CA FINAL | **P2 : ADVANCED FINANCIAL MANGEMENT** | **05.06.2025**

[SYLLABUS : MUTUAL FUNDS, SECURITY VALUATION]

TIME : 2 HRS | **TOTAL : 70 MARKS**

PART I : MCQ ANSWERS — 14 MARKS

Case Study – 1

1. Option (b) : 27.27%
2. Option (a) : 10%
3. Option (c) : Rs 22

Case Study – 2

4. Option (c) $\frac{8,00,000}{10.10} \times 10$ Rs 7,92,079.21

5. Option (a) $\frac{4,00,000}{10.30}(10.35\text{-}10.30)+9000 = 10,941.75$

6. Option (c) $\frac{10,941.75}{4,00,000} \times \frac{365}{D} = 0.0966$

7. Option (a) $\frac{\frac{8,00,000}{10.10}(10.00\text{-}10.10)}{8,00,000} \times \frac{365}{D} = -11.66\%$

PART II : DESCRIPTIVE SOLUTIONS 56 MARKS

Question : 1(a) 6 Marks

Working Notes:

(i) Computation of Growth Rate in Earning and EPS

Years	1	2	3	4	5	6	7	8	9	10
Growth in Earning	40%	40%	40%	40%	40%	34%	28%	22%	16%	10%
EPS (₹)	5.60	7.84	10.98	15.37	21.51	28.82	36.89	45.00	52.20	57.42

(ii) Computation of Payout Ratio and Dividend

Years	1	2	3	4	5	6	7	8	9	10
Payout Ratio	10%	10%	10%	10%	10%	18%	26%	34%	42%	50%
Dividend (₹)	0.56	0.78	1.10	1.54	2.15	5.19	9.59	15.30	21.92	28.71

(iii) Calculation of PV of Dividend

Year	Dividend (₹)	PVF	PV of Dividend (₹)
1	0.56	0.855	0.48
2	0.78	0.731	0.57
3	1.10	0.625	0.69
4	1.54	0.534	0.82
5	2.15	0.456	0.98
6	5.19	0.390	2.02

7	9.59	0.333	3.19
8	15.30	0.285	4.36
9	21.92	0.244	5.35
10	28.71	0.209	6.00
			24.46

$$TV = \frac{28.71(1.10)}{0.17-0.10} \times 0.209 \quad = ₹94.29$$

Intrinsic Value = ₹24.46 + ₹94.29 = ₹118.75

Since the Intrinsic Value of Equity share is less than current market price, it is not advisable to invest in the same.

Question : 1(b) **4 Marks**

	Amt in ₹ lakhs	Amount in ₹ lakhs	Amount in ₹ lakhs
Opening Bank (200 - 185 -12)	3.00		
Add: Proceeds from sale of securities	63.00		
Add: Dividend received	2.00	68.00	
Deduct:			
Cost of securities purchased	56.00		
Fund management expenses paid (90% of 8)	7.20		
Capital gains distributed = 80% of (63 – 60)	2.40		
Dividend distributed = 80% of 2.00	1.60	67.20	
Closing Bank			0.80
Closing market value of portfolio			198.00
			198.80
Less: Arrears of expenses			0.80
Closing Net Assets			198.00

Number of units (Lakhs)			20
Closing NAV per unit			**9.90**

Rate of Earning (Per Unit)

	Amount
Income received (₹2.40 + ₹1.60)/20	₹0.20
Loss: Loss on disposal (₹200 - ₹198)/20	₹0.10
Net earning	₹0.10
Initial investment	₹10.00
Rate of earning (monthly)	1%
Rate of earning (Annual)	12%

Question : 1(c) **4 Marks**

(i) Value of share at present $= \frac{Dg}{Ke-g} = \frac{2(1.06)}{0.08-0.06} = ₹\ 106$

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:

$$P0 = \frac{2.50}{0.08-0.07} \times \frac{2(1.06)}{(1+0.08)^3} = ₹\ 198.46$$

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 $= \frac{2.50}{0.08-0.07} = ₹ 250.00$

Expected market price after 2 years $= \frac{2.50}{0.08-0.07} \times \frac{1}{(1+0.08)} = ₹ 231.48$

Expected market price after 1 years $= \frac{2.50}{0.08-0.07} \times \frac{1}{(1+0.08)^2} = ₹ 214.33$

(ii) 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.

Thus, 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.

Question : 2(a) — 5 Marks

(i) Dirty Price

= Clean Price + Interest Accrued

$$= 99.42 + 100 \quad \frac{12}{100} \times \frac{292}{360}$$

$$= 109.1533$$

(ii) First Leg (Start Proceed)

$$= \text{Nominal Value} \times \frac{\text{Dirty Price}}{100} \times \frac{100 - \text{intial margin}}{100}$$

$$= ₹\ 5,00,00,000 \times \frac{109.1533}{100} \times \frac{100 - 2}{100}$$

= ₹5,34,85,117 say ₹5,34,85,000

(iii) Second Leg (Repayment at Maturity)

$$= \text{Start proceed} \times 1 + \text{Repo rate} \times \frac{\text{No of days}}{360}$$

$$= ₹\ 5,34,85,000 \times 1 + 0.0525 \times \frac{14}{360}$$

= ₹ 5,35,94,199

Question : 2(b) — 5 Marks

(i) Number of shares to be issued: 5,00,000

Subscription price ₹20,00,000 / 5,00,000 = ₹ 4

Ex-right Price = (₹1,30,00,000+₹20,00,000)/15,00,000 = ₹ 10

Value of right = (₹10-₹4)/2 = ₹ 3

Or = ₹10 - ₹4 = ₹ 6

(ii) Subscription price ₹20,00,000 / 2,50,000 = ₹ 8

Ex-right Price = (₹1,30,00,000+₹20,00,000)/12,50,000 = ₹ 12

Value of right = (₹12-₹8)/4 = ₹ 1

Or = ₹12 - ₹8 = ₹ 4

(iii) The effect of right issue on wealth of Shareholder's wealth who is holding, say 100 shares.

a. When firm offers one share for two shares held.

Value of Shares after right issue (150 × ₹10)	₹1,500
Less: Amount paid to acquire right shares (50 × ₹4)	₹200
	₹1,300

b. When firm offers one share for every four shares held

Value of Shares after right issue (125 × ₹12)	₹1,500
Less: Amount paid to acquire right shares (25 × ₹8)	₹200
	₹1,300

c. Wealth of Shareholders before Right Issue ₹1,300

Thus, there will be no change in the wealth of shareholders from (i) and (ii).

Question : 2(c) 4 Marks

(a) If return is 29%

	₹
Fixed fee (A) 0.10% of ₹20 crore	2,00,000
New Fund Value (1.29 × ₹20 crore)	25.80 crore
Excess Value of best achieved (25.8 crore – 21.0 crore)	4.80 crore
Incentive Fee (2% of 4.80 crores) (B)	9,60,000
Total Fee (A)+(B)	11,60,000

(b) If return is 4.5%

	₹
Fixed (A) 0.10% of ₹20 crore	2,00,000
New Fund Value (1.045 × ₹20 crore)	20.90 crore
Excess Value of best achieved (20.90 crore – 21.00 crore)	(₹0.10 crore)
Incentive Fee (as does not exceed best achieved) (B)	Nil
Total Fee (A)+(B)	2,00,000

(c) If return is (-1.8%)

No incentive only fixed fee of ₹2,00,000 will be paid

Question : 3 (a) 7 Marks

NPV for bond refunding

	₹
PV of annual cash flow savings (W.N. 2) (3,49,600 x PVIFA 8 %, 25) i.e. 10.675	37,31,980
Less: Initial investment (W.N. 1)	31,15,000
NPV	6,16,980

Recommendation: Refunding of bonds is recommended as NPV is positive.

Working Notes:

(i) Initial Investment:

(a)	**Call Premium**		
	Before tax (1,150 - 1,000) × 30,000	45,00,000	
	Less Tax @ 40%	18,00,000	
	After tax cost of call premium		27,00,000
(b)	**Floatation Cost**		4,25,000
(c)	**Overlapping Interest**		
	Before tax (0.14 × 2/12 × 3 Crores)	7,00,000	
	Less tax @ 40%	2,80,000	4,20,000
(d)	**Tax saving on unamortized discount on old bond (25/30 × 9,00,000 × 0.4)**		(3,00,000)
(e)	**Tax savings from unamortized floatation cost of old bonds (25/30 × 3,90,000 × 0.40)**		(1,30,000)
			31,15,000

(ii) Annual cash flow savings:

a. Old Bond

(i) Interest cost (0.14 × 3 crores) **Less:** tax @ 40%	42,00,000 16,80,000	25,20,000
(ii) Tax savings from amortisation of discount (9,00,000/30 × 0.4)		(12,000)
(iii) Tax savings from amortization of floatation cost (3,90,000/30)		(5,200)
Annual after tax cost payment under old Bond (A)		25,02,800

b. New bond

(i)	Interest Cost (0.12 × 3 crores)	36,00,000	
	Less: Tax @ 40%	14,40,000	21,60,000
(ii)	Tax savings from amortisation of floatation cost 0.4 × 4,25,000/25		(6,800)
	Annual after tax payment under new Bond (B)		21,53,200
	Annual Cash Flow Saving (A) – (B)		3,49,600

Question : 3 (b) 7 Marks

(i) Calculation of Income Available for Distribution

	Units (Lakh)	Per Unit (₹)	Total (₹ In lakh)
Income from January	300	0.0800	24.0000

Add: Dividend equalization collected on issue	5	0.0800	0.4000
	305	0.0800	24.4000
Add: Income from February		0.1180	36.0000
	305	0.1980	60.4000
Less: Dividend equalization paid on repurchase	2.50	0.1980	(0.4950)
	302.50	0.1980	59.9050
Add: Income from March		0.1554	47.0000
	302.50	0.3534	106.9050
Less: Dividend Paid		0.2474	(74.8335)
	302.50	0.1060	32.0715

(ii) Calculation of Issue Price at the end of January

	₹
Opening NAV	20.250
Add: Entry Load 2% of ₹20.25	0.405
	20.655
Add: Dividend Equalization collected on Issue Price	0.080
	20.735

(iii) Calculation of Repurchase Price at the end of February

	₹
Opening NAV	20.250
Less: Exit Load 2% of ₹20.250	(0.405)
	19.845
Add: Dividend Equalization paid on Issue Price	0.198
	20.043

(iv) Closing NAV at the end of March

		₹ (lakh)
Opening Net Asset Value (₹20.25 × 300)		6075.000
Portfolio Value Appreciation		460.000
Issue of Fresh Units (5 × 20.735)		103.675
Income Received (24 + 36 + 47)		107.000
Less: Units repurchased (2.5 × 20.043)	- 50.1075	6745.675
Income Distributed	-74.8335	(-124.941)
Closing Net Asset Value		6620.734
Closing Units (300 + 5 – 2.5) lakh		302.50 lakh
Closing NAV as on 31st March		₹21.8867

Question : 4 (a) 7 Marks

(i) Calculation of Bond Duration

Bond A

Year	Cash flow	P.V. @ 9%		Proportion of bond value	Proportion of bond value time (years)
1	10	0.917	9.17	0.086	0.086
2	10	0.842	8.42	0.079	0.158
3	10	0.772	7.72	0.073	0.219
4	10	0.708	7.08	0.067	0.268
5	10	0.650	6.50	0.061	0.305
6	10	0.596	5.96	0.056	0.336
7	10	0.547	5.47	0.051	0.357
8	10	0.502	5.02	0.047	0.376

9	10	0.460	4.60	0.043	0.387
10	110	0.4224	46.46	0.437	4.370
			106.40	**1.000**	**6.862**

Duration of the bond is 6.862 years or 6.86 year

Bond B

Year	Cash flow	P.V. @ 9%		Proportion of bond value	Proportion of bond value time (years)
1	11	0.917	10.087	0.091	0.091
2	11	0.842	9.262	0.083	0.166
3	11	0.772	8.492	0.076	0.228
4	11	0.708	7.788	0.070	0.280
5	11	0.650	7.150	0.064	0.320
6	11	0.596	6.556	0.059	0.354
7	11	0.547	6.017	0.054	0.378
8	111	0.502	55.772	0.502	4.016
			111.224	**1.000**	**5.833**

Duration of the bond B is 5.833 years or 5.84 years.

Bond C

Year	Cash flow	P.V. @ 9%		Proportion of bond value	Proportion of bond value time (years)
1	9	0.917	8.253	0.082	0.082
2	9	0.842	7.578	0.076	0.152

3	9	0.772	6.948	0.069	0.207
4	9	0.708	6.372	0.064	0.256
5	109	0.650	70.850	0.709	3.545
			100.00	**1.000**	**4.242**

Duration of the bond C is 4.242 years or 4.24 years

(ii) Amount of Investment required in Bond B and C

Period required to be immunized	6.000 Year
Less: Period covered from Bond A	3.087 Year
To be immunized from B and C	2.913 Year

Let proportion of investment in Bond B and C is b and c respectively then

$b + c = 0.55$ (1)

$5.883b + 4.242c = 2.913$ (2)

On solving these equations, the value of b and c comes 0.3534 or 0.3621 and 0.1966 or 0.1879 respectively and accordingly, the % of investment of B and C is 35.34% or 36.21% and 19.66 % or 18.79% respectively.

(iii) With revised yield the Revised Duration of Bond stands

$0.45 \times 7.15 + 0.36 \times 6.03 + 0.19 \times 4.27 = 6.20$ year

No portfolio is not immunized as the duration of the portfolio has been increased from 6 years to 6.20 years.

(iv) New percentage of B and C bonds that are needed to immunize the portfolio.

Period required to be immunized	6.0000 Year
Less: Period covered from Bond A	3.2175 Year
To be immunized from B and C	2.7825 Year

Let proportion of investment in Bond B and C is b and c respectively, then

$$b + c = 0.55$$

$$6.03b + 4.27c = 2.7825$$

$$b = 0.2466$$

On solving these equations, the value of b and c comes 0.2466 and 0.3034 respectively and accordingly, the % of investment of B and C is 24.66% or 25% and 30.34 % or 30.00% respectively.

Question : 4 (b) 7 Marks

(i) Dividend Plan

(a) Average Annual gain over a period of 5 Years	27748.60

(b) Total gain over a period of 5 years (a*5)	138743
(c) Initial Investment	920000
(d) Total value of investment (b+c)	1058743
(e) NAV as on 31.3.2020	49
(f) Number of units at the end of the period as on 31.03.2019 (d/e)	21607

	1	2	3	4 = (2*3)	5	6 = 1/ (4+5)*4	7
Period	Units held	Rate	Unit value	Dividend	NAV	New Units*	Balance Units Pre-Dividend
31.03.2019	21607	0.15	10	1.5	45	697	20910
31.03.2018	20910	0.1	10	1	50	410	20500
31.03.2017	20500	0.12	10	1.2	48	500	20000

Issue Price as on 01 04.2015 Investment 920000/ Units purchased 20000 (c/i) = ₹46

* Let the units issued be X

X = (Closing Units/NAV + Dividend) × Dividend

(ii) Bonus Plan

(a) Average Yield	0.064
(b) Investment	1000000
(c) Gain over a period of 5 years (a*b*5)	320000
(d) Market Value as on 31.03.2019 (b + c)	1320000
(e) NAV as on 31.03.2020	44
(f) Total units as on 31.03.2020 (d/e)	30000

(g) No of units as on 31.03.2018 Pre bonus = 30000*5/ (5 + 1)	25000
(h) No of units as on 31.12.2016 Pre bonus = 25000*4/ (4 + 1)	20000
(i) Issue Price as on 01.04.2015 Investment 1000000/ Units purchased 20000 (b/h)	50

ALL THE BEST

Join our telegram Channel for More updates

https://t.me/catestseries_thewaychannel