sale price = Issue Price + (Face Value – Issue Price) / Duration of the CD in months x No of months passed the issue date

Expected Sale price = 91,750 + (100,000 – 91,750) / 12 x 6
Expected Sale price = 91,750 + (8,250) / 12 x 6

Expected Sale price = 91,750 + 4,125

Expected Sale price = INR 95,875

ANSWERS TO THE CASE STUDY - 2

1. (a)
2. (d)
3. (c)
4. (a)
5. (d)

ANSWERS TO THE CASE STUDY - 3

1. (b)
2. (a)
3. (d)
4. (a)
5. (a)
6. (c)

ANSWERS OF PART II – DESCRIPTIVE QUESTIONS

SOLUTION : 1

- (a) (i) Market value of Companies before Merger

| Particulars | RIL | SIL |
|-------------|-----|------|
| EPS | 2 | Re.1 |

| | | |
|------------------------|-------------|-----------|
| P/E Ratio | 10 | 5 |
| Market Price Per Share | ₹ 20 | ₹ 5 |
| Equity Shares | 10,00,000 | 10,00,000 |
| Total Market Value | 2,00,00,000 | 50,00,000 |

(ii) Post Merger Effects on RIL

| | | |
|---|------------------|--------------------|
| Post merger earnings | | 30,00,000 |
| Exchange Ratio | | 1:4 |
| No. of equity shares o/s (10,00,000 + 2,50,000) | | 12,50,000 |
| EPS: 30,00,000/12,50,000 | | 2.4 |
| PE Ratio | | 10 |
| Market Value 10 x 2.4 | | 24 |
| Total Value (12,50,000 x 24) | | 3,00,00,000 |
| Gains From Merger: | | |
| Post-Merger Market Value of the Firm | | 3,00,00,000 |
| <i>Less: Pre-Merger Market Value</i> | | |
| RIL | 2,00,00,000 | |
| SIL | <u>50,00,000</u> | <u>2,50,00,000</u> |
| Total gains from Merger | | 50,00,000 |

Apportionment of Gains between the Shareholders:

| Particulars | RIL (₹) | SIL (₹) |
|--------------------------------------|-------------|-----------|
| Post Merger Market Value: | | |
| 10,00,000 x 24 | 2,40,00,000 | -- |
| 2,50,000 x 24 | - | 60,00,000 |
| <i>Less: Pre-Merger Market Value</i> | 2,00,00,000 | 50,00,000 |
| Gains from Merger: | 40,00,000 | 10,00,000 |

Thus, the shareholders of both the companies (RIL + SIL) are better off than before

(iii) Post-Merger Earnings:

| | |
|---------------------------------------|-------------|
| Increase in Earnings by 20% | |
| New Earnings: ₹ 30,00,000 x (1+0.20) | ₹ 36,00,000 |
| No. of equity shares outstanding: | 12,50,000 |
| EPS (₹ 36,00,000/12,50,000) | ₹ 2.88 |
| PE Ratio | 10 |
| Market Price Per Share: = ₹ 2.88 x 10 | ₹ 28.80 |

∴ Shareholders will be better-off than before the merger situation.

(b) Differences between a startup and entrepreneurship

Startups are different from entrepreneurship. The major differences between them have been discussed in the following paragraphs:

- Start up is a part of entrepreneurship. Entrepreneurship is a broader concept and it includes a startup firm.
- The main aim of startup is to build a concern, conceptualize the idea which it has developed into a reality and build a product or service. On the other hand, the major objective of an already established entrepreneurship concern is to attain opportunities with regard to the resources they currently control.
- A startup generally does not have a major financial motive whereas an established entrepreneurship concern mainly operates on financial motive.

Priorities and challenges which startups in India are facing

The priority is on bringing more and more smaller firms into existence. So, the focus is on need based, instead of opportunity based entrepreneurship. Moreover, the trend is to encourage self-employment rather than large, scalable concerns.

The main challenge with the startup firms is getting the right talent. And, paucity of skilled workforce can hinder the chances of a startup organization's growth and development. Further, startups had to comply with numerous regulations which escalates its cost. It leads to further delaying the chances of a breakeven or even earning some amount of profit.

SOLUTION : 2

(a) (i) To compute perfect hedge we shall compute Hedge Ratio (Δ) as follows:

$$\Delta = \frac{C_1 - C_2}{S_1 - S_2} = \frac{150 - 0}{780 - 480} = \frac{150}{300} = 0.50$$

Mr. Dayal should purchase 0.50 share for every 1 call option.

(ii) Value of Option today

If price of share comes out to be ₹780 then value of purchased share will be:

| | |
|---|-------|
| Sale Proceeds of Investment (0.50 x ₹780) | ₹ 390 |
| Loss on account of Short Position (₹780 - ₹630) | ₹ 150 |
| | ₹ 240 |

If price of share comes out to be ₹480 then value of purchased share will be:

| | |
|---|-------|
| Sale Proceeds of Investment (0.50 x ₹480) | ₹ 240 |
|---|-------|

Accordingly, Premium say P shall be computed as follows:

$$(\text{₹} 300 - P) 1.025 = \text{₹} 240$$

$$P = \text{₹} 65.85$$

(iii) Expected Return on the Option

$$\text{Expected Option Value} = (\text{₹} 780 - \text{₹} 630) \times 0.60 + \text{₹} 0 \times 0.40 = \text{₹} 90$$

$$\text{Expected Rate of Return} = \frac{90 - 65.85}{65.85} \times 100 = 36.67\%$$

(b) Final settlement amount shall be computed by using formula:

$$= \frac{(N)(RR - FR)(dtm/DY)}{[1 + RR(dt m/DY)]}$$

Where,

N = the notional principal amount of the agreement;

RR = Reference Rate for the maturity specified by the contract prevailing on the contract settlement date;

FR = Agreed-upon Forward Rate; and

dtm = maturity of the forward rate, specified in days (FRA Days)

DY = Day count basis applicable to money market transactions which could be 360 or 365 days.

Accordingly,

If actual rate of interest after 6 months happens to be 9.60%

$$= \frac{(\text{Rs. } 60\text{crore})(0.096 - 0.093)(3/12)}{[1 + 0.096(3/12)]}$$

$$= \frac{(60\text{crore})(0.00075)}{1.024} = \text{Rs } 4,39,453$$

Thus banker will pay Parker & Co. a sum of ₹4,39,453

If actual rate of interest after 6 months happens to be 8.80%

$$= \frac{(60\text{crore})(0.088 - 0.093)(3/12)}{[1 + 0.088(3/12)]}$$

$$= \frac{(60\text{crore})(-0.00125)}{1.022} = -\text{Rs. } 7,33,855$$

Thus Parker & Co. will pay banker a sum of ₹7,33,855

Note: It might be possible that students may solve the question on basis of days instead of months (as considered in above calculations). Further there may be also possibility that the FRA days and Day Count convention may be taken in various plausible combinations such as 90 days/360 days, 90 days/ 365 days, 91 days/360 days or 91 days/365days.

(c) The financial risk can be evaluated from different point of views as follows:

- (a) **From stakeholder's point of view:** Major stakeholders of a business are equity shareholders and they view financial gearing i.e. ratio of debt in capital structure of company as risk since in event of winding up of a company they will be least prioritized.
Even for a lender, existing gearing is also a risk since company having high gearing faces more risk in default of payment of interest and principal repayment.
- (b) **From Company's point of view:** From company's point of view if a company borrows excessively or lend to someone who defaults, then it can be forced to go into liquidation.
- (c) **From Government's point of view:** From Government's point of view, the financial risk can be viewed as failure of any bank or (like Lehman Brothers) down grading of any financial institution leading to spread of distrust among society at large. Even this risk also includes willful defaulters. This can also be extended to sovereign debt crisis.

SOLUTION : 3

- (a) (i) To compute the beta of 10th security first we shall compute overall weighted beta as follows:

Let weighted β be w , then

$$5 = \frac{994450}{8767.07 \times 25} \times w$$

$w = 1.102$ approximately

Let beta of 10th security is β then,

$$1.102 = 0.90 \times 1.10 + 0.10 \times \beta$$

$$\beta = 1.12$$

- (ii) the main reason for the profit in cash position might due to reason that contrary to her expectation fall in the value of cash position there may be increase in value of cash position.

- (b) Net Issue Size = \$15 million

$$\text{Gross Issue} = \frac{\$15 \text{ million}}{0.98} \times \$15.306 \text{ million}$$

$$\text{Issue Price per GDR in } (\text{300} \times \text{3} \times \text{90\%}) \quad \text{` 810}$$

$$\text{Issue Price per GDR in } \$ (\text{` 810} / \text{` 60}) \quad \$13.50$$

$$\text{Dividend Per GDR (D1)} = \text{` 2} * \text{3} = \quad \text{` 6}$$

* Assumed to be based on Face Value of ` 10 each share.

$$\text{Net Proceeds Per GDR} = \text{` 810} \times 0.98 = \text{` 793.80}$$

- (a) Number of GDR to be issued

$$\frac{\$15.306 \text{ million}}{\$13.50} = 1.1338 \text{ million}$$

- (b) Cost of GDR to Odessa Ltd.

$$k_e = \frac{6.00}{793.80} + 0.20 = 20.76\%$$

$$= 20.76\% \times 0.20 + 793.806.00 =$$

SOLUTION : 4

- (a) (i) When we make risk-return analysis of different securities from U to Z, we can observe that security U gives a return of 10% at risk level of 5%. Simultaneously securities V and Z give the same return of 10% as of security U, but their risk levels are 6% and 7% respectively. Security X is giving only 5% return for the risk rate of 5%. Hence, security U dominates securities V, X and Z.

Securities W and Y offer more return but it carries higher level of risk.

Hence securities U, W and Y can be selected based on individual preferences.

- (ii) In a situation where the perfect positive correlation exists between two securities, their risk and return can be averaged with the proportion.

Assuming the perfect correlation exists between the securities U and W, average risk and return of U and W together for proportion 4 : 1 is calculated as follows:

$$\text{Risk} = (4 \times 5\% + 1 \times 13\%) \div 5 = 6.6\%$$

$$\text{Return} = (4 \times 10\% + 1 \times 15\%) \div 5 = 11\%$$

Therefore:

| | | |
|-----------|-------|-------|
| | 80% U | 100%Y |
| | 20% V | — |
| Risk 6.6% | 6% | — |
| Return | 11% | 11% |

When we compare risk of 6.6% and return of 11% with security Y with 6% risk and 11% return, security Y is preferable over the portfolio of securities U and W in proportion of 4 : 1.

$$\begin{aligned} \text{(b) Value of share at present} &= \frac{D_1}{k_e - g} \\ &= \frac{2(1.06)}{0.08 - 0.06} = \text{Rs } 106 \end{aligned}$$

However, if the Board implement its decision, no dividend would be payable for 3 years and the dividend for year 4 would be ` 2.50 and growing at 7% p.a. The price of the share, in this case, now would be:

$$P_0 = \frac{2.50}{0.08 - 0.07} \times \frac{1}{(1 + 0.08)^3} = \text{Rs } 198.46$$

So, the price of the share is expected to increase from ` 106 to ` 198.45 after the announcement of the project. The investor can take up this situation as follows:

| | | |
|-------------------------------------|--|------------|
| Expected market price after 3 years | $= \frac{2.50}{0.08 - 0.07}$ | Rs. 250.00 |
| Expected market price after 2 years | $= \frac{2.50}{0.08 - 0.07} \times \frac{1}{(1 + 0.08)}$ | Rs 231.48 |
| Expected market price after 2 years | $\frac{2.50}{0.08 - 0.07} \times \frac{1}{(1 + 0.08)^2}$ | Rs 214.33 |

In order to maintain his receipt at ` 2,000 for first 3 year, he would sell

| | |
|--|------------|
| 10 shares in first year @ ` 214.33 for | ` 2,143.30 |
| 9 shares in second year @ ` 231.48 for | ` 2,083.32 |
| 8 shares in third year @ ` 250 for | ` 2,000.00 |

At the end of 3rd year, he would be having 973 shares valued @ ` 250 each i.e. ` 2,43,250. On these 973 shares, his dividend income for year 4 would be @ ` 2.50 i.e. ` 2,432.50.

So, if the project is taken up by the company, the investor would be able to maintain his receipt of at least ` 2,000 for first three years and would be getting increased income thereafter.

- (c) The Dow Theory is one of the oldest and most famous technical theories. It was originated by Charles Dow, the founder of Dow Jones Company in late nineteenth century. It is a helpful tool for determining the relative strength of the stock market. It can also be used as a barometer of business.

The Dow Theory is based upon the movements of two indices, constructed by Charles Dow, Dow Jones Industrial Average (DJIA) and Dow Jones Transportation Average (DJTA). These averages reflect the aggregate impact of all kinds of information on the market. The movements of the market are divided into three classifications, all going at the same time; the primary movement, the secondary movement, and the daily fluctuations. The primary movement is the main trend of the market, which lasts from one year to 36 months or longer. This trend is commonly called bear or bull market. The secondary movement of the market is shorter in duration than the primary movement, and is opposite in direction. It lasts from two weeks to a month or more. The daily fluctuations are the narrow movements from day-to-day. These fluctuations are not part of the Dow Theory interpretation of the stock market. However, daily movements must be carefully studied, along with primary and secondary movements, as they go to make up the longer movement in the market.

Thus, the Dow Theory's purpose is to determine where the market is and where is it going, although not how far or high. The theory, in practice, states that if the cyclical swings of the stock market averages are successively higher and the successive lows are higher, then the market trend is up and a bullish market exists. Contrarily, if the successive highs and successive lows are lower, then the direction of the market is down and a bearish market exists.

Charles Dow proposed that the primary uptrend would have three moves up, the first one being caused by accumulation of shares by the far-sighted, knowledgeable investors, the second move would be caused by the arrival of the first reports of good earnings by corporations, and the last move up would be caused by widespread report of financial well-being of corporations. The third stage would also see rampant speculation in the market. Towards the end of the third stage, the far-sighted investors, realizing that the high earnings levels may not be sustained, would start selling, starting the first move down of a downtrend, and as the non-sustainability of high earnings is confirmed, the second move down would be initiated and then the third move down would result from distress selling in the market.

SOLUTION : 5

- (a) (i) Returns for the year
(All changes on a Per Unit Basis)

| | |
|----------------------------|--|
| Change in Price: | $\text{₹} 9.45 - \text{₹} 8.75 = \text{₹} 0.70$ |
| Dividends received: | $\text{₹} 0.75$ |
| Capital gains distribution | $\text{₹} 0.60$ |
| Total reward | $\text{₹} 2.05$ |
| Holding period reward: | $= \frac{\text{₹} 2.50}{\text{₹} 8.75} \times 100 = 23.43\%$ |

- (ii) When all dividends and capital gains distributions are re-invested into additional units of the fund @ ($\text{₹} 8.65/\text{unit}$)
Dividend + Capital Gains per unit

| | |
|---|---|
| | $= \text{₹} 0.75 + \text{₹} 0.60 = \text{₹} 1.35$ |
| Total received from 300 units | $= \text{₹} 1.35 \times 300 = \text{₹} 405/-$ |
| Additional Units Acquired | $= 46.82 \text{ Units.}$ |
| Total No. of Units | $= 300 \text{ units} + 46.82 \text{ units} = 346.82 \text{ units.}$ |
| Value of 346.82 units held at the end of the year | $= 346.82 \text{ units} \times \text{₹} 9.45 = \text{₹} 3277.45$ |
| Price Paid for 300 Units at the beginning of the year | $= 300 \text{ units} \times \text{₹} 8.75 = \text{₹} 2,625.00$ |
| Holding Period Reward | $= \text{₹} 652.45$ |
| $\text{₹} (3277.45 - 2625.00)$ | $= \frac{\text{₹} 652.45}{\text{₹} 2625.00} \times 100 = 23.85\%$ |

Conclusion: Since the holding period reward is more in terms of percentage in option-two i.e., reinvestment of distributions at an average NAV of $\text{₹} 8.65$ per unit, this option is preferable.

(b)

| Date | 1 Sensex | 2 EMA for Previous day | 3 1-2 | 4 3×0.062 | 5 EMA $2 + 4$ |
|------|-------------|---------------------------|----------|-----------------------|---------------------|
| 6 | 14522 | 15000 | (478) | (29.636) | 14970.364 |
| 7 | 14925 | 14970.364 | (45.364) | (2.812) | 14967.55 |
| 10 | 15222 | 14967.55 | 254.45 | 15.776 | 14983.32 |
| 11 | 16000 | 14983.32 | 1016.68 | 63.034 | 15046.354 |
| 12 | 16400 | 15046.354 | 1353.646 | 83.926 | 15130.28 |
| 13 | 17000 | 15130.28 | 1869.72 | 115.922 | 15246.202 |
| 17 | 18000 | 15246.202 | 2753.798 | 170.735 | 15416.937 |

Conclusion – The market is bullish. The market is likely to remain bullish for short term to medium term if other factors remain the same. On the basis of this indicator (EMA) the investors/brokers can take long position.

(c) **Securitization Instruments**

On the basis of different maturity characteristics, the securitized instruments can be divided into following three categories:

- (i) **Pass Through Certificates (PTCs):** As the title suggests originator (seller of the assets) transfers the entire receipt of cash in form of interest or principal repayment from the assets sold. Thus, these securities represent direct claim of the investors on all the assets that has been securitized through SPV.

Since all cash flows are transferred the investors carry proportional beneficial interest in the asset held in the trust by SPV.

It should be noted that since it is a direct route any prepayment of principal is also proportionately distributed among the securities holders. Further, due to these characteristics on completion of securitization by the final payment of assets, all the securities are terminated simultaneously.

Skewness of cash flows occurs in early stage if principals are repaid before the scheduled time.

- (ii) **Pay Through Security (PTS):** As mentioned earlier, since, in PTCs all cash flows are passed to the performance of the securitized assets. To overcome this limitation and limitation to single mature there is another structure i.e. PTS.

In contrast to PTC in PTS, SPV debt securities backed by the assets and hence it can restructure different tranches from varying maturities of receivables.

In other words, this structure permits desynchronization of servicing of securities issued from cash flow generating from the asset. Further, this structure also permits the SPV to reinvest surplus funds for short term as per their requirement.

Since, in Pass Through, all cash flow immediately in PTS in case of early retirement of receivables plus cash can be used for short term yield. This structure also provides the freedom to issue several debt tranches with varying maturities.

(iii) **Stripped Securities:** Stripped Securities are created by dividing the cash flows associated with underlying securities into two or more new securities. Those two securities are as follows:

- (i) Interest Only (IO) Securities
- (ii) Principle Only (PO) Securities

As each investor receives a combination of principal and interest, it can be stripped into two portions of Interest and Principle.

Accordingly, the holder of IO securities receives only interest while PO security holder receives only principal. Being highly volatile in nature these securities are less preferred by investors. In case yield to maturity in market rises, PO price tends to fall as borrower prefers to postpone the payment on cheaper loans. Whereas if interest rate in market falls, the borrower tends to repay the loans as they prefer to borrow fresh at lower rate of interest. In contrast, value of IO's securities increases when interest rate goes up in the market as more interest is calculated on borrowings.

However, when interest rate due to prepayments of principals, IO's tends to fall. Thus, from the above, it is clear that it is mainly perception of investors that determines the prices of IOs and POs.

SOLUTION : 6

(a) (i) Working for calculation of WACC

| | Orange | Grape | Apple |
|-----------------------|--------|--------|--------|
| Total debt | 80,000 | 50,000 | 20,000 |
| Post tax Cost of debt | 10.4% | 8.45% | 9.75% |
| Equity Fund | 20,000 | 50,000 | 80,000 |

WACC

Orange: $(10.4 \times 0.8) + (26 \times 0.2) = 13.52\%$

Grape: $(8.45 \times 0.5) + (22 \times 0.5) = 15.225\%$

Apple: $(9.75 \times 0.2) + (20 \times 0.8) = 17.95\%$

| | Orange | Grape | Apple |
|--|--------|--------|--------|
| WACC | 13.52 | 15.225 | 17.95 |
| EVA [EBIT (1-T) - (WACC x Invested Capital)] | 2,730 | 1,025 | -1,700 |

Orange would be considered as the best investment since the EVA of the company is highest and its weighted average cost of capital is the lowest

(iv) Estimated Price of each company shares

| | Orange | Grape | Apple |
|----------------------------------|--------|----------|--------|
| EBIT (₹) | 25,000 | 25,000 | 25,000 |
| Interest (₹) | 12,800 | 6,500 | 3,000 |
| Taxable Income (₹) | 12,200 | 18,500 | 22,000 |
| Tax 35% (₹) | 4,270 | 6,475 | 7,700 |
| Net Income (₹) | 7,930 | 12,025 | 14,300 |
| Shares | 6,100 | 8,300 | 10,000 |
| EPS (₹) | 1.3 | 1.448795 | 1.43 |
| Stock Price (EPS x PE Ratio) (₹) | 14.30 | 15.94 | 15.73 |

Since the three entities have different capital structures they would be exposed to different degrees of financial risk. The PE ratio should therefore be adjusted for the risk factor.

Alternative Answer

| | Orange | Grape | Apple |
|----------------------------------|--------|--------|--------|
| Net Income (Given) (₹) | 8,970 | 12,350 | 14,950 |
| Shares | 6,100 | 8,300 | 10,000 |
| EPS (₹) | 1.4705 | 1.488 | 1.495 |
| Stock Price (EPS x PE Ratio) (₹) | 16.18 | 16.37 | 16.45 |

(v) Market Capitalisation

| | | | |
|---------------------------|--------|----------|----------|
| Estimated Stock Price (₹) | 14.30 | 15.94 | 15.73 |
| No. of shares | 6,100 | 8,300 | 10,000 |
| Estimated Market Cap (₹) | 87,230 | 1,32,302 | 1,57,300 |
| Alternative Answer | | | |
| Estimated Stock Price (₹) | 16.18 | 16.37 | 16.45 |
| No. of shares | 6,100 | 8,300 | 10,000 |
| Estimated Market Cap (₹) | 98,698 | 1,35,871 | 1,64,500 |

(b) In the given case, the exchange rates are indirect. These can be converted into direct rates as follows:

Spot rate

$$\text{GBP} = \frac{1}{\text{USD}1.5617} \quad \text{to} \quad \frac{1}{\text{USD}1.5673}$$

$$\text{USD} = \text{GBP } 0.64033 \quad - \quad \text{GBP } 0.63804$$

6 months' forward rate

$$\text{GBP} = \frac{1}{\text{USD}1.5455} \quad \text{to} \quad \frac{1}{\text{USD}1.5609}$$

$$\text{USD} = \text{GBP } 0.64704 - \text{GBP } 0.64066$$

Payoff in 3 alternatives**i. Forward Cover**

| | |
|----------------|--------------|
| Amount payable | USD 3,64,897 |
| Forward rate | GBP 0.64704 |
| Payable in GBP | GBP 2,36,103 |

ii. Money market Cover

| | |
|--|--------------|
| Amount payable | USD 3,64,897 |
| PV @ 4.5% for 6 months i.e. $\frac{1}{1.0225} = 0.9779951$ | USD 3,56,867 |
| Spot rate purchase | GBP 0.64033 |
| Borrow GBP 3,56,867 x 0.64033 | GBP 2,28,512 |
| Interest for 6 months @ 7 % | 7,998 |
| Payable after 6 months | GBP 2,36,510 |

iii. Currency options

| | |
|---|--------------|
| Amount payable | USD 3,64,897 |
| Unit in Options contract | GBP 12,500 |
| Value in USD at strike rate of 1.70 (GBP 12,500 x 1.70) | USD 21,250 |
| Number of contracts USD 3,64,897 / USD 21,250 | 17.17 |
| Exposure covered USD 21,250 x 17 | USD 3,61,250 |
| Exposure to be covered by Forward (USD 3,64,897 – USD 3,61,250) | USD 3,647 |
| Options premium 17 x GBP 12,500 x 0.096 | USD 20,400 |
| Premium in GBP (USD 20,400 x 0.64033) | GBP 13,063 |
| Total payment in currency option | |
| Payment under option (17 x 12,500) | GBP 2,12,500 |
| Premium payable | GBP 13,063 |
| Payment for forward cover (USD 3,647 x 0.64704) | GBP 2,360 |
| | GBP 2,27,923 |

The company should take currency option for hedging the risk.

Note: Even interest on Option Premium can also be considered in the above solution.

CA FINAL – AFM
MODEL TEST PAPER - II

The question paper comprises two parts, Part I and Part II.
Part I comprises Case Scenario based Multiple Choice Questions (MCQs)
Part II comprises questions which require descriptive type answers.

Time Allowed – 3 Hours

Maximum Marks – 100

PART I – Case Scenario based MCQs (30 Marks)

Part I is compulsory

CASE STUDY - 1

You are a consultant giving opinions on practical issues relating to the financial services and capital market. The following questions have been raised by different clients for whom you need to explain your answers or give your opinion. Your clients range from well informed CFOs of companies to ordinary individuals.

MULTIPLE CHOICE QUESTIONS:

1. _____ are negotiable certificates with publicly traded equity of the issuer as underlying security.
 - (a) Global Depository Receipts
 - (b) Share Warrants
 - (c) Share Certificates
 - (d) Convertible Warrants
2. Who among the following is a participant in money market?
 - (a) Bankers
 - (b) RBI
 - (c) Government
 - (d) All the above
3. Which among the following was not a major role of the early commodity markets?
 - (a) Act as a platform for enabling farm produce growers and the end buyers to interact.
 - (b) Enabling intermediaries to engage in representing both the demand and the supply side of the commodity chain.
 - (c) Enabling farmers to connect to the market who form the backbone of agri-based commodities.
 - (d) Price discovery.
4. Suppose that during a short period, say two days, there is no change in the investments held in the portfolio of a mutual fund scheme and there is no change in the number of units outstanding, then, the NAV per unit of the scheme.
 - (a) increases
 - (b) decreases
 - (c) fluctuates
 - (d) is the same for this period
5. A invests Rs. 10,000 in a mutual fund scheme at Rs. 10 during the initial fund offer. B invests Rs. 10,000 in another scheme when the NAV per unit is Rs. 12.50. Assuming that both are growth schemes under the regular plan and both belong to the same investment objective, and both have the same fund manager, after six months of their investment, the following is true:
 - (a) B's gain is more than A's
 - (b) A's gain is more than B's
 - (c) Both the gains are equal
 - (d) Nothing can be said of their gains in relation to each other.

CASE STUDY - 2

The Indian Mutual Fund Industry has grown from Rs 6.6 Trillion in August 2013 to about Rs 24.70 Trillion Rupees by October 2018, signifying a 4(four) fold rise in around 5 years. This is expected to grow exponentially owing to factors such as High economic growth rate, under-penetration of Investment through the Mutual Fund Vehicle, drop in FD rates; emergence of a newer working class comprising of youth wanting to diversify their investment horizon etc., This has resulted in a proliferation of Fund Houses and Fund Schemes with more than 35 Mutual Fund Houses and thousands of schemes to invest - leaving the MF investor with a unique proposition of being spoilt for choice on the one hand to selecting a fund with a fund house meeting his requirements within the Ocean.

With this backdrop in mind, you are required to answer the following questions:

MULTIPLE CHOICE QUESTIONS

- Mutual Fund M, (equity oriented) is listed on the Stock Exchange. Then, its units can be sold by an investor through the stock exchange at
 - Nearly the NAV
 - The market value as determined for equity shares
 - The Face value
 - The market value at (b) less brokerage
- In a mutual fund, the maximum loss that an investor has to face is the following:
 - There will be no dividend or bonus units to add to his investment and he can at any time, pull out with his principle
 - There will be some dividend issued, but he may lose out more than the dividend when he exits from an unprofitable scheme
 - Complete investment in the principal can be wiped out, without ever receiving any dividend or any gain
 - He will only have a notional loss of regretting that he did not exit at a better time and reinvest elsewhere
- Between a Growth plan and a dividend option, the following is true for a certain mutual fund scheme after the period of the distribution of the first dividend
 - The NAV of the growth option will be higher than the NAV of the dividend plan
 - The yield in the growth option will be higher than the yield in the dividend option
 - The yield in the growth option will be lesser than the yield in the dividend option
 - The yield in the growth option will be lesser than the yield in the dividend option
- When an investor buys units of a closed end scheme, the following is true:
 - He has to wait until the redemption period specified in the scheme at the time of offer to liquidate his investment. He cannot liquidate his investment at any earlier point in time.
 - He has to find a buyer through the scheme manager and sell the units to the buyer if he wishes to liquidate before the redemption period.
 - He can sell the units before the redemption period through the stock exchange.
 - If the fund is not listed on the stock exchange, he can use option (b). If it is listed, he can use option (b) or (c).
- When a mutual fund faces liquidity crunch due to heavy redemption demand,
 - It can borrow in the call money market only if it is a G Sec fund
 - It can borrow in the call money market if it is a G-Sec or a debt fund or a gilt fund
 - It cannot borrow in the call money market, whatever is its nature
 - It cannot borrow in the call money market since it is not a participant at all in the call money market.

CASE STUDY - 3

You are a consultant giving opinions on practical issues relating to the financial services and capital market. The following questions have been raised by different clients for whom you need to explain your answers or give your opinion. Your clients range from well informed CFOs of companies to ordinary individuals.

MULTIPLE CHOICE QUESTIONS:

1. One of the basic questions asked by VAR is –
 - (a) What is worst case scenario?
 - (b) What will be loss?
 - (c) Both the above
 - (d) None of the above
2. ratio is also known as the Reward to Volatility Ratio, it is the ratio of a fund's average excess return to the fund's beta.
 - (a) Treynor Ratio
 - (b) Sharpe Ratio
 - (c) Jensen Alpha
 - (d) Current Ratio
3. The least preferred method of exit route for a PE is
 - (a) Liquidation
 - (b) Initial Public Offer
 - (c) Strategic Acquisition
 - (d) Secondary Sale
4. The following is not true in the context of a mutual fund's payment to its unit- holders :
 - (a) a scheme that invests in equity pays dividends.
 - (b) an exchange traded fund pays dividends.
 - (c) a bond fund pays interest.
 - (d) a G-sec. fund pays dividends.
5. Under a Systematic Investment Plan, the following is NOT TRUE :
 - (a) Unit holders can invest on a monthly basis whatever amount they can save.
 - (b) Investors can invest only a pre-specified amount every period, say monthly, quarterly or half yearly.
 - (c) If an investor has subscribed `3,000 in quarterly payments for a 3 year SIP, he can choose to step up this amount to `4000 from the second year.
 - (d) Even where the SIP amount in a financial year does not exceed `50,000 an investor cannot invest in cash.

PART II – DESCRIPTIVE QUESTIONS - (70 MARKS)

Question I is compulsory. Candidates are required to answer any four questions from the remaining five questions. Wherever necessary, suitable assumptions may be made and disclosed by way of a note. Working Notes should form part of answers.

QUESTION : 1

- (a) BA Ltd. and DA Ltd. both the companies operate in the same industry. Both companies are in the process of negotiating a merger through exchange of equity shares. The Financial statements of both the companies for the current financial year are as follows:

Balance Sheet

| Particulars | BA Ltd (Rs.) | DA Ltd (Rs.) |
|-----------------------------|-------------------------|-------------------------|
| Current Assets | 14,00,000 | 10,00,000 |
| Fixed Assets (Net) | <u>10,00,000</u> | <u>5,00,000</u> |
| Total (Rs.) | <u>24,00,000</u> | <u>15,00,000</u> |
| Equity capital (Rs.10 each) | 10,00,000 | 8,00,000 |
| Retained earnings | 2,00,000 | -- |
| 14% long-term debt | 5,00,000 | 3,00,000 |
| Current liabilities | <u>7,00,000</u> | <u>4,00,000</u> |
| Total (Rs.) | <u>24,00,000</u> | <u>15,00,000</u> |

Income Statement

| | BA Ltd (Rs.) | DA Ltd (Rs.) |
|------------------------------|--------------|--------------|
| Net Sales | 34,50,000 | 17,00,000 |
| Cost of Goods sold | 27,60,000 | 13,60,000 |
| Gross profit | 6,90,000 | 3,40,000 |
| Operating expenses | 2,00,000 | 1,00,000 |
| Interest | 70,000 | 42,000 |
| Earnings before taxes | 4,20,000 | 1,98,000 |
| Taxes @ 50% | 2,10,000 | 99,000 |
| Earnings after taxes (EAT) | 2,10,000 | 99,000 |
| Additional Information : | | |
| No. of Equity shares | 1,00,000 | 80,000 |
| Dividend payment ratio (D/P) | 40% | 60% |
| Market price per share | Rs. 40 | Rs 15 |

- (i) Calculate the EPS, P/E Ratio ROE and Book value/ Intrinsic Value Per Share of both companies.
- (ii) Calculate future EPS growth rates for each company. **(2 Marks)**
- (iii) Evaluate the justifiable equity share exchange ratios that can be offered by BA Ltd. to the shareholders of DA Ltd. **(2 Marks)**
- (iv) Calculate the post-merger EPS based on an exchange ratio of 0.4: 1 being offered by BA Ltd. and indicate the immediate EPS accretion or dilution, if any, that will occur for each group of shareholders. **(2 Marks)**
- (b)** Explain any four features of Value at Risk (VAR). **(4 Marks)**

QUESTION : 2

- (a)** You as an investor had purchased a 4 month call option on the equity shares of X Ltd. of Rs. 10, of which the current market price is Rs. 132 and the exercise price Rs. 150. You expect the price to range between Rs. 120 to Rs. 190. The expected share price of X Ltd. and related probability is given below:

| | | | | | |
|----------------------|-----|-----|-----|-----|-----|
| Expected Price (Rss) | 120 | 140 | 160 | 180 | 190 |
| Probability | .05 | .20 | .50 | 10 | .15 |

- (i) Recommend the Expected Share price at the end of 4 months. **(2 Marks)**
- (ii) Analyze and calculate the value of Call Option at the end of 4 months, if the exercise price prevails. **(4 Marks)**
- (iii) Calculate the expected value of the call option in case the option is held to its maturity. **(2 Marks)**
- (b)** XYZ Limited borrows £ 15 Million of six months LIBOR + 10.00% for a period of 24 months. The company anticipates a rise in LIBOR, hence it proposes to buy a Cap Option from its Bankers at the strike rate of 8.00%. The lump sum premium is 1.00% for the entire reset periods and the fixed rate of interest is 7.00% per annum. The actual position of LIBOR during the forthcoming reset period is as under:

| Reset Period | LIBOR |
|--------------|--------|
| 1 | 9.00% |
| 2 | 9.50% |
| 3 | 10.00% |

Analyze how far interest rate risk is hedged through Cap Option.

(For calculation, work out figures at each stage up to four decimal points and amount nearest to £.) **(6 Marks)**

QUESTION : 3

- (a)** XYZ Ltd. has substantial cash flow and until the surplus funds are utilised to meet the future capital expenditure, likely to happen after several months, are invested in a portfolio of short-term equity investments, details for which are given below:

| Investment | No. of shares | Beta | Market price per share Rs. | Expected dividend yield |
|------------|---------------|------|----------------------------|-------------------------|
| I | 60,000 | 1.16 | 4.29 | 19.50% |
| II | 80,000 | 2.28 | 2.92 | 24.00% |
| III | 1,00,000 | 0.90 | 2.17 | 17.50% |
| IV | 1,25,000 | 1.50 | 3.14 | 26.00% |

The current market return is 19% and the risk free rate is 11%.

- (i) Calculate the risk of XYZ's short-term investment portfolio relative to that of the market; **(3 Marks)**

(3 Marks)

- (ii) Reconcile whether XYZ should change the composition of its portfolio.
- (b)** Odessa Limited has proposed to expand its operations for which it requires funds of \$ 15 million, net of issue expenses which amount to 2% of the issue size. It proposed to raise the funds through a GDR issue. It considers the following factors in pricing the issue:
- (i) The expected domestic market price of the share is Rs. 300
 - (ii) 3 shares underly each GDR
 - (iii) Underlying shares are priced at 10% discount to the market price
 - (iv) Expected exchange rate is Rs. 60/\$

Calculate the number of GDR's to be issued and cost of GDR to Odessa Limited, if 20% dividend is expected to be paid with a growth rate of 20%. **(4 Marks)**

- (c)** Describe any four constituents of International Finance Center (IFC). **(4 Marks)**

QUESTION : 4

- (a)** Mr. FedUp wants to invest an amount of Rs. 520 lakhs and had approached his Portfolio Manager. The Portfolio Manager had advised Mr. FedUp to invest in the following manner:

| Security | Moderate | Better | Good | Very Good | Best |
|-----------------------|----------|--------|------|-----------|------|
| Amount (in Rs. Lakhs) | 60 | 80 | 100 | 120 | 160 |
| Beta | 0.5 | 1.00 | 0.80 | 1.20 | 1.50 |

- (i) Calculate the expected return on the portfolio using CAPM, if the Government Securities are at 8% and the NIFTY is yielding 10%. **(3 Marks)**

- (ii) Evaluate the advice of replacing Security 'Better' with NIFTY. **(4 Marks)**

- (b)** Abhishek Ltd. has a surplus cash of Rs.90 lakhs and wants to distribute 30% of it to the shareholders. The Company decides to buyback shares. The Finance Manager of the Company estimates that its share price after re-purchase is likely to be 10% above the buyback price; if the buyback route is taken. The number of shares outstanding at present is 10 lakhs and the current EPS is Rs.3.

Evaluate:

- (i) The price at which the shares can be repurchased, if the market capitalization of the company should be Rs.200 lakhs after buyback. **(4 Marks)**

- (ii) The number of shares that can be re-purchased. **(1 Mark)**

- (iii) The impact of share re-purchase on the EPS, assuming the net income is same. **(2 Marks)**

QUESTION : 5

- (a)** X Ltd. is a taxi operator. Each taxi cost to company `4,00,000 and has a useful life of 3 years. The taxi's operating cost for each of 3 years and salvage value at the end of year is as follows:

| | Year 1 | Year 2 | Year 3 |
|----------------|-----------|-----------|-----------|
| Operating Cost | `1,80,000 | `2,10,000 | `2,38,000 |
| Resale Value | `2,80,000 | `2,30,000 | `1,68,000 |

You are required to determine the optimal replacement period of taxi if cost of capital of X Ltd. is 10%. **(6 Marks)**

- (b)** The data given below relates to a convertible bond :

| | |
|----------------------------------|---------|
| Face value | Rs. 250 |
| Coupon rate | 12% |
| No. of shares per bond | 20 |
| Market price of share | Rs. 12 |
| Straight value of bond | Rs. 235 |
| Market price of convertible bond | Rs. 265 |

Calculate:

- (i) Stock value of bond. **(1 Mark)**

- (ii) The percentage of downside risk. **(1 Mark)**

- (iii) The conversion premium **(2 Marks)**

- (iv) The conversion parity price of the stock. **(2 Marks)**

QUESTION : 6

- (a)** Eagle Ltd. reported a profit of Rs. 77 lakhs after 30% tax for the financial year 2011-12. An analysis of the accounts revealed that the income included extraordinary items of Rs. 8 lakhs and an extraordinary loss of Rs.10 lakhs. The existing

operations, except for the extraordinary items, are expected to continue in the future. In addition, the results of the launch of a new product are expected to be as follows:

| | Rs. In lakhs |
|----------------|--------------|
| Sales | 70 |
| Material costs | 20 |
| Labour costs | 12 |
| Fixed costs | 10 |

- (i) Calculate the value of the business, given that the capitalization rate is 14%. **(2 Marks)**
- (ii) Calculate the market price per equity share, with Eagle Ltd.'s share capital being comprised of 1,00,000 13% preference shares of Rs. 100 each and 50,00,000 equity shares of Rs. 10 each and the P/E ratio being 10 times. **(2 Marks)**

- (b) XYZ Ltd. a US firm will need £ 3,00,000 in 180 days. In this connection, the following information is available:

Spot rate 1 £ = \$ 2.00

180 days forward rate of £ as of today = \$1.96

Interest rates are as follows:

| | U.K. | US |
|-------------------------|------|------|
| 180 days deposit rate | 4.5% | 5% |
| 180 days borrowing rate | 5% | 5.5% |

A call option on £ that expires in 180 days has an exercise price of \$ 1.97 and a premium of \$ 0.04.

XYZ Ltd. has forecasted the spot rates 180 days hence as below:

Future rate

Probability

| | |
|---------|-----|
| \$ 1.91 | 25% |
| \$ 1.95 | 60% |
| \$ 2.05 | 15% |

The company has following four choices:

- (i) A forward contract;
- (ii) A money market hedge;
- (iii) An option contract;
- (iv) No hedging.

Recommend the alternative (among the four choices mentioned above) that would be preferable by the company. **(10 Marks)**

CA FINAL – AFM
MODEL TEST PAPER – II - SOLUTION

ANSWERS TO THE CASE STUDY - 1

1. (a)
2. (d)
3. (c)
4. (c)
5. (d)

ANSWERS TO THE CASE STUDY - 2

1. (a)
2. (c)
3. (a)
4. (c)
5. (c)

ANSWERS TO THE CASE STUDY - 3

1. (c)
2. (a)
3. (a)
4. (C) – Reason - All mutual funds pay dividends to their unit holders, whatever be their investments, whether shares or bonds. The Mutual Fund is a Trust and its payments to members (unit holders) are called dividends, irrespective of its mode of investments.
5. (a) the amount is not variable from month to month.

PART II –ANSWERS TO DESCRIPTIVE QUESTIONS

SOLUTION : 1

(a) Market price per share (MPS) = EPS X P/E ratio or P/E ratio = MPS/EPS

(i) **Calculation of EPS, P/E ratio, ROE and BVPS of BA Ltd. and DA Ltd.**

| | | BA Ltd. | DA Ltd. |
|------------------------|----------------|---------------|--------------|
| Earnings After Tax | (EAT) | Rs. 2,10,000 | Rs. 99,000 |
| No. of Shares | (N) | 100000 | 80000 |
| EPS | (EAT/N) | Rs. 2.10 | Rs. 1.2375 |
| Market price per share | (MPS) | 40 | 15 |
| P/E Ratio | (MPS/EPS) | 19.05 | 12.12 |
| Equity Funds | (EF) | Rs. 12,00,000 | Rs. 8,00,000 |
| BVPS | (EF/N) | 12 | 10 |
| ROE | (EAT/EF) × 100 | 17.50% | 12.37% |

(ii) **Calculation of growth rates in EPS for BA Ltd. and DA Ltd.**

| | | | |
|-----------------|-------------------------|--------|-------|
| Retention Ratio | (1-D/P ratio) | 0.6 | 0.4 |
| Growth Rate | (ROE × Retention Ratio) | 10.50% | 4.95% |

(iii) **Evaluation of justifiable equity shares exchange ratio**

| | | | |
|---------------------------|-----------------------|-----------------|-----------------------|
| (a) Intrinsic value based | | = Rs.20 / Rs.40 | = 0.5:1 (upper limit) |
| (b) Market price based | = MPS_{DA}/MPS_{BA} | = Rs.15 / Rs.40 | =0.375:1(lower limit) |

Since, BA Ltd. has a higher EPS, ROE, P/E ratio and even higher EPS growth expectations, the negotiable terms would be expected to be closer to the lower limit, based on the existing share prices.

(iv) Calculation of post-merger EPS and its effects

| Particulars | | | BA Ltd. | DA Ltd. | Combined |
|--------------------------|-------|------------|----------|-----------|----------|
| | (Rs.) | (i) | 2,10,000 | 99,000 | 3,09,000 |
| EAT | (Rs.) | (i) | | | |
| Share outstanding | (ii) | | 100000 | 80000 | 132000* |
| EPS | (Rs.) | (i) / (ii) | 2.1 | 1.2375 | 2.341 |
| EPS Accretion (Dilution) | (Re.) | | 0.241 | (0.301**) | |

* Shares outstanding (combined) = 100000 shares + (.40 × 80000) = 132000 shares

** EPS claim per old share = Rs.2.34 × 0.4 = Rs. 0.936

EPS dilution = Rs.1.2375 – Rs. 0.936 = Rs. 0.3015

(b) Explanation of four features of VAR are as below:

(i) Components of Calculations: VAR calculation is based on following three components:

- (a) Time Period
- (b) Confidence Level – Generally 95% and 99%
- (c) Loss in percentage or in amount

(ii) Statistical Method: It is a type of statistical tool based on Standard Deviation.

(iii) Time Horizon: VAR can be applied for different time horizons say one day, one week, one month and so on.

(iv) Probability: Assuming the values are normally attributed, probability of maximum loss can be predicted.

SOLUTION : 2

(a) (i) Recommendation of Expected Share Price

= Rs.120X 0.05 + Rs.140X 0.20 + Rs.160X 0.50 + Rs.180X 0.10 + Rs.190X 0.15
 = Rs.6 + Rs.28 + Rs.80 + Rs.18 + Rs.28.50 = Rs.160.50

(ii) Analysis of Value of Call Option

In case if exercise price prevail the value of call option shall be Nil (Rs.150 - Rs.150) as strike price and spot price are same.

(iii) Calculation of expected Value of Call Option if the option is held till maturity

| Expected price (X) | Value of call (C) | Probability (P) | CP |
|--------------------|-------------------|-----------------|--------|
| Rs. 120 | 0 | 0.05 | 0 |
| Rs. 140 | 0 | 0.20 | 0 |
| Rs. 160 | Rs. 10 | 0.50 | Rs. 5 |
| Rs. 180 | Rs. 30 | 0.10 | Rs. 3 |
| Rs. 190 | Rs. 40 | 0.15 | Rs. 6 |
| | | Total | Rs. 14 |

Alternatively, it can also be calculated as follows:

Expected Value of Option

| | |
|--------------------|----------------|
| (120 – 150) X 0.1 | Not Exercised* |
| (140 – 150) X 0.2 | Not Exercised* |
| (160 – 150) X 0.5 | 5 |
| (180 – 150) X 0.1 | 3 |
| (190 – 150) X 0.15 | 6 |
| | <u>14</u> |

* If the strike price goes below Rs. 150, option is not exercised at all.

(b) Analysis of hedging of interest rate risk thorough Cap Option

First of all we shall calculate premium payable to bank as follows:

$$P = \left[\frac{rp}{(1+i)^t - \frac{1}{i(1+i)^t}} \right] \times A \text{ or } \frac{rp}{PVAF(3.5\%, 4)} \times A$$

Where

P = Premium
 A = Principal Amount
 rp = Rate of Premium
 i = Fixed Rate of Interest
 t = Time

$$= \left[\frac{0.01}{(1/0.035) - \frac{1}{0.035 \times 1.035^4}} \right] \times £15,000,000 \text{ or } \frac{0.01}{(0.966 + 0.933 + 0.0901 + 0.871)} = £15,000,000$$

$$= \left[\frac{0.01}{(28.5714) - \frac{1}{0.04016}} \right] \times £15,000,000 \text{ or } \frac{£150,000}{3.671} = £40,861$$

Please note above solution has been worked out on the basis of four decimal points at each stage.

Now we see the net payment received from bank

| Reset Period | Additional interest due to rise in interest rate | Amount received from bank | Premium paid to bank | Net Amt. received from bank |
|--------------|--|---------------------------|----------------------|-----------------------------|
| 1 | £ 75,000 | £ 75,000 | £ 40,861 | £34,139 |
| 2 | £ 112,500 | £ 112,500 | £ 40,861 | £71,639 |
| 3 | £ 150,000 | £ 150,000 | £ 40,861 | £109,139 |
| TOTAL | £ 337,500 | £ 337,500 | £122,583 | £ 214,917 |

Analysis: Thus, from above it can be seen that interest rate risk amount of £ 337,500 reduced by £ 214,917 by using of Cap option.

Note: It may be possible that student may compute upto three decimal points or may use different basis. In such case their answer is likely to be different.

SOLUTION : 3

(a) (i) Calculation of Beta of Portfolio

| Investment | No. of shares | Market Price | Market Value | Dividend Yield | Dividend | Composition | β | Weighted β |
|------------|---------------|--------------|--------------|----------------|----------|-------------|---------|------------------|
| I. | 60,000 | 4.29 | 2,57,400 | 19.50% | 50,193 | 0.2339 | 1.16 | 0.27 |
| II. | 80,000 | 2.92 | 2,33,600 | 24.00% | 56,064 | 0.2123 | 2.28 | 0.48 |
| III. | 1,00,000 | 2.17 | 2,17,000 | 17.50% | 37,975 | 0.1972 | 0.90 | 0.18 |
| IV. | 1,25,000 | 3.14 | 3,92,500 | 26.00% | 1,02,050 | 0.3566 | 1.50 | 0.53 |
| | | | 11,00,500 | | 2,46,282 | 1.0000 | | 1.46 |

$$\text{Return of the Portfolio} = \frac{2,46,282}{11,00,500} = 0.2238$$

$$\text{Beta of Port Folio} = 1.46$$

Market Risk implicit

$$0.2238 = 0.11 + \beta \times (0.19 - 0.11)$$

$$\text{Or, } 0.08 \beta + 0.11 = 0.2238$$

$$\beta = \frac{0.2238 - 0.11}{0.08} = 1.42$$

Market β implicit is 1.42 while the port folio β is 1.46. Thus the portfolio is marginally risky compared to the market.

(ii) Reconciliation of the decision of XYZ about whether he should change the composition of its portfolio

The decision regarding change of composition may be taken by comparing the dividend yield (given) and the expected return as per CAPM as follows:

Expected return

R_s as per CAPM is:

$$R_s = R_{RF} + (R_M - R_{RF}) \beta$$

For investment I

$$\begin{aligned} R_s &= R_{RF} + (R_M - R_{RF}) \beta \\ &= .11 + (.19 - .11) 1.16 \\ &= 20.28\% \end{aligned}$$

For investment II,

$$R_s = .11 + (.19 - .11) 2.28 = 29.24\%$$

For investment III,

$$\begin{aligned} R_s &= .11 + (.19 - .11) .90 \\ &= 18.20\% \end{aligned}$$

$$\begin{aligned} \text{For investment IV, } R_s &= .11 + (.19 - .11) 1.50 \\ &= 23\% \end{aligned}$$

Comparison of dividend yield with the expected return R_s shows that the dividend yields of investment I, II and III are less than the corresponding R_s . So, these investments are over-priced and should be sold by the investor. However, in case of investment IV, the dividend yield is more than the corresponding R_s , so, XYZ Ltd. should increase its proportion.

(b) Calculation of Number of GDR to be issued and Cost of GDR to Odessa Ltd

Net Issue Size = \$15 million

$$\text{Gross Issue} = \frac{\$15 \text{ million}}{0.98} = \$15.306 \text{ million}$$

Issue Price per GDR in Rs. (300 x 3 x 90%) Rs. 810

Issue Price per GDR in \$ (Rs. 810/ Rs. 60) \$13.50

Dividend Per GDR (D_1) = Rs. 2* x 3 = Rs. 6

* Assumed to be on based on Face Value of Rs. 10 each share.

Net Proceeds Per GDR = Rs. 810 x 0.98 = Rs. 793.80

(a) Number of GDR to be issued

$$\frac{\$15,306 \text{ million}}{\$13.50} = 1.1338 \text{ million}$$

(b) Cost of GDR to Odessa Ltd.

$$K_e = \frac{6.00}{793.80} + 0.20 = 20.76\%$$

(c) Description of any four constituents of International Financial Centre (IFC) is as follows:

- (i) **Highly developed Infrastructure:** - A leading edge infrastructure is prerequisite for creating a platform to offer internationally complete financial services.
- (ii) **Stable Political Environment:** - Destabilized political environment brings country risk investment by foreign nationals. Hence, to accelerate foreign participation in growth of financial center, stable political environment is prerequisite.
- (iii) **Strategic Location:** - The geographical location of the finance center should be strategic such as near to airport, seaport and should have friendly weather.
- (iv) **Quality Life:** - The quality of life at the center showed be good as center retains highly paid professional from own country as well from outside.

SOLUTION : 4

(a) (i) Calculation of Expected Return from Portfolio

| Security | Beta (β) | Expected Return (r) as per CAPM | Amount (Rs. Lakhs) | Weights (w) | wr |
|-----------|------------------|------------------------------------|--------------------|--------------|---------------|
| Moderate | 0.50 | $8\% + 0.50(10\% - 8\%) = 9\%$ | 60 | 0.115 | 1.035 |
| Better | 1.00 | $8\% + 1.00(10\% - 8\%) = 10\%$ | 80 | 0.154 | 1.540 |
| Good | 0.80 | $8\% + 0.80(10\% - 8\%) = 9.60\%$ | 100 | 0.192 | 1.843 |
| Very Good | 1.20 | $8\% + 1.20(10\% - 8\%) = 10.40\%$ | 120 | 0.231 | 2.402 |
| Best | 1.50 | $8\% + 1.50(10\% - 8\%) = 11\%$ | <u>160</u> | <u>0.308</u> | <u>3.388</u> |
| Total | | | <u>520</u> | <u>1</u> | <u>10.208</u> |

Thus Expected Return from Portfolio 10.208% say 10.21%.

Alternatively, it can be computed as follows:

$$\text{Average } \beta = 0.50 \times \frac{60}{520} + 1.00 \times \frac{80}{520} + 0.80 \times \frac{100}{520} + 1.20 \times \frac{120}{520} + 1.50 \times \frac{160}{520} = 1.104$$

As per CAPM

$$= 0.08 + 1.104(0.10 - 0.08) = 0.10208 \text{ i.e. } 10.208\%$$

(ii) Evaluation of the advice of replacing Security 'Better' with NIFTY.

As computed above the expected return from Better is 10% same as from Nifty, hence there will be no difference even if the replacement of security is made. The main logic behind this neutrality is that the beta of security 'Better' is 1 which clearly indicates that this security shall yield same return as market return.

(b) Evaluation of:

(i) The price at which the shares can be repurchased

Let P be the buyback price decided by Abhishek Ltd.

Market Capitalisation After Buyback:

1.1 P (Original Shares – Shares Bought back)

$$= \left[1.1P(10 \text{ Lakhs} - \frac{30\% \text{ of } 90 \text{ Lakhs}}{P}) \right]$$

$$= 11 \text{ Lakhs} \times P - 27 \text{ lakhs} \times 1.1 = 11 \text{ lakhs} \times P - 29.7 \text{ lakhs}$$

Market capitalization rate after buyback is 200 lakhs.

Thus, we have:

$$11 \text{ Lakhs} \times P - 29.7 \text{ lakhs} = \text{Rs. } 200 \text{ lakhs}$$

$$\text{or } 11P = 200 + 29.7$$

$$\text{or } P = \frac{229.7}{11} = \text{Rs. } 20.88$$

(ii) Number of shares than can be re-purchased

The Number of shares to be bought back:

$$= \frac{27 \text{ Lakhs}}{20.88} = 1.29 \text{ lakhs (Approximaely)}$$

(iii) The impact of share re-purchase on the EPS

New Equity Shares

$$= (10 - 1.29) \text{ lakhs} = 8.71 \text{ lakhs}$$

$$\text{EPS} = \frac{3 \times 10 \text{ lakhs}}{8.71 \text{ lakhs}} = \frac{30 \text{ L}}{8.71 \text{ L}} = \text{Rs } 3.44$$

Thus EPS of Abhishek Ltd., increases to Rs.3.44

SOLUTION : 5

(a) NPV if taxi is kept for 1 Year

$$= - `4,00,000 - `1,80,000 (0.909) + `2,80,000 (0.909)$$

$$= - `3,09,100$$

NPV if taxi is kept for 2 Year

$$= - `4,00,000 - `1,80,000 \times 0.909 + `20,000 \times 0.826$$

$$= - `5,47,100$$

NPV if taxi is kept for 3 Year

$$= - `4,00,000 - `1,80,000 \times 0.909 - `2,10,000 \times 0.826 - `70,000 \times 0.751$$

$$= - `7,89,650$$

Since above NPV figures relate to different periods, there are not comparable. to make them comparable we shall use concept of EAC as follows:

EAC of 1 year

$$\frac{3,09,100}{0.909} = ₹ 3,40,044$$

EAC of 2 year

$$\frac{5,47,100}{1.735} = ₹ 3,15,331$$

EAC of 3 year

$$\frac{7,89,650}{2.486} = ₹ 3,17,639$$

Since lowest EAC incur if taxi for 2 year; Hence the optimum replacement cycle to replace taxi in 2 years.

(b) (i) Calculation of Stock value or conversion value of bond

$$12 \times 20 = \text{Rs. } 240$$

(ii) Calculation of Percentage of the downside risk

$$\frac{\text{Rs. } 265 - \text{Rs. } 235}{\text{Rs. } 235} = 0.1277 \text{ or } 12.77\% \text{ or } \frac{\text{Rs. } 265 - \text{Rs. } 235}{\text{Rs. } 265} = 0.1132 \text{ or } 11.32\%$$

This ratio gives the percentage price decline experienced by the bond if the stock becomes worthless.

(iii) Calculation of Conversion Premium

$$\frac{\text{Market Price} - \text{Conversion Value}}{\text{Conversion Value}} = 100$$

$$\frac{\text{Rs. 265} - \text{Rs 240}}{\text{Rs. 240}} = 100 = 10.42\%$$

(iv) Calculation of Conversion Parity Price

$$\frac{\text{Bond Price}}{\text{No of Shares Conversion}}$$

$$\frac{\text{Rs. 265}}{20} = \text{Rs 13.25}$$

This indicates that if the price of shares rises to Rs. 13.25 from Rs. 12 the investor will neither gain nor lose on buying the bond and exercising it. Observe that Rs. 1.25 (Rs. 13.25 – Rs. 12.00) is 10.42% of Rs. 12, the Conversion Premium.

SOLUTION : 6

(a) (i) Calculation of Business Value

| | | (Rs. Lakhs) |
|--|---------------------|---------------|
| Profit before tax | $\frac{77}{1-0.30}$ | 110 |
| Less: Extraordinary income | | (8) |
| Add: Extraordinary losses | | <u>10</u> |
| | | 112 |
| Profit from new product | (Rs. Lakhs) | |
| Sales | 70 | |
| Less: Material costs | 20 | |
| Labour costs | 12 | |
| Fixed costs | <u>10</u> | <u>(42)</u> |
| | | <u>28</u> |
| | | <u>140.00</u> |
| Less: Taxes @30% | | <u>42.00</u> |
| Future Maintainable Profit after taxes | | <u>98.00</u> |
| Relevant Capitalisation Factor | | 0.14 |
| Value of Business (Rs.98/0.14) | | 700 |

(ii) Calculation of Market Price of Equity Share

| | |
|---|---------------|
| Future maintainable profits (After Tax) | Rs. 98,00,000 |
| Less: Preference share dividends 1,00,000 shares of Rs. 100 @ 13% | Rs. 13,00,000 |
| Earnings available for Equity Shareholders | Rs. 85,00,000 |
| No. of Equity Shares | 50,00,000 |
| Earning per share = $\frac{\text{Rs. 85,00,00}}{50,00,000} =$ | Rs. 1.70 |
| PE ratio | 10 |
| Market price per share | Rs. 17 |

(b) (i) Forward contract: Dollar needed in 180 days = £3,00,000 x \$ 1.96 = \$5,88,000/-

(ii) Money market hedge

: Borrow \$, convert to £, invest £, repay \$ loan in 180 days

Amount in £ to be invested = 3,00,000/1.045 = £ 2,87,081

Amount of \$ needed to convert into £ = 2,87,081 x 2 = \$ 5,74,162

Interest and principal on \$ loan after 180 days = \$5,74,162 x 1.055 = \$ 6,05,741

(iii) Call option:

| Expected Spot rate in 180 days | Prem./unit | Exercise Option | Total price per unit | Total price for £3,00,000xi | Prob. Pi | Pixi |
|--------------------------------|------------|-----------------|----------------------|-----------------------------|----------|----------|
| 1.91 | 0.04 | No | 1.95 | 5,85,000 | 0.25 | 1,46,250 |
| 1.95 | 0.04 | No | 1.99 | 5,97,000 | 0.60 | 3,58,200 |
| 2.05 | 0.04 | Yes | 2.01* | 6,03,000 | 0.15 | 90,450 |

| | | | | | | |
|---|--|--|--|--|--|----------|
| | | | | | | 5,94,900 |
| Add: Interest on Premium @ 5.5% (12,000 x 5.5%) | | | | | | 660 |
| | | | | | | 5,95,560 |

* (\$1.97 + \$0.04)

(iv) No hedge option:

| Expected Future spot rate | Dollar needed Xi | Prob. Pi | Pi xi |
|---------------------------|------------------|----------|----------|
| 1.91 | 5,73,000 | 0.25 | 1,43,250 |
| 1.95 | 5,85,000 | 0.60 | 3,51,000 |
| 2.05 | 6,15,000 | 0.15 | 92,250 |
| | | | 5,86,500 |

Recommendation: No hedging strategy i.e. keeping the position open appears to be most preferable because least number of \$ are needed under this option to arrange £3,00,000.

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FEEDBACK

Hello Sir,

After studying the first group of CA final in just four months, I passed in the first attempt and the feeling is amazing. Scored 53 in FR and 63 in SFM.. writing paper was so easy because I was familiar with every question and logic which was taught by you... Taking your class was my one of the best decision in my life..

Also I want to share that my financial condition is not good to purchase lectures of any faculty.. literally I decided to start with self study but You offered your lectures at very low price and it was golden opportunity for me..the tears of joy in my mother's eyes after hearing the result reminded me of you....

The amount of respect I have for you is not something I can put into words..

THANK YOU GURUJI...!

-Rushikesh Pokalekar

Hello, sir you are the best teacher. You are the best faculty for practical subject as well as theory subjects. I really enjoyed your class. Lots of questions like all past questions, RTP, MTP, study material question solved in classroom. It is very helpful for me because lot of practice is needed to tackle the exam. Sir, your theory subject Economics is very helpful for me because it solves practical approach in the classroom, lots of examples. Thankyou so so so much sir.

- Payal Ramesh Mali

Hello, I am Rushikesh Shrihari Puri, studied the FM-ECO subject under the guidance of CA Vinod Kumar Agarwal sir. Sir won't speak much more about himself but his pervasive domain of knowledge regarding subject he teaches even Accounts can enlighten your brain with great thoughts & knowledge. Just last words to say, that please & a humble request to take real guidance under his roof of knowledge for becoming CA & human too. Yes, this institute is not on marketing basis, it is on the experience of student to student.

So, enjoy your CA inter journey as we all have enjoyed

- Rushikesh Shrihari Puri

Vinod sir teaches with utmost conceptual clarity which helped me retain concepts very easily, with logical explanation is at peaks which helps solve tricky question very easily. All RTP, MTP and past year questions were solved in class itself and sir teaches in a way that develops your thinking process which would eventually lead to solving of hard questions in very efficient and effective way.

Thankyou Vinod sir for everything.

-Sarthak Nalawade

FEEDBACK

Sir, I have purchased your SFM class...and i have scored exemption in it! Just wanted to thank you for all the concept clarity and making the subject so easy...Your way of teaching was simply awesome because you have always given reason behind every concept...and hence we never have to mug up any concept. Thank u so much sir.

Regards,
Nishigandha R. Daulatkar

Hello sir Wanted to convey my thanks to you for your wonderful guidance in my SFM subject. Scored 72 marks I was not prepared for rest of the group so just jumped into SFM preparation and achieved exemption. It was just because of your wonderful conceptual clarity and guidance.

Regards,
Nishtha Chopra

Dear Sir, I am your virtual class student Mayuri Sutar. I have majorly done my CA Final classes with AS Foundation (FR, SFM, Audit and Costing) regular as well as revision classes. Your SFM revision lecture are really helping me to complete my syllabus in very short time.

Thnx for entire team for processing my order in a speedy way. Very happy to take classes from Vinod sir who has such a great heart in understanding the needs of students and providing classes at such affordable prices. I will repay my debt to Vinod sir by scoring Exemption in May 21 attempt and post the Mark sheet here itself...Once again thnx thnx thnx....a lot

Good morning,
I wrote only 2nd group in this May 2022 attempt and I cleared that group and I attended Risk Management class from Vinod sir and I got exemption in that and I got 60 marks in that subject.

-Sonia S

Hello sir you are really the best teacher forever for the chapter portfolio management even 1st standard student can understand the concepts thoroughly. thank you so much sir.

- Venkatalakshmi Lakshmi.

Respected Vinod Sir,
Sir your FR and SFM regular batch lectures really helped me in my interview . Received an internship offer from Tresvista for an Investment Research role . Thank you for all the classes.

Thanks & Regards, Joydeep Gorai

Hello.. I have taken FR and SFM class from Vinod Sir. I scored 62 in FR and 64 in SFM. My registration no. is [REDACTED] I cleared CA in this attempt.

- Diganta Chowdhury

FEEDBACK

Thank you so much VK sir,
Your teaching techniques helped me
a lot to take 73 marks.

Regards,
Manjunath Doddamani

I scored 68 in SFM.. all thanks to you...
From hating financial management in
IPCC...to an exemption in CA final..
credits to you.

Thank you to Rakesh agrawal and VK
sir.. I bought video lectures from A.S.
Foundation. I got 59 marks in costing
And 74 marks in FSCM. Thanks a lot

Regards,
Abarna J

Hello sir,Glad to share that I cleared CA
final exam..Had cleared grp 2 in July
attempt already..Scored exemption in
FR & SFM..
Big big thanks to you !!
Thanks and regards,
CA Swapnil Kshirsagar

I took vinod sir's FR and SFM..scored
exemption in both

Regards,
Shebin Sebastian

Sir today I cleared my CA final group 1
with exemption in all subjects I secured
63 in FR & 63 in SFM
Thanks a lot sir for your guidance :)

Please convey my message to Vinod
Sir. Because of him I was able to pass
when result is just 11%

I have done Vinod Sir's FR revision
lecture's and able to score 55 Marks in
FR. Thank you very much Vinod Sir. I
cleared group 1

Regards,
Abhijit Mohan Lokhande

Hi Sir, I had secured exemptions in
SFM(60) and FM(73) in previous
attempts. SFM score helped me clear
G1 this time.

Regards,
Kaushal

Sir, I cleared CA final in 1st attempt.
Special thanks to VK Agarwal Sir for all
his guidance and motivation ☺☺

Regards,
Siddhi Suman Parab

Hello sir I have taken CA final FR and
SFM lectures from A.S Foundation. Now
I have cleared both groups of CA Final

Regards,
Ashwani Kumar

I am very thankful to vinod sir. I cleared
group 1 and scored 53 in SFM. Vinod
sir's SFM class helps in clearing SFM.

Regards,
Ashutosh Kumar

I completed SFM revision it's good.
Sir covered all concepts.
- Srinath Y.C

Dear Vinod Sir, Very well explained.
In first 30 minutes sir has built the
base with help of various examples.
-Milan Jeswani.

Hi sir. Good evening. I have taken SFM
from you. I have cleared group-1.
I am very thankful to you sir.
I really loved the way you teach sir.
Regards
Sai Eshwar

I am also purchasing this sfm lectures
and I have also done the FR from
vinod sir by virtual classes ,it's really
helpful and having easy
understanding methods.

Ye sir hai jinke wajah se CA
intermediate students ko bahut help
milti hai. Aur to aur maine Vinod sir
ke classes kiye hai. Inke jaise
padhanewale kash hi koi ho sakate
hai.
- Laxman Patil

Dear Vinod Sir, I've attended your FR
and SFM regular classes. I liked it very
much and I've recommended the same
to my friends too. Many of my friends
have already watched your class. Thank
you so much sir.
Regards,
Anu

VK SIR STUDENT'S FEEDBACK

Vinod Kumar Agarwal sir-

- Teaches with 100% conceptual clarity,
- All of the queries are solved on emails within a day or two.
- Gives minimal homework,
- Almost all of the questions are solved in the class
- His lectures are effective
- The best thing is, in every chapter he teaches almost 60 questions whereas in ICAI material there are around 15 questions only
- Those questions includes ICAI material + Previous Exam questions + MTP RTP. So everything is covered
- He also, marks down the questions which seems to be important
- Although students of this generation tends more towards younger teachers maybe because they use humour, but the experience that VK sir has is exceptional!

-Saddab Idrisi

Hello Sir,

Bought your CA Inter Accounting Standards Group 2 book; I must say the book is so comprehensive that it covers everything in it.

I went through the lectures provided on YouTube, the way you covered the standards for examination purpose as well as for real life application was commendable. Thank you so much sir for all your efforts.

Regards,
Sakshi K

These is Unnat Chandak. I took CA Final FR classes from AS Foundation. Sir has taught us in very simple way and has covered all previous attempt paper questions in his book. His teaching techniques and practice questions helped me to get exemption in FR.

Respected Vinod Sir,

Good evening sir. Hope you are well . Sir I was from an engineering background enrolled in FR regular batch from Feb 2022 (online) . Sir, your teaching made me confident in FR. Thank you for all the important lectures delivered by you. And books are very good for revision. Will always be thankful to you for FR .

Thank & Regards
Name - Joydeep Gorai

Hi...i took risk management classes from Vinod sir...I cleared my 2nd grp of CA final.. scored good marks in Risk management...

Notes of risk management helped me a lot
-Supriya paygude

FEEDBACK



Subject : CA Final SFM Face-to-Face Batch

In the era of online/pen-drive lectures, it was great to have an opportunity to attend SFM classes face to face by VK Agarwal sir.

The portion was covered extensively & main focus was given on conceptual understanding. Face to Face batch helped me in covering full portion efficiently. Sir has taught SFM in such a way that now it feels easy & it has given me confidence that I can score marks in it & get exemption as well.

The class has been engaging & sir's enthusiasm to teach us is infectious & makes us excited to study more & love the subject.

He has covered all types of questions in the class not just from ICAI material but also from other reference material.

- Meenal Malpote

SFM Revision Batch

The batch was awesome & I got maximum out of it, that I could. Almost every concept was explained with detailed explanation, followed by solving problems in the class. Didn't have to mug up any rule or concept because it was explained thoroughly. Practice booklet provided by you have lots of problems that a student can do after chapters are over. The material was updated perfectly having latest types of sums asked by ICAI, even the RTP, MTP and exam questions of may 2023 were covered.

This batch was great covering huge syllabus in just 30 days. Thankyou sir.

-Champak Dixit

Face to face batches are the essence of learning and I have rediscovered the joy of studying after doing this SFM fully exam oriented face to face batch.

Sir has covered all concepts and has made us solve all varieties of questions in this short amount of time. Doing video lectures was taking very long & was not as fun as doing face to face lectures. I was lucky to find this batch and I'm amazed how quickly we were able to cover all of SFM, this has saved me a lot of precious time & has opened the doors for considering giving both groups.

The way sir has taught us, it made me understand and grasp all chapters. The notes given are concise & precise & easy for revision. I'm very confident in this subject now & I have also joined the FR Fully exam oriented face to face batch.

Sir has brought back my joy of learning. He is one of the rare faculties who is less interested in marketing & strives to help students in every way possible.

-Ajit Pawar

Hello Sir,

I am Abhay Singh From Chhindwara .

I want to express my heartfelt gratitude to you Sir, for providing free of cost class. I'm fortunate for receiving knowledge from the very experienced teacher V.K Agarwal Sir.

When I started your lecture it seemed very easy from me to understand the concept because you are providing indepth knowledge about every concept.

Alongwith it, you tell us about which topic is important for exam and also the question which is frequently asked in the exam .

And the Advanced Accounts Book is so precise that I am getting all MTP, RTP, previous year questions in a single book which helps me to get more practice of a variety of question in single compact book.

Thank you so much sir!

-Abhay Singh