The Institute of Chartered Accountants of India

Code: FN2SM566609 | Total Marks: 100

Subject : Strategic Financial Management | Marks Obtained : 64

Subject SFM.

Number of Answer Books used : Main + 2 additional sheets

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566609

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA
NOVEMBER, 2020

23 NOV 2020

Q.No.	To be ticked (✓) by the candidate against the Questions answered	Marks Awarded (To be filled by Examiner) a	b	c	d	e	Total
1	✓						
2	✓						
3	✓						
4							
5	✓						
6	✓						
7							
8							
9							
10							
11							
12							
13							
14							
Total							

Use only Blue / Black Ball Point Pen to write and shade the circles.
AVOID RED PEN.
Write the marks in the boxes before shading the respective circles.

Total Marks awarded

0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9

Total Marks awarded (in words)

Examiner's Signature

INSTRUCTIONS TO THE CANDIDATE

...nswers are not to be written on this page

...ould be written in figures and words in the allotted space at the right hand corner of the ...ly and nowhere else including additional answer book/s and graph paper.

...ber should be written in the box in numbers and darken the appropriate circles of the OMR ...n provided in the right hand corner of the cover page with **Black / Blue** ball point pen.

...ll particulars such as name of Examination, Group No., Paper No. and subject at the appropriate space at the left hand upper corner.

4. Remove the Bar Code sticker of the particular paper from the Attendance sheet and affix the same on the box provided in the right hand corner of the cover page.

5. Since a machine will read the Roll no., please check and ensure that Roll number written in numbers, words and circles darkened are correct. In case any candidate fills this information wrongly, Institute will not take any responsibility for rectifying the mistake.

6. The answers should be written neatly and legibly

7. The answer to each question must be commenced on a fresh page and question number prominently written at the top of each answer. Alternatively, the question number should be distinctly written in the margin.

8. The answer to each question in all parts should be fully completed in one page or in a consecutive set of pages, before the next question is taken up.

9. Writing of Roll number in place/s other than the space provided for the purpose or writing distinguishing mark, symbols like "OM", "Sri", "Jesus", "786", etc., will tantamount to adoption of "unfair means"

10. Before submission of answer book to the invigilator take care to score out (X) blank pages, if any, that you might have left.

3

~~Q.5~~ ~~a)~~

Amount to be invested =
₹400 billion × 0.5

= ₹ 200 Billions.

Cashflow when invested in Japan Index fund. (¥ in billions)

Initial Amount invested. on 1st April, 2020. (¥ 126.58)

$\left[₹200 \times \dfrac{1}{1.58\ ₹/¥} \right]$

Dividends received. ¥ 25
Add:
Income from stock lending. ¥ 11.29276

Reinvestment income ¥ 36.9276

Amount at the end of the period.

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₹ [¥ 126.58 − 2%]	124.0484
Total Amount available in ¥ at the end of 30th Sept, 2020.	¥ 160.976
Converted in ₹	1.57 ₹/¥

DO NOT WRITE ANYTHING HERE

5

Q.5 a).

Amount to be invested.
= ₹ 400 × 0.5
= ₹200 Billions.

A) When invested in Japan fund.

Initial Investment. ¥ 316
(₹200 × 1.58 ¥/₹)

~~Rec~~ Investment income received.

i) Dividends. ¥ 25
ii) Income from Stock lending ¥ 11.9276

¥ 36.9276.

Investment Value at 30th Sept, 2020.

Value - discount @ 2%.

[¥ 316 – 2%] ¥ 309.68

1 5aStep1

6

Total Investment amount at the end of Sept, 2020. ¥ 346.6076

1 5aStep2

Converted in INR
$\left(\frac{¥\ 346.6076}{1.57\ ¥/₹} \right)$ ₹ 220.7692 17

1 5aStep3

Hence amount at the end of Sept, 2020 is ₹ 220.7692 17 billion

B) When Amount is invested in US Teasurary Bills.

Initial Amount. $2.8 Billion
[₹ 200 × 0.014 $/₹]

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1 5aStep4

+) Interest received. $0.07

[$2.8 x 5% x 6/12]

1 5aStep5

Amount as on 30th Sept, 2020. $ 2.87.

1 5aStep6

Converted in INR. ₹ 220.76923

($ 2.87 / 0.013 $/₹)

Hence, amount at the end of Sept, 2020 is ₹ 220.76923 billions.

→ Concl: As the US treasury Bonds are generating marginal return which is higher than that in Japan Fund.

1 5aStep7

It would be beneficial to invested in US Treasury Bills. Also, the risk on such Treasury

DO NOT WRITE ANYTHING HERE

8

Billions is very negligible as compared to that of the Japan fund.

Hence Amount should preferably be invested in US treasury Bill.

1 5aStep8

8 5a

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DO NOT WRITE ANYTHING HERE

9

Q. 5 b).

	Growth Fund.	Bal. fund.	Regular fund.
Variance. (σ_A^2)	92.16	54.76	40.96.
Coefficient of determination. (ρ_{AB}^2)	0.3025	0.6561	0.9604.
Systematic risk. [$\sigma_A^2 \times \rho_{AB}^2$]	27.8784	35.928	39.338.
$\beta^2 = \frac{\text{Systematic risk}}{\sigma_m^2}$.	0.4826	0.622.	0.6811.
β	0.69467	0.789.	0.825
σ_A	9.6	7.4	6.4

5bStep1

(Alternatively can also be found by
$\beta = \frac{\sigma_A}{\sigma_m} \times \rho_{Am}$)

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	Growth Fund.	Bal. Fund.	Regular. fund.
Sharpe Ratio. $\left(\frac{R_A - R_F}{\sigma_A}\right)$	−0.2083	−0.4054.	− 0.625.
Rank.	I	II	III
Treynor. $\left(\frac{R_A - R_F}{\beta_A}\right)$	−2.879	3.8022. − ~~4.054~~ ~~0.4054~~	− 4.848.
Rank	I	II	III

2 5bStep2

1 5bStep3

2 5bStep4

1 5bStep5

All the securities are yielding negative returns as compared to market as well as the Treasury Bill.

1 5bStep6

8 5b

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Q.5 c).

0 5cStep1

Technical analysis is the study of the price movements through the use of the graphs and stock charts.

0 5cStep2

Though not very attractive, it can be very help in technical anyalysis.

0 5c

16 Q5

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Q.3 a).

Years.	Interest	PVAF	Amt.	Amt x t.
1	850	0.909	772.65	772.65
2	850	0.826	702.1	1404.2.
3	850	0.751	638.35	1915.05
4	850	0.683	580.55	2322.2.
5	10,850.	0.621	6737.85	33689.25
			9431.5	40,103.35

1 3aStep1

i) Current Market Price.
= 9431.5

(taking YTM as 10% and discounting all the cashflows at that rate).
(alternatively can be found using YTM formula as well).

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ii) Duration $= \frac{40,103.35}{9431.5}$

1 3aStep2

$= 4.25$ years.

iii) Modified duration $= \frac{-D}{1 + YTM}$

$= \frac{-4.25}{1 + 10\%}$

1 3aStep3

$= 3.86$

Volatility of the Bond $= 3.86$.

v) Expected Market price, if YTM decrease by. 200 Basis points. (i.e. 2 %).

0 3aStep4

Revised YTM = 8 %

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a) Through Mcaulay's duration,

For 1% change in yield, price changes by 3.86%.

Hence for 2% decrease in YTM,
price will increase by 7.72%.

1 3aStep5

Hence, price = 9431.5 + 7.72%
= ₹ 10,159.61.

b) By intrinsic value Method,

CMP = 850 (8%, 5years) + 10,000 (8%, 5th year)

= 850 × 3.993 + 10,000 × 0.681

1 3aStep6

= ₹ 10,204.05

5 3a

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Q.3
b).

~~[illegible]~~ Working Note :

Plan B =

320,000

30,000 units .

$\frac{5x}{5} + 5x$

Plan ~~B~~ A =

$\left[\frac{\left(\frac{920,000 + 2300}{x} \right) \times 10\%}{50} \right] \times 15\%$

$x + 23,000$

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Plan B.

Bonus. Ratio.

Avg. Yield = 6.4 %.
Hence total yield = 32 %.

Hence. Yield Amt = 320,000

NAV at 31|3|2020 = 44.

Hence total units at
31|3|2020 = $\frac{13,20,000}{44}$

1 3bStep6

1 3bStep7

= 30,000

When Bonus on 31|12|18 was declared,

Units held = 30,000
Bonus units = 5000

Hence Before Bonus declaration

18

1 3bStep8

units held were 25,000.

Likewise,
when Bonus was declared on
31/12/2016,

units ~~Before~~ After Bonus was declared
= 25,000.

Bonus units = 5000.

units Before Bonus
declaration = 20,000

1 3bStep9

Hence opening NAV.

$= \frac{10,00,000}{20,000 \text{ u}}$

= ₹ 50.

1 3bStep10

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Plan A

Units on. 31/3/2020.

Total Amt received = 10,58,743.

NAV = ₹49.

1 3bStep1

Hence units hed were = 21,607.

0 3bStep2

0 3bStep3

Amount on 31/3/2019 was.

21,607 × 45

0 3bStep4

= 972,315.

Amount on. 31/3/2017,

Dividend = 920,000 × 12%

0 3bStep5

= 110,400

Units reinvt = 2300

at ₹48.

6 3b

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Q. 3 c).

When an individual attempts to build a company from his own personal finances or from revenue of a newly formed company, he / she is said to be Boot strapping.

3cStep1

There were mainly 3 ways in which a startup can Bootstrap.

i) Trade crediting.
ii) Factoring
iii) Leasing.

3cStep2

Any two explained are:

i) Trade crediting: Here the Basic idea is to get the goods delivered without first paying for them. This is very unusual in case of a newly

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formed startup as no one would finance it without ~~ex~~ receipt of payment through cash / Bank.

However, here the person should communicate with the owner/finance manager of the sourcing organization as to why it is essential to receive the first order in order to launch the venture.

This helps in reducing working capital requirements.

ii) Leasing: Leasing is a method by which the person does not take up the ownership of the asset instead leases it from a third party. This saves the finance need to buy a new capital assets as well as does not burden the sales of the firm.

It benefits ~~a~~ both the lessor and the leassee. Leasse can avail rent deductions in income taxes.

3 3c
14 Q3

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Q.6

a).

Years	Dividends	growth rate	PVAF	
1	4	20%	0.833	3.332
2	4.8	20%	0.694	3.3312
3	5.76	20%	0.579	3.335
4.	6.912	20%	0.482	3.3315
5	8.2253	19%	0.402	3.3065
6	9.7058	18%	0.335	3.2514
7	11.3558 +	17%	0.279	95.0478
	P_7. 329.3175			

2 6aStep1

1 6aStep2

$$\frac{11.3558 + 16\%}{20\% - 16\%} \longrightarrow \frac{D_7(1+g)}{ke-g} \cancel{0.279}$$

2 6aStep3

= 329.3175

114.9354

2 6aStep4

The intrinsic value is ₹ 114.9354 as the CMP is 112 which is lower than intrinsic value and hence the share of LX Ltd should be purchased.

1 6aStep5

It is assumed that after 4 years, the growth will fall linearly by 1% in each year till year 7

where it reaches 16%. and becomes stable.
After which gordon's formula can be applied as g is constant.

8 6a

Q. 6 b).

Cashflows for 1st 10 years will be different then cashflow after 10 years as the depreciation changed is only for 1st 10 years.

EBIDTA	33 Lakhs.
-) depreciation.	(25) Lakhs
~~+ Interest~~	~~(9)~~
EBIT	8
-) Interest.	(9)
PBT	(1)
+) depreciation	25
CFAT	24

This 24 will be earned each year. for the 1st 10 years.

0 6bStep5
0 6bStep2
0 6bStep3

24

For the Balance ~~5~~ 10. years

10 – 15 years as the Interest is subsisting, that will be paid by 15 years end,

0 6bStep1
0 6bStep6

EBITDA	33		EBIT	33.
–) Int	(9)		–) Tax.	
	24			23·1
–) Tax.				
CFAT.	16.8.			

1 6bStep4

Cashflow.

1^{st} 10 years. 24 × 5.650 = 135·6.

Next 5 years. 16.8 ×

0 6bStep7
0 6bStep8
1 6b

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Q. 6 c).

Pass through ~~&~~ Certificates.

These certificate represent a direct claim in the assets of the SPV and hence carry a proportionate interest in the same.

2 6cStep1

Any asset securitized and realised by the SPV shall be directly transferred to the holder of the securities.

They carry a beneficial interest in all the asset securitized by the SPV.

On the ceastion of the securitised assets, these instruments loose their claim automatically.

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Pay through securities.

Unlike PTC, these instruments do not have a direct obligation to the assets securitized as the securities are desynchronized from the assets which are backed by the SPV.

2 6cStep2

As such, the SPV can invest any ~~to~~ amount generated from the securities on short term yield basis and earn return on the same.

4 6c

13 Q6

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Addl. Book No. 1

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA
ADDL. BOOK

DO NOT WRITE ROLL NUMBER ANYWHERE IN THIS ADDITIONAL ANSWER BOOK

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Q. 2

B)

0 2bStep1

Here as the leg having lesses cost as interest is available, hence it would be beneficial for both the parties to enter into a swap. where,

IB will borrow INR floating rate and pay BPLR + 0.5%, Zaki will borrow JPY fixed rate and pay 2.25%, The deal will be structured as follows,

1 2bStep4

Bank will retain ~~cost~~ commission of 0.25%.
Gain of 1.5 will be shared by both the parties.

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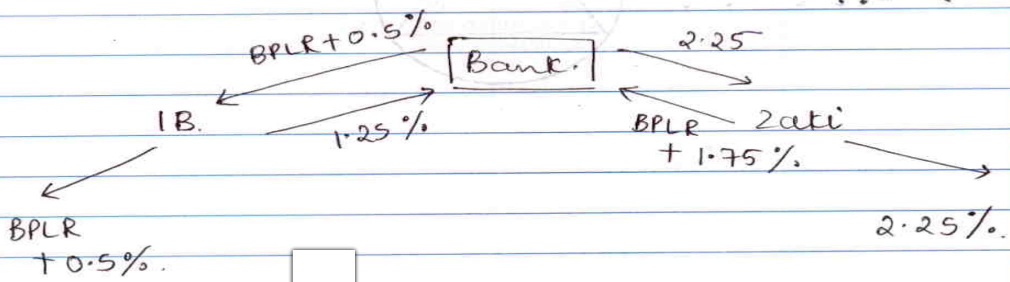
2



Hence here the Bank will receive. (BPLR + ~~0.5~~ 1.75%) from Zaki and will in turn pay BPLR + 0.5% to B., whereas it will receive 1.25% from IB and pay 2.25% to Zaki.

Net cost to Bank

Receipts	Payment
BPLR + 1.75%.	BPLR + 0.5%.
1.25	2.25%.

Net Commission = 0.25%

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2 2bStep5

Net Cost to IB.

1.25 %

which is 0.75% lesser than the desired rate and hence, the gain received by him is 0.75%.

2 2bStep6

Net Cost to zaki

BPLR + 1.75%.

which is 0.75% lesser than the desired rate and hence, the swap has resulted in Overall gain for.

0 2bStep2
1 2bStep3
6 2b

Zaki	0.75%
IB	0.75%
Bank	0.25%

DO NOT WRITE ANYTHING HERE

4

Q.2 c).

Peer to peer lending and crowd funding are innovative ways to finance a startup.

1 2cStep1

Peer to peer lending.

Individuals form a group and lend money to each other for the purpose of the Business carried on by them. This has been in practice since many years. They may bee in group or individuals who are not known to each other.

0 2cStep2

Crowd funding

Money in small denomination is raised from the large nomber of investors through networks such as social media website which help in lending small sums to the person starting a startup.

2 2cStep3

3 2c

9 Q2

Q. 1 a).

Purchases = \$ 80,000
Exposure = \$ 80,000 × 75 ₹/\$

But 2x Ltd can enter into a contract for forward purchase at the rate of 74 ₹/\$.

Hence amount payable after 6m = \$ 80,000 × 74 = ₹ 592,00,000

But the premium on such amount has to be paid today which amounts to.

5920,000 × 1 %
= ₹ 59,200.

2

If we borrow this ₹59,200,

Amount payable would be
59,200 $(1 + 10\% \times 6/12)$

2 1aStep2

= 62,160.

Hence, total cost after 6m
shall be, $\boxed{₹\ 59,82,160}$

2 1aStep3

(59,20,000 + 62,160)
which translates to 74.777 ₹/\$.

But as per the probability given,
the rate ~~is~~ ~~most~~
that is expected to prevail,

1 1aStep1

on 1st Nov, 2020, is
(77 x 0.15 + 77 x 0.25 + 79 x 0.2 + 74 x 0.4)
₹ 74.7 and hence the
forward contract should not be

1 1aStep4

opted for as it results in
additional outlay of funds.

6 1a

3

DO NOT WRITE ANYTHING HERE

Q. 1 b).

Using binomial model,

$100 \times e^{0.05} = 108\,pu + 95\,(1-pu)$.

$100 \times 1.05127 = 108\,pu + 95 - 95\,pu$.

$105.127 = 13\,pu + 95$

1 1bStep1

$pu = 0.79$.

1 1bStep2

$pd = 0.21$.

Payoffs at each Nodes,

$$N_2 = \frac{(18.64 \times 0.79 + 4.6 \times 0.21)}{1.05127}$$

2 1bStep3

$= 14.926$

$$N_3 = \frac{4.6 \times 0.79}{1.05127}$$

2 1bStep4

$= 3.46$

4

$$N_1 = \frac{(108-98) + 14.93}{\cancel{1.05127}\ N_2} + \frac{3.46 \times 0.21}{1.05127}$$

$$= \cancel{23}\ \frac{24.93 \times 0.79}{1.05127} + \cancel{3.29}$$

0 1bStep5

$$= 18.73 + \cancel{3.29}\ 0.69$$

$$= \cancel{2000}\ 19.42.$$

As it is an American call option, it can be excersized at the end of 4, also and hence even that amount is added to the option value.

6 1b

c).

0 1cStep1

VAR is the maximum loss possible

0 1cStep2

$$1000 \times 5 = x \times 1.5\sqrt{5} \times 2.33.$$

0 1cStep3

$$x = 347,335.89.$$

0 1cStep4

0 1c

12 Q1

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Result Overview

Awarded Marks: 64 **Max Marks:100**

NA	Not Attempted	O	Optional	M	Marked

Q1_Compulsory (Score: 12/20)

Question No	Awarded Marks	Maximum Marks	Status
Q1	12	20	M
1a	6	8	M
1b	6	8	M
1c	0	4	M

Q2_Q6 (Score: 52/80)

Question No	Awarded Marks	Maximum Marks	Status
Q2	9	20	M
2a	NA	8	NA
2b	6	8	M
2c	3	4	M
Q3	14	20	M
3a	5	7	M
3b	6	10	M
3c	3	3	M
Q4	0	20	O
4a	0	12	O
4b	0	4	O
4c	0	4	O
Q5	16	20	M
5a	8	8	M
5b	8	8	M
5c	0	4	M

Q6	13	20	M
6a	8	8	M
6b	1	8	M
6c	4	4	M