

**CA FINAL
SFM
H L GUPTA
SOLUTION OF
NOV 2019**



**CA FINAL
SFM
H L GUPTA
TO BUY PEN/G DRIVE
OF CA/CMA CALL US
8920730907**

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Roll No. Final New Syllabus

Total No. of Questions – 6

Time Allowed – 3 Hours

Paper - 2

Strategic Financial Management

Total No. of Printed Pages – 12

Maximum Marks – 100

JLC

Answers to questions are to be given only in English except in the case of candidates who have opted for Hindi Medium. If a candidate has not opted for Hindi Medium, his / her answers in Hindi will not be valued.

Question No. 1 is compulsory.

Candidates are also required to answer any four questions from the remaining five questions.

Working notes should form part of the respective answers.

Nov-19
NOV 27/19



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE

OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Marks

8

1. (a) A Ltd., a listed company, is considering merger of B Ltd. which is also a listed company, with itself by means of a stock swap (exchange). B Ltd. has agreed to a plan under which A Ltd. will offer the current market value of B Ltd.'s shares.

Additional Information :

Particulars	A Ltd.	B Ltd.
Earnings after tax (₹)	10,00,000	2,50,000
Number of shares outstanding	4,00,000	2,00,000
Current market price (₹) per share	50	20

JLC

P.T.O.



CA FINAL

SFM

H L GUPTA

**TO BUY PEN/G DRIVE
OF CA/CMA CALL US**

8920730907

(2)
JLC

Marks

On the basis of above information, you are required to calculate the following :

- (i) What is the pre-merger Earnings Per Share (EPS) and P/E ratios of both the companies ?
- (ii) If B Ltd.'s P/E is 10, what is its current market price per share ?
What is the exchange ratio ? What will A Ltd.'s post-merger EPS be ?
- (iii) What must the exchange ratio be for A Ltd.'s Pre-merger and Post-merger EPS to be the same ?



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE

OF CA/CMA CALL US

8920730907

Ans Q1/a

	A Limited	B Limited
Earning after Tax	10,00,000	2,50,000
% Shares	4,00,000	2,50,000
MPS	50	20

Ans i

EPS =

$\frac{10,00,000}{4,00,000}$	$\frac{250000}{250000}$
2.5	1.25

P/E Ratio = $\frac{MPS}{EPS}$

$\frac{50}{2.5}$	$\frac{20}{1.25}$
20	16

Ans 11

Cal $\rightarrow$ mps of Co B when $P_{1E} = 10$

$$P_{1E} = \frac{\text{MPS}}{\text{EPS}}$$

$$\therefore 10 = \frac{\text{MPS}}{1.25}$$

$$\begin{aligned}\therefore \text{mps} &= 10 \times 1.25 \\ &= \underline{\underline{12.5}}\end{aligned}$$

Exchange ratio on the basis of

$$\text{MPS} = \frac{\text{MPS of Co B}}{\text{MPS of Co A}}$$

$$= \frac{12.5}{50} = 0.25$$

i.e. Co A will provide 0.25 shares for
1 share of Co A.

$$\begin{aligned}\text{Post Merger No. of Shares} &= 4,00,000 + 200,000 \times 0.25 \\ &= 4,50,000\end{aligned}$$

$$\begin{aligned}\text{Post Merger EAT} &= 10,00,000 + 2,50,000 \\ &= ₹ 12,50,000\end{aligned}$$

$$\begin{aligned}\text{Post Merger EPS \& GA} &= ₹ \frac{12,50,000}{4,50,000} \\ &= ₹ 2.7778\end{aligned}$$

Ans If CoA wants to remain
Post EPS same then exchange
Ratio should be on the basis of
EPS

Exchange Ratio on the basis of EPS

$$= \frac{\text{EPS of CoB}}{\text{EPS of CoA}} = \frac{1.25}{2.50} = \underline{\underline{0.5 : 1}}$$

(b) P Ltd. is contemplating to borrow an amount of ₹ 50 crores for a period of 3 months in the coming 6 months time from now. The current rate of interest is 8% per annum but it may go up in 6 months time. The company wants to hedge itself against the likely increase in interest rate.

8

The Company's Bankers quoted an FRA (Forward Rate Agreement) at 8.30% per annum.

Compute the effect of FRA and actual rate of interest cost to the company, if the actual rate of interest during consideration period happens to be (i) 8.60% p.a., or (ii) 7.80% p.a.

(Show your workings on the basis of months)

(c) State briefly the basic characteristics of venture capital financing ?

4

Ans 1/6



6x9 FRA = 8.3% p.a.

Amount of loan = ₹ 50,00,000

for Hedging Co. will enter into 6x9 FRA

8.30% p.a. i.e. Co will buy 6x9 FRA

8.30% p.a.

Case 1

If actual interest rate 6 months from now for 3 months = 8.60% P.A. Then there will be gain due to FRA.

Cal of gain due to FRA.

FRA Buy = 8.30% P.A.

FRA Sale = 8.60% P.A.

Gain due to FRA = 0.30% P.A.

Cal of Gain received on Settlement
day i.e. 6 Months from now.

$$= \frac{\text{₹ } 50,00,00,000 \times \frac{0.30}{100} \times \frac{3}{12}}{1 + \frac{8.60}{12 \times 100} \times 3}$$

$$= \frac{\text{₹ } 3,75,000}{1.0215}$$

$$= \text{₹ } 3,67,107$$

Gain due to FRA after 3 months of loan.

$$= ₹ 3,67,107 \left(1 + 0.0860 \times \frac{3}{12} \right)$$

$$= ₹ 3,75,000$$

Loan Amount required to Pay after 3 months of Loan

$$= ₹ 50,00,00,000 \left(1 + 0.0860 \times \frac{3}{12} \right)$$

$$= ₹ 51,07,50,000$$

Total Interest paid on Loan

$$= ₹ 51,07,50,000 - ₹ 50,00,00,000$$

$$= ₹ 1,07,50,000$$

$$\text{Gain due to FRA} = ₹ 3,75,000$$

$$\text{Net Interest Cost} = ₹ 1,07,50,000 - ₹ 3,75,000$$

$$= ₹ 1,03,75,000$$

$$\begin{aligned} \text{Effective Interest rate} &= \frac{₹ 1,03,75,000}{50,00,00,000} \times \frac{12}{3} \times 100 \\ &= 8.30\% \text{ p.a. } \end{aligned}$$

Case II

If interest after 6 months = 7.80%

then there is loss due to FRA

$$\text{FRA Buy} = 8.30\% \text{ P.A.}$$

$$\text{FRA Sell} = 7.80\% \text{ P.A.}$$

$$\text{loss due to FRA} = \underline{\underline{0.50\% \text{ P.A.}}}$$

loss due to FRA 6 months from Now.

i.e. on settlement day

$$= \frac{50,00,00,000 \times \frac{0.50}{100} \times \frac{3}{12}}{1 + \frac{0.078}{12} \times 3} = \frac{625000}{1.0195}$$
$$= ₹ 6,13,045.61$$

Net loss after 3 months loan

$$₹ 6,13,045.61 \left(1 + \frac{0.078}{12} \times 3\right) = ₹ 6,25,000$$

Loan amount required to pay after
3 months of loan

$$= ₹ 50,00,00,000 \left(1 + \frac{0.078}{12} \times 3 \right)$$

$$= ₹ 50,97,50,000$$

$$\text{Interest on loan} = ₹ 50,97,50,000 - ₹ 50,00,00,000$$

$$= ₹ 97,50,000$$

$$\text{loss due to FRA} = \frac{6,25,000}{}$$

$$\text{Total extra amount} = ₹ 1,03,75,000$$

Effective interest rate for ~~3 years~~
loan

$$= \frac{1,03,75.00}{50,00,000} \times 100$$

$$= \underline{\underline{8.30\%}} \quad \underline{\underline{P.A.}}$$

2. (a) Cinderella Mutual Fund, an approved mutual fund, sponsored open-ended equity oriented scheme "Rudolf Opportunity Fund". There are three plans under the scheme viz. 'A' – Dividend Re-investment plan, 'B' – Bonus plan and 'C' – Growth plan.

10

At the time of initial public offer on 1-4-2009, Mr. Amit, Mr. Ashish and Mr. Arun, three investors invested ₹ 2,00,000 each at face value of ₹ 10 per unit and chosen plan 'B', 'C' and 'A' respectively.

The particulars of the fund over the period are as follows :

Date	Dividend %	Bonus Ratio	Net Asset value per unit (₹)		
			Plan A	Plan B	Plan C
31.07.2013	10	–	30.70	31.20	35.40
31.03.2014	35	5:4	58.42	31.05	58.25
30.10.2017	20	–	42.18	26.45	56.45
15.03.2018	12.50	–	46.45	27.72	62.78
31.03.2018	–	1:3	45.20	20.05	67.12
25.03.2019	20	1:4	48.10	19.95	71.42
31.07.2019	–	–	53.75	22.98	82.07

On 31st July, 2019 all the three investors redeemed all the balance units.

Consider the following :

- Long-term capital gain is exempt from Income-tax.
- Short-term capital gain is subject to 10% Income-tax.
- Security Transaction Tax is 0.2% only on sale / redemption of units.
- Ignore Education Cess.

You are required :

- To calculate the Effective Yield per annum (annual rate of return) of each of the investors.
- To suggest the name of investor with the highest Effective Yield per annum with the difference to his nearest investor.
(Show your calculations up to two decimal points)

Q.26. (CA Final Nov. 2005) Sun Mutual Fund (Approved Mutual Fund) Sponsored open-ended equity oriented scheme “ Chanakya Opportunity Fund” .There were three plans Viz ‘A ‘ – Dividend Reinvestment Plan , ‘B ‘ Bonus Plan & ‘ C’ Growth Plan .
At the time of initial Public Offer on 01.04-1995 , Mr. Anand , Mr. Bacchan & Mrs. Charu , three investor invested `1,00,000 each & chosen ‘ B’ , ‘C’ & ‘ A ‘ Plan respectively . The History of the fund is as follows :

Date	Dividend (%)	Bonus Ratio	Net Asset Value per Unit (F.V `10)		
			Plan A	Plan B	Plan C
28-07-1999	20	5:4	30.70	31.40	33.42
31.03.2000	70		58.42	31.05	70.05
31.10.2003	40		42.18	25.02	56.15
15-03-2004	25	1:3	46.45	29.10	64.28
31-03-2004			42.18	20.05	60.12
24-03-2005	40	1:4	48.10	19.95	72.40
31-07-2005			53.75	22.98	82.07

On 31st July all three investors redeemed all the balance units

Calculate annual rate of return to each of the investors.

Consider :

- (i) Long Term Capital Gain is exempt from Income tax.
- (ii) Short Term Capital Gain is subject to 10% Income tax.
- (iii) Security Transaction Tax 0.2 percent only on sale/redemption of units .
- (iv) Ignore Education Cess.

Ans Annual return of : Mrs. Charu = 67.64%, Mr. Anand = 73.33%, Mr. Bacchan = 69.59%.

26 Cal of Annualised return on dividend reinvestment Plan

Mrs Choru

Date	dividend	NAV	No. of unit Purchase	Total no. of units
01-04-1995	—	10	10,000	= 10,000
28-07-99	$\frac{20}{100} \times 10000 = 20000$	30.70	$\frac{20000}{30.70} = 651.47$	$10000 + 651.47 = 10651.47$
31-03-2000	$\frac{70}{100} \times 10651.47 = 74560.29$	58.42	$\frac{74560.29}{58.42} = 1276.28$	$10651.47 + 1276.28 = 11927.75$
30-10-03	$\frac{40}{100} \times 11927.75 = 47711.00$	42.18	$\frac{47711}{42.18} = 1131.13$	$11927.75 + 1131.13 = 13058.88$
15-03-04	$\frac{25}{100} \times 13058.88 = 32647.20$	46.65	$\frac{32647.20}{46.65} = 702.85$	$13058.88 + 702.85 = 13761.73$
24-03-05	$\frac{40}{100} \times 13761.73 = 55046.92$	48.10	$\frac{55046.92}{48.10} = 1144.63$	$13761.73 + 1144.43 = 14906.16$

Sale 31-07-2005

— Activista Valindauer

Cal of net amount received by Mrs Chary due to redemption

$$\begin{aligned} \text{Redemption value} &= 14906.16 \times ₹ 53.75 = ₹ 8,01,206.10 \\ \text{less Security transaction Tax @ 0.2\%} &= 1602.41 \\ \hline &₹ 7,99,603.69 \end{aligned}$$

less short term Capital gain

$$1144.43 \left[53.75 (1 - 0.002) - 48.10 \right] \times \frac{10}{100}$$

Net Received

Initial investment 10,00,000
Net Return

$$\begin{aligned} &= 634 \\ \hline &₹ 7,98,969.69 \\ &1,00,000 \\ \hline &₹ 6,98,969.69 \end{aligned}$$

WN11 C₁ of total Period, in Months

$01-04-1995 \xrightarrow[120\text{ Mon}]{10\text{ year} \times 12} 01-04-2005 \xrightarrow[4M]{} 31-07-2005$

Total periods in Month = $120 + 4 = 124$ Months

$$\text{Return \% P.A} = \frac{6.98,969}{10000} \times 100 \times \frac{12}{124} = \underline{\underline{67.64\%}}$$

Cal of Return % of MY Annual (Bonus Plan)

Date	Units	NAV	Bonus	No. of Units	
01-04-1995	10,000	10	-		= 10,000
31-03-2000	10,000	31.65	$\frac{5}{4} \times 10,000 = 12,500$	10,000 + 12,500	= 22,500
31-12-2004	22,500	20.05	$\frac{1}{3} \times 22,500 = 7,500$	22,500 + 7,500	= 30,000
24-03-2005	30,000	19.95	$\frac{1}{4} \times 30,000 = 7,500$	30,000 + 7,500	= <u>37,500</u>

Cal of Return %.

Redemption Value = $37500 \times ₹ 22.98$	= ₹ 8,61,750
less Security Transaction Tax @ 0.2%.	= 1723.50
	₹ 8,60,026.50
	2235
less STCG $[22.98(1-0.002) - 19.95] 7500 \times \frac{10}{100}$	
Net Amount received	₹ 8,57,791.50
Investment Amount	100000
Net Return	
	₹ 7,57,791.50

$$\text{Return \% P.A.} = \frac{7,57,791}{100000} \times 100 \times \frac{12}{124} = 73.33\%$$



CA FINAL
SFM
H L GUPTA
TO BUY PEN/G DRIVE
OF CA/CMA CALL US
8920730907



Evaluation of return % using growth plane.

$$\begin{array}{r}
 \text{Redemption Value } 10,000 \times ₹ 82.07 = ₹ 8,20,700 \\
 \text{less Security Transaction Tax @ 0.2\%} \quad : \quad 1641.40 \\
 \hline
 ₹ 8,19,058.60 \\
 \text{Investment} \quad 100000 \\
 \hline
 \text{Return} \quad ₹ 7,19,058
 \end{array}$$

$$\begin{aligned}
 \text{Return \%} &= \frac{7,19,058}{100000} \times 100 \times \frac{12}{124} \\
 &= \underline{\underline{69.59\%}}
 \end{aligned}$$



CA FINAL

SFM

H L GUPTA

**TO BUY PEN/G DRIVE
OF CA/CMA CALL US**

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

- (b) A future contract is available on R Ltd. that pays an annual dividend of ₹ 4 and whose stock is currently priced at ₹ 125. Each future contract calls for delivery of 1,000 shares to stock in one year, daily marking to market. The corporate treasury bill rate is 8%.

6

Required :

- Given the above information, what should the price of one future contract be ?
- If the company stock price decreases by 6%, what will be the price of one futures contract ?
- As a result of the company stock price decrease, will an investor that has a long position in one futures contract of R Ltd. realizes a gain or loss ? What will be the amount of his gain or loss ?
(Ignore margin and taxation, if any)

- (c) Identify the benefits of Securitization from the angle of Originator.

4



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Ans 2C b)

(i) Ans

$$\begin{aligned}\text{Fair future price} &= 125 (1 + 0.08) - 4 \\ &= 135 - 4 = 131\end{aligned}$$

$$1 \text{ Contract} = 1000 \text{ units}$$

$$\text{Future Buy} = ₹131 \times 1000 = ₹1,31,000$$

(ii) Ans

If price of stock decreases by 6%.

$$\text{Spot Price} = ₹125 (1 - 0.06) = ₹117.5$$

$$\text{Price of future} = ₹117.5 (1 + 0.08) - 4 = ₹\underline{122.90}$$



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

1 Contract = 1000 units.

future value of 1 Contract = $1000 \times ₹ 122.90$
 $= ₹ 122,900$

Ans iii

future Buy = ₹ 1,31,000

future sale = ₹ 1,22,900

loss due to future = ₹ 8100



CA FINAL

SFM

H L GUPTA

**TO BUY PEN/G DRIVE
OF CA/CMA CALL US**

8920730907

~~~~~  
**ASK YOURSELF  
IF WHAT YOU  
ARE DOING TODAY  
IS GETTING  
YOU CLOSER  
TO WHERE YOU  
WANT TO BE TOMORROW.**  
~~~~~

3. (a) AB Ltd.'s equity shares are presently selling at a price of ₹ 500 each. An investor is interested in purchasing AB Ltd.'s shares. The investor expects that there is a 70% chance that the price will go up to ₹ 650 or a 30% chance that it will go down to ₹ 450, three months from now. There is a call option on the shares of the firm that can be exercised only at the end of three months at an exercise price of ₹ 550.

Calculate the following :

- (i) If the investor wants a perfect hedge, what combination of the share and option should he select ?
- (ii) Explain how the investor will be able to maintain identical position regardless of the share price.
- (iii) If the risk-free rate of return is 5% for the three months period, what is the value of the option at the beginning of the period ?
- (iv) What is the expected return on the option ?



CA FINAL

SFM

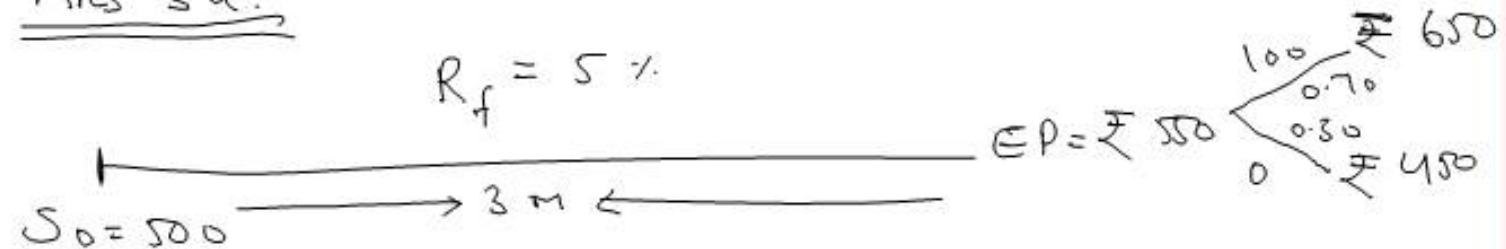
H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Ans 3 a.



Option value when $MP = 650 \Rightarrow \text{Max of } [MP - EP, 0]$

$$= \text{Max of } [650 - 550, 0]$$

$$= \text{Max of } [100, 0] = 100$$

Option value when $MP = ₹ 450 \Rightarrow \text{Max of } [MP - EP, 0]$

$$= \text{Max of } [450 - 550, 0]$$

$$= \text{Max of } [-100, 0]$$

$$= 0$$



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE

OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Ans 1

Hedge Ratio = $\frac{\text{Diff}^n \text{ of option value}}{\text{Diff}^n \text{ of Market Price}}$

$$= \frac{100 - 0}{650 - 450} = \frac{100}{200} = 0.50$$

Ans 11 for hedge writer will have to buy
0.5 shares of AB for writing 1 Call
option

Cash required to buy 0.5 shares of AB
 $= 0.5 \times ₹500 = ₹250$

Bank borrowing + option premium = ₹250 — (1)



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Calculation of Cash position of writer at expiration.

Case 1 $MP = ₹ 650$, $EP = ₹ 550$

There is loss of ₹ 100 due to writing 1 Call option

$$\text{Cash position} = ₹ 650 \times 0.50 - ₹ 100 = ₹ 225$$

Case 2 $MP = ₹ 450$ $EP = ₹ 550$

Call option will lapse

$$\text{Cash position} = ₹ 450 \times 0.50 - 0 = ₹ 225$$

Note:- In this case Call option will lapse.



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Cal of Bank borrowing = P.V. of Cash Position

$$= \frac{₹ 225}{1 + 0.05 \times \frac{3}{12}}$$
$$= ₹ 222.222$$

Now from eqn ①

$$\text{Bank borrowing} + \text{Option Premium} = ₹ 250$$

$$₹ 222.222 + \text{Option Premium} = ₹ 250$$

$$\text{Option Premium} = ₹ 250 - ₹ 222.22$$

$$= ₹ \underline{\underline{27.77}}$$



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Calculation of gain

$$\begin{aligned}\text{Expected value of option} &= ₹100 \times 0.70 + 0 \times 0.30 \\ &= ₹70\end{aligned}$$

$$\text{P.v. of expected value} = \frac{₹70}{1 + \frac{0.05}{12} \times 3} = ₹69.135$$

$$\begin{aligned}\text{Gain due to option} &= ₹69.135 - ₹27.77 \\ &= ₹41.36\end{aligned}$$

$$\begin{aligned}\% \text{ gain per year} &= \frac{₹41.36}{27.77} \times 100 \times \frac{12}{3} \\ &= \underline{595.83\%}\end{aligned}$$



CA FINAL

SFM

H L GUPTA

**TO BUY PEN/G DRIVE
OF CA/CMA CALL US**

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

(b) Closing values of BSE Sensex from 6th to 17th day of the month of January of the year 20xx were as follows :

8

Days	Date	Day	Sensex
1	6	THU	34522
2	7	FRI	34925
3	8	SAT	No Trading
4	9	SUN	No Trading
5	10	MON	35222
6	11	TUE	36000
7	12	WED	36400
8	13	THU	37000
9	14	FRI	No Trading
10	15	SAT	No Trading
11	16	SUN	No Trading
12	17	MON	38,000

Calculate Exponential Moving Average (EMA) of Sensex during the above period. The 30 days simple moving average of Sensex can be assumed as 35,000. The value of exponent for 30 days EMA is 0.064.

Provide analyzed conclusion on the basis of your calculations.

(Calculations should be up to three decimal points.)



CA FINAL
SFM
H L GUPTA
TO BUY PEN/G DRIVE
OF CA/CMA CALL US
8920730907

ASK YOURSELF
 IF WHAT YOU
 ARE DOING TODAY
 IS GETTING
 YOU CLOSER
 TO WHERE YOU
 WANT TO BE TOMORROW.

1. 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.



CA FINAL
SFM
H L GUPTA
TO BUY PEN/G DRIVE
OF CA/CMA CALL US
8920730907



Procedure for Computing Exponential Moving Average.

- ① Consider the index value of current day
- ② Subtract EMA of previous day from current index value
- ③ Multiply the exponential value to the difference computed above (Exponential value will be given the Question)
- ④ Add or less the product obtained above to EMA of previous day for obtaining EMA for current day.



CA FINAL

SFM

H L GUPTA

**TO BUY PEN/G DRIVE
OF CA/CMA CALL US**

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Answers to the Practical Questions

1.

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.



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

(6)

JLC

Marks

8

4. (a) Following information is available of M/s. TS Ltd.

(₹ in crores)

PBIT	5.00
Less : Interest on Debt (10%)	1.00
PBT	4.00
Less : Tax @ 25%	1.00
PAT	3.00
No. of outstanding shares of ₹ 10 each	40 lakh
EPS (₹)	7.5
Market price of share (₹)	75
P/E ratio	10 Times

Note:
45% in place
of 35%.

TS Ltd. has an undistributed reserves of ₹ 8 crores. The company requires ₹ 3 crores for the purpose of expansion which is expected to earn the same rate of return on capital employed as present. However, if the debt to capital employed ratio is higher than 35%, then P/E ratio is expected to decline to 8 Times and rise in the cost of additional debt to 14%. Given this data which of the following options the company would prefer, and why ?

Option (i) : If the required amount is raised through debt, and

Option (ii) : If the required amount is raised through equity and the new shares will be issued at a price of ₹ 25 each.



CA FINAL

SFM

H L GUPTA

TO BUY PEN/CD DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Ans Q. N. 4A

Table Showing Capital Structure under 2 Alternatives

Existing Capital	1 st Alternative	2 nd Alternative
Existing Share Capital 40,00,000 x 10	4,00,00,000	4,00,00,000
Reserve & Surplus	8,00,00,000	8,00,00,000
10% Debt 1,00,00,000 / 0.10	10,00,00,000	10,00,00,000
Total Existing Capital	22,00,00,000	22,00,00,000
<u>Additional Capital</u>		
14% Debt	3,00,00,000	3,00,00,000
12,00,000 ($\frac{3,00,00,000}{25}$) shares @ 25		
Total Capital (Debt + Equity)	25,00,00,000	25,00,00,000
Debt: Equity Ratio = $\frac{\text{Debt}}{\text{Debt} + \text{Equity}}$	$\frac{13,00,00,000}{25,00,00,000} \times 100$ 52% 8	$\frac{10,00,00,000}{25,00,00,000} \times 100$ 40% 10
P/E		



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

WN II

Calculation of existing $ROS = \frac{EBIT}{\text{Capital employed}} \times 100$

$$= \frac{5}{22} \times 100 = 22.72\%$$

WN III

Calculation of EBIT after additional finance.

$$EBIT = 22.72\% \text{ of } 25,00,00,000$$
$$= ₹ 5,68,18,180$$

WN IV

Calculation of total number of shares

1st Alternating $= 40,00,000$

2nd Alternating $= 40,00,000 + 12,00,000 = \underline{\underline{52,00,000}}$



CA FINAL

SFM

H L GUPTA

TO BUY PEN/CD DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Calc of EPS & MPS under Two Alternatives

	1st Alt.	2nd Alt.
EBIT	5,68,18,180	5,68,18,180
less Interest (old)	1,00,00,000	1,00,00,000
(New)	42,00,000	—
EBT	4,26,18,180	4,68,18,180
less Tax 25%	—	—
EAT 75%	3,19,63,635	3,51,13,635
less Pref ⁿ dividend	—	—
Earning for Equity (A)	3,19,63,635	3,51,13,635
No. of Equity shares (B)	40,00,000	52,00,000
EPS (A) ÷ (B)	8	6.75
P/E	8	10
MPS	64	67.50

$$MPS = EPS \times P/E$$

2nd Alternative is best having higher MPS



CA FINAL

SFM

H L GUPTA

**TO BUY PEN/G DRIVE
OF CA/CMA CALL US**

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

- (b) Following information relates to M/s A Ltd. which is a manufacturing-cum-exporting unit. It is exporting some electronic components to Japan, USA and Europe on 90 days credit terms :

Cost and Sales Information :

	Japan	USA	Europe
Variable cost per unit	₹ 225	₹ 395	₹ 510
Export sale price per unit	Yen 650	\$ 10.23	Euro 11.99
Receipts from sale due in 90 days	Yen 78,00,000	\$ 1,02,300	Euro 95920
Foreign exchange rate information			
	Japan Yen/Re	USA \$/Re	Europe Euro/Re
Spot market	2.417-2.437	0.0214-0.0217	0.0177-0.0180
3 months forward	2.397-2.427	0.0213-0.0216	0.0176-0.0178
3 months spot	2.423-2.459	0.02144-0.02156	0.0177-0.0179

Advice the company by calculating average contribution to sales ratio whether it should hedge its currency risk or not.



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Ans 4(c)

(WNI) Cal of No. of units sold

$$\text{Japan} = \frac{\text{¥ } 78,00,000}{\text{¥ } 650} = 12000 \text{ units}$$

$$\text{USA} = \frac{\$ 102300}{\$ 10.23} = 10,000 \text{ units}$$

$$\text{Europe} = \frac{\text{€ } 95920}{\text{€ } 11.99} = 8000 \text{ units}$$

Calculation of Sales in ₹ if it is hedge

$$\begin{aligned} \text{Japan } \text{₹ } 1 &= \text{¥ } 2.427 & \text{Sales } \text{¥ } 78,00,000 \\ \text{Sales in ₹} &= \text{¥ } 78,00,000 / \text{₹ } 2.427 = \text{₹ } \underline{\underline{32,13,844}} \end{aligned}$$



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

USA ₹ 1 = \$ 0.0216 Sales = \$ 1,02,300

Sales in ₹ $\frac{\$102300}{\$0.0216} = ₹ 47,36,111$

Europe ₹ 1 = € 0.0178 Sales = € 95,920

Sales in ₹ = $\frac{€95,920}{€0.0178} = ₹ 53,88,764$

WNH

Calculation in Sales in ₹ if hedge is not done.

Japan ⇒ $\frac{¥78,00,000}{¥2.459} ⇒ ₹ 31,72,021$

USA ⇒ $\frac{\$102300}{\$0.02156} ⇒ ₹ 47,44,898$

Europe ⇒ $\frac{€95,920}{€0.0179} ⇒ ₹ 53,58,659$

Total ₹ 1,32,75,578



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Calculation of Contribution to Sales Ratio due to help

Total Sales in ₹

$$32,13,844 + 47,36,111 + 53,88,764 = ₹ 1,33,38,719$$

less total variable cost

$$₹ (12000 \times 225 + 10000 \times 395 + 8000 \times 511) \\ ₹ 27,10,000 + ₹ 39,50,000 + ₹ 40,80,000 = ₹ 1,07,30,000$$

Contribution

$$= ₹ \underline{\underline{26,08,719}}$$

$$\text{Contribution to Sales Ratio} = \frac{₹ 26,08,719}{1,33,38,719} \times 100 \\ = \underline{\underline{19.56\%}}$$



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Cal of Contribution to Sales Ratio when there is no hedge.

Total Sales in ₹ = ₹ 1,32,75,578
less Total Variable Cost 1,07,30,000

Contribution

₹ 25,45,578

$$\text{Contribution \%} = \frac{25,45,578}{1,32,75,578} \times 100 = 19.17\%$$

Contribution to Sales Ratio due to hedge is higher than not hedge. Hence it is better decision to hedge.



CA FINAL
SFM
H L GUPTA
TO BUY PEN/G DRIVE
OF CA/CMA CALL US
8920730907



(c) Following is the information about Mr. J's portfolio :

4

Investment in shares of ABC Ltd. ₹ 200 lakh

Investment in shares of XYZ Ltd. ₹ 200 lakh

Daily standard deviation of both shares 1%

Co-efficient of correlation between both shares 0.3

Required :

Determine the 10 days 99% Value At Risk (VAR) for Mr. J's portfolio. Given : The Z score from the Normal Table at 99% confidence level is 2.33. (Show your calculations up to four decimal points)

1. Consider a portfolio consisting of a Rs. 200,00,000 investment in share XYZ and a Rs. 200,00,000 investment in share ABC. The daily standard deviation of both shares is 1% and that the coefficient of correlation between them is 0.3. You are required to determine the 10-day 99% value at risk for the portfolio?



CA FINAL
SFM
H L GUPTA
TO BUY PEN/G DRIVE
OF CA/CMA CALL US
8920730907

ASK YOURSELF
 IF WHAT YOU
 ARE DOING TODAY
 IS GETTING
 YOU CLOSER
 TO WHERE YOU
 WANT TO BE TOMORROW.

	X_{Y2}	ABE
Investment	2,00,00,000	2,00,00,000
Weight	0.5	0.5
	1%	1%

80.

$$\gamma_{ABE, X_{Y2}} = \underline{\underline{0.3}}$$

99% Confidence interval

to Tuesday



CA FINAL
SFM
H L GUPTA
TO BUY PEN/G DRIVE
OF CA/CMA CALL US
8920730907



WN1 GM of Portfolio Risk (Portfolio S.D.)

$$= \sqrt{(\sigma_x w_x)^2 + (\sigma_y w_y)^2 + 2(\sigma_x w_x)(\sigma_y w_y)\rho_{xy}}$$

$$= \sqrt{(1 \times 0.5)^2 + (1 \times 0.5)^2 + 2(1 \times 0.5)(1 \times 0.5) \times 0.30}$$

$$= \sqrt{0.65} = \underline{0.806225\%}$$

Volatility in ₹

= Value of Portfolio $\times$ S.D %

= 4,00,00,000 $\times$ 0.806225%

= ₹ 3,22,490

**CA FINAL**

SFM

H L GUPTA

**TO BUY PEN/G DRIVE
OF CA/CMA CALL US**

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

VAR

Expected loss at 99% Confidence level in 10 trading days

= Volatility in $\$$ $\times$ 2 Value $\times \sqrt{\text{No. of trading days}}$

$$= \mathbb{F}_{3,22,490} \times \mathbb{F}_{2,33} \times \sqrt{10}$$

∴ ₹ 2376.140



CA FINAL
SFM
H L GUPTA
TO BUY PEN/G DRIVE
OF CA/CMA CALL US
8920730907



Practical Questions

1. Consider a portfolio consisting of a ₹ 200,00,000 investment in share XYZ and a ₹ 200,00,000 investment in share ABC. The daily standard deviation of both shares is 1% and that the coefficient of correlation between them is 0.3. You are required to determine the 10-day 99% value at risk for the portfolio?

ANSWERS/ SOLUTIONS

Answers to Theoretical Questions

1. Please refer paragraph 3.2
2. Please refer paragraph 2

Answers to the Practical Questions

1. The standard deviation of the daily change in the investment in each asset is ₹ 2,00,000 i.e. 2 lakhs. The variance of the portfolio's daily change is

$$V = 2^2 + 2^2 + 2 \times 0.3 \times 2 \times 2 = 10.4$$

$$\sigma \text{ (Standard Deviation)} = \sqrt{10.4} = ₹ 3.22 \text{ lakhs}$$

Accordingly, the standard deviation of the 10-day change is

$$₹ 3.22 \text{ lakhs} \times \sqrt{10} = ₹ 10.18 \text{ lakh}$$

From the Normal Table we see that z score for 1% is 2.33. This means that 1% of a normal distribution lies more than 2.33 standard deviations below the mean. The 10-day 99 percent value at risk is therefore

$$2.33 \times ₹ 10.18 \text{ lakh} = ₹ 23.72 \text{ lakh}$$



CA FINAL

SFM

H L GUPTA

**TO BUY PEN/G DRIVE
OF CA/CMA CALL US**

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

5. (a) Mr. X holds the following portfolio :

Securities	Cost (₹)	Dividends (₹)	Market Price (₹)	Beta
Equity shares :				
A Ltd.	16,000	1,600	16,400	0.9
B Ltd.	20,000	1,600	21,000	0.8
C Ltd.	32,000	1,600	44,000	0.6
PSU Bonds	68,000	6,800	64,600	0.4

The risk-free rate of return is 12%.

Calculate the following :

- The expected rate of return on his portfolio using Capital Asset Pricing Model (CAPM).
- The average return on his portfolio. (Calculate up to two decimal points)



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Ans SA.

(WNI) Cal of Return on Market Portfolio.

$$R_M = \frac{P_1 + D_1 - P_0}{P_0}$$

$$= \frac{(16400 + 21000 + 44000 + 64600) + (1600 + 1600 + 1600 + 6800) - (16000 + 20000 + 32000 + 68000)}{16000 + 20000 + 32000 + 68000} \times 100$$

$$= \frac{146000 + 11600 - 136000}{136000} \times 100 = 15.88 \%$$



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Calculation of return as per CAPM.

$$= R_f + \beta(R_M - R_f)$$

$$C_{0A} = 12 + 0.90(15.88 - 12) = 15.492\%$$

$$C_{0B} = 12 + 0.80(15.88 - 12) = 15.104\%$$

$$C_{0C} = 12 + 0.60(15.88 - 12) = 14.328\%$$

$$C_{0D} = 12 + 0.40(15.88 - 12) = 13.552\%$$

Average Return %

$$= \frac{15.492\% + 15.104\% + 14.328\% + 13.552\%}{4}$$
$$= \frac{58.476\%}{4} = \underline{\underline{14.619\%}}$$



CA FINAL

SFM

H L GUPTA

**TO BUY PEN/G DRIVE
OF CA/CMA CALL US**

8920730907

~~~~~  
**ASK YOURSELF  
IF WHAT YOU  
ARE DOING TODAY  
IS GETTING  
YOU CLOSER  
TO WHERE YOU  
WANT TO BE TOMORROW.**  
~~~~~

- (b) TG Ltd., a multinational company is planning to set up a subsidiary company in India (where hitherto it was exporting) in view of growing demand for its product and competition from other MNCs. The initial project cost (consisting of plant and machinery including installation) is estimated to be US \$ 500 million. The net working capital requirements are estimated at US \$ 100 million. The company follows straight line method of depreciation. Presently, the company is exporting 2 million units every year at a unit price of US \$ 100, its variable cost per unit being US \$ 50.

The Chief Financial Officer has estimated the following operating cost and other data in respect of the proposed project :



CA FINAL

SFM

H L GUPTA

**TO BUY PEN/G DRIVE
OF CA/CMA CALL US**

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

- (a) Variable operating cost will be US \$ 25 per unit of production.
- (b) Additional cash fixed cost will be US \$ 40 million per annum.
- (c) Production and Sales capacity of the proposed project in India will be 5 million units.
- (d) Expected useful life of the proposed plant is 5 years with no salvage value.
- (e) Existing working capital investment for production and sale of 2 million units through exports was US \$ 20 million.
- (f) Export of the product in the coming year will decrease to 1.5 million units in case the company does not open subsidiary company in India, in view of the presence of competing MNCs that are in the process of setting up their subsidiaries in India.
- (g) Applicable Corporate Income Tax rate is 30%.
- (h) Required rate of return for such project is 12%.

Assume that there will be no variation in the exchange rate of two countries, all profits will be repatriated and there will be no withholding tax.

Estimate the Net Present Value (NPV) of the proposed project in India.

Present Value Interest Factors (PVIF) @ 12% for 5 years are as under :

Year :	1	2	3	4	5
PVIF :	0.8929	0.7972	0.7118	0.6355	0.5674

(Compute your workings to 4 decimals)



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Ans 5/b

(WN I) Cal of P.V. of Cash outflow.

Cost of equipment = \$ 500

Add Increase working Capital
(\$100 - \$20) = 80

P.V. of Cash outflow = \$ 580

(WN II) Cal of depreciation

$$\text{Dep}^n = \frac{\text{Cost} - \text{SV}}{\text{life}} = \frac{\$ 500 - 0}{5} = \$ 100$$



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

WN111 Cal of opportunity loss due to existing operation.

Export Revenue	$1.5 \times \$100$	= \$ 150
less Variable Cost	$1.5 \times \$50$	= 75
		\$ 75
		22.5
		<u>\$ 52.5</u>

EBT

less Tax 30%

EAT



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

WNV Cal of operating Cash Inflow.

Sales Revenue	5 x \$100	= \$500
less variable Cost	5 x \$25	= 125
less Cash fixed Cost		= 40
		\$ 335
		100
		\$ 235
		70.5
		\$ 164.5
		100
		264.50
		52.50
		\$ 212

WNV Cal of terminal Cash Inflow.

Realisation of working Capital : \$80



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Cal of NPV.

Year	Cash Inflow	Pvf @12%	P.V.
0	- \$ 580	1	- \$ 580
1 to 5	212	3.6048	764.22
5	80	0.5677	45.39
NPV =			<u>\$ 229.61</u>



CA FINAL
SFM
H L GUPTA
TO BUY PEN/G DRIVE
OF CA/CMA CALL US
8920730907

ASK YOURSELF
 IF WHAT YOU
 ARE DOING TODAY
 IS GETTING
 YOU CLOSER
 TO WHERE YOU
 WANT TO BE TOMORROW.

- (c) Discuss briefly the key decisions which falls within the scope of financial strategy.

4

6. (a) Following are risk and return estimates for two stocks :

8

Stock	Expected returns (%)	Beta	Specific SD of expected return (%)
A	14	0.8	35
B	18	1.2	45

The market index has a Standard Deviation (SD) of 25% and risk free rate on Treasury Bills is 6%.

You are required to calculate :

- The standard deviation of expected returns on A and B.
- Suppose a portfolio is to be constructed with the proportions of 25%, 40% and 35% in stock A, B and Treasury Bills respectively, what would be the expected return, standard deviation of expected return of the portfolio ?



CA FINAL
SFM
H L GUPTA
TO BUY PEN/G DRIVE
OF CA/CMA CALL US
8920730907

ASK YOURSELF
 IF WHAT YOU
 ARE DOING TODAY
 IS GETTING
 YOU CLOSER
 TO WHERE YOU
 WANT TO BE TOMORROW.

Ans 61a

$$\begin{aligned} \text{Cov}(AB) &= \beta_A \beta_B \sigma_m^2 \\ &= 0.8 \times 1.2 \times 25^2 = 600 \end{aligned}$$

$$\text{Cov}(AB) = \sigma_A \sigma_B r_{AB} = 600$$

Cal of Portfolio Risk.

$$= \sqrt{(\sigma_A w_A)^2 + (\sigma_B w_B)^2 + 2(\sigma_A w_A)(\sigma_B w_B) r_{AB}}$$

$$= \sqrt{(\sigma_A w_A)^2 + (\sigma_B w_B)^2 + 2 w_A w_B \cdot \sigma_A \sigma_B \cdot r_{AB}}$$

$$= \sqrt{(0.5 \times 35)^2 + (0.5 \times 45)^2 + 2 \times 0.5 \times 0.5 \times 600}$$

$$\begin{aligned} &= \sqrt{306.25 + 506.25 + 300} = \sqrt{1112.5} \\ &= \underline{\underline{33.35}} \% \end{aligned}$$



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Ans 6 (a) ii $w_A = 25\%$, $w_B = 0.40$ $w_{R_f} = 0.35$

$\text{Cov}(AB) = 600$ $\text{Cov}(AR_f) = 0$ $\text{Cov}(BR_f) = 0$

Portfolio Risk =

$$\sqrt{(\sigma_A w_A)^2 + (\sigma_B w_B)^2 + (\sigma_{R_f} w_{R_f})^2 + 2 \text{Cov}(AB) w_A w_B + 2 \text{Cov}(AR_f) w_A w_{R_f} + 2 \text{Cov}(BR_f) w_B w_{R_f}}$$

$$= \sqrt{(35 \times 0.25)^2 + (45 \times 0.40)^2 + (0 \times 0.35)^2 + 2 \times 600 \times 0.25 \times 0.40 + 0 + 0}$$

$$= \sqrt{765625 + 32400 + 0 + 125000 + 0 + 0}$$

$$= \sqrt{5205625} = 2282$$



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Portfolio Return.

$$= R_A \omega_A + R_B \omega_B + R_f \omega_f$$

$$= 14 \times 0.25 + 18 \times 0.40 + 10.35 \times 6$$

$$= \underline{\underline{12.8\%}}$$



CA FINAL
SFM
H L GUPTA
TO BUY PEN/G DRIVE
OF CA/CMA CALL US
8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

- (b) Mr. X, a financial analyst, intends to value the business of PQR Ltd. in terms of the future cash generating capacity. He has projected the following after tax cash flows :

Year :	1	2	3	4	5
Cash flows (₹ in lakh)	1,760	480	640	860	1,170

It is further estimated that beyond 5th year, cash flows will perpetuate at a constant growth rate of 8% per annum, mainly on account of inflation. The perpetual cash flow is estimated to be ₹ 10,260 lakh at the end of the 5th year.

Required :

- What is the value of the firm in terms of expected future cash flows, if the cost of capital of the firm is 20%.
- The firm has outstanding debts of ₹ 3,620 lakh and cash / bank balance of ₹ 2,710 lakh.
Calculate the shareholder value per share if the number of outstanding shares is 151.50 lakh.
- The firm has received a takeover bid from XYZ Ltd. of ₹ 225 per share. Is it a good offer ?
[Given : PVIF at 20% for year 1 to Year 5 : 0.833, 0.694, 0.579, 0.482, 0.402]

- c) State the main problems faced in Securitization in India ?

OR

List the main objectives of International Cash Management.



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Ans 6/b.

(WNI) Cal of P.V. of Cash Inflow.

Year	Cash Inflow.	P.V.f (20%, n)	P.V.
1	1760	0.833	1466.08
2	480	0.694	333.12
3	640	0.579	370.56
4	860	0.482	414.52
5	1170 + 10260 = 11,430	0.402	4594.86

P.V. of Cash Inflow = ₹ 7179.14

Ans 1

P.V. of Cash Inflow
Cash & Bank

Value of firm

= ₹ 7179.14
= 2710

= ₹ 9889.14



CA FINAL

SFM

H L GUPTA

TO BUY PEN/G DRIVE
OF CA/CMA CALL US

8920730907

ASK YOURSELF
IF WHAT YOU
ARE DOING TODAY
IS GETTING
YOU CLOSER
TO WHERE YOU
WANT TO BE TOMORROW.

Ans 6b/ii

Cal of Value of Equity

$$\begin{array}{rcl} \text{Value of firm} & = & ₹ 9889.14 \\ \text{less value of debt} & = & 3620 \\ \hline \end{array}$$

Value of equity

$$= ₹ 6269.14$$

$$\text{Value per share} = \frac{₹ 6269.14}{151.40} = ₹ \underline{\underline{41.38}}$$

Ans 6b/iii

If takeover bid is received at ₹ 225/shr offer should be accepted as it is excess of Value per share.