

Mock Test Paper - Series II: April, 2026

Date of Paper: 04 April 2026

Time of Paper: 2 P.M. to 5 P.M.

FINAL COURSE: GROUP – I

PAPER – 2: ADVANCED FINANCIAL MANAGEMENT

ANSWER TO PART – I CASE SCENARIO BASED MCQS

1. Option (c)
2. Option (d)
3. Option (c)
4. Option (b)
5. Option (d)
6. Option (b)
7. Option (b)
8. Option (c)
9. Option (c)
10. Option (b)
11. Option (c)
12. Option (d)
13. Option (c)
14. Option (c)
15. Option (b)

ANSWERS OF PART – II DESCRIPTIVE QUESTIONS

1. (a) (i) This type of Fund is a Gilt Fund as the amount of fund is invested in dated Government Securities.  
(ii) To calculate NAV per unit first we shall calculate of actual investment of Funds as follows:

Security	Purchase price	Investment (₹ in lakhs)
GOI 2026	106.50	532.50*

GOI 2030	105.00	525.00
GOI 2035	105.00	525.00
GOI 2042	110.00	550.00
GOI 2052	101.00	<u>505.00</u>
	Total	<u>2,637.50</u>

$$* \frac{\text{₹ 5 crores}}{\text{₹ 100} \times 1,00,000} \times \text{R` 106.50}$$

Accordingly, the NAV per units shall be:

$$\frac{\text{₹ 2637.50 Lakhs}}{250 \text{ Lakhs}} = \text{₹ 10.55}$$

- (iii) Suitable action to churn out investment portfolio in following scenario is to reduce risk and to maximize profit or minimize losses.

$$\text{Average Duration} = \frac{3.5 + 6.5 + 7.5 + 8.75 + 13.00}{5} = \frac{39.25}{5} = 7.85 \text{ years}$$

- (A) Interest rates are expected to be lower by 25 basis points in such case increase the average duration by purchasing GOI 2052 and disposing of GOI 2026.

$$\begin{aligned} \text{Revised average duration shall be} &= \frac{39.25 - 3.5 + 13}{5} \\ &= \frac{48.75}{5} = 9.75 \text{ years} \end{aligned}$$

- (B) Interest rates are expected to rise by 75 basis points in such case reduce the average duration by (\*) Purchasing GOI 2030 and disposing of GOI 2052.

$$\begin{aligned} \text{Revised average duration shall be} &= \frac{39.25 - 13 + 6.5}{5} \\ &= \frac{32.75}{5} = 6.55 \text{ years} \end{aligned}$$

- (\*) Purchasing of GOI 2026 is not beneficial as maturity period is very short and 75 basis points is comparatively higher change.

Thus, it can be said that the in first case the duration of portfolio is revised from 7.85 years to 9.75 years. In second case it stands revised from 7.85 years to 6.55 years. **(10 marks)**

(b) Like equity mutual funds, bond funds also have following risks.

- ❖ **Interest Rate Risk:** This risk relates to fluctuation in market value of Bond consequent upon the change in interest rate (YTM) as discussed in the chapter on Security Valuation. There is inverse relationship between market value of bond and interest rate. As interest rate goes up market value of Bond falls and vice versa.
- ❖ **Credit Risk:** This risk is similar to risk of default in repayment of loans or payment of interest or both by the borrowers of the funds. Thus, this risk takes place when a Mutual Fund invested money in the Bonds of a company which defaults in the payment of Interest or Principal. This risk is higher in case of companies with lower Credit Rating.
- ❖ **Prepayment Risk:** This risk is related to early refund of money by the issuer of Bonds before the date of maturity. This generally happens in case of falling interest rates when a company who already issued Bond at higher interest rate issues fresh Bonds at lower rate of interest exercising its right of early redemption of Callable Bonds and refunding the money raised out of fresh issue.
- ❖ **Reinvestment Risk:** In a falling interest rate scenario, on maturity of the Bonds on its due date, the maturity proceeds get invested at a lower rate of interest. This brings down the overall yield of the Portfolio. This is known as a Reinvestment Risk. This turns out to be favourable in a rising interest rate scenario. **(4 marks)**

2. (a) Amount realized on selling Danish Krone 10,00,000 at INR 14.4480 per Krone = INR 1,44,48,000.

**Cover at London:**

Bank buys Danish Krone at London at the market selling rate.

Pound sterling required for the purchase (DKK 10,00,000 ÷ DKK 8.6000)  
= GBP 1,16,279.07

Bank buys locally 1,16,279.07 for the above purchase at the market selling rate of INR 124.2300.

The rupee cost will be = INR 1,44,45,349

Profit (INR 1,44,48,000 - INR 1,44,45,349) = INR 2,651

**Cover at New York:**

Bank buys Kronas at New York at the market selling rate.

Dollars required for the purchase of Danish Krone (DKK 10,00,000 ÷ 6.5100)  
= USD 1,53,609.83

Bank buys locally USD 1,53,609.83 for the above purchase at the market selling rate of INR 94.0390.

The rupee cost will be = INR 1,44,45,315

Profit (INR 1,44,48,000 - INR 1,44,45,315) = INR 2,685

**Advice:** Though the transaction covered through New York gets very slightly more profitable by INR 34 but it is advisable to cover the transaction through London market as the bank has correspondent banking relationship in the London.

**(8 marks)**

**(b)** Following are main features of VAR

(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.

(v) *Risk Control:* Risk can be controlled by setting limits for maximum loss.

(vi) *Z Score:* Z Score indicates how many standard Deviations is away from Mean value of a population. When it is multiplied with Standard Deviation it provides VAR.

**(6 marks)**

3. (a) **Working Notes:**

1. Average selling price =  $(30,00,000 \times 0.20) + (42,00,000 \times 0.45) + (72,00,000 \times 0.35) = ₹ 50,10,000$  per unit

2. Average conversion cost =  $(23,00,000 \times 0.20) + (29,00,000 \times 0.45) + (40,00,000 \times 0.35) = ₹ 31,65,000$  per unit

3. Computation of Sales Income

Year	1	2	3	4
Sales volume (units/year)	250	300	450	450
Average selling price (₹ /unit)	50,10,000	50,10,000	50,10,000	50,10,000
Sales income (₹ crore/year)	125.25	150.30	225.45	225.45

4. Computation of Conversion cost

Year	1	2	3	4
Sales volume (units/year)	250	300	450	450
Average conversion cost (₹ /unit)	31,65,000	31,65,000	31,65,000	31,65,000
Conversion cost (₹ crore/year)	79.125	94.950	142.425	142.425

5. Tax allowable depreciation = ₹ 40 crore/10 = ₹ 4 crore per year

Benefit of tax allowable depreciation = ₹ 4 crore x 0.28 = ₹ 1.12 crore per year

(i) **Calculation of NPV over four years**

Year	1	2	3	4
	₹ crore	₹ crore	₹ crore	₹ crore
Sales income	125.25	150.30	225.45	225.45
Conversion cost	(79.125)	(94.95)	(142.425)	(142.425)
Contribution	46.125	55.35	83.025	83.025
Fixed costs	(40)	(50)	(55)	(55)
Before-tax cash flow	6.125	5.35	28.025	28.025
Tax liability at 28%	(1.715)	(1.498)	(7.847)	(7.847)
Tax allowable depreciation benefits	1.120	1.120	1.120	1.120

After-tax cash flow	5.53	4.972	21.298	21.298
Discount at 11%	0.901	0.812	0.731	0.659
Present values	4.983	4.037	15.569	14.035
Total present value of Inflows				38.624
Initial investment				40.000
NPV				(1.376)

**Advice:** If only the first four years of operation are considered, the NPV of the planned investment is negative and so it would not be financially acceptable.

- (ii) Ignoring tax allowable depreciation, after-tax cash flow from year five onwards will be:

$$₹ 28.025 \text{ crore} - ₹ 7.847 \text{ crore} = ₹ 20.178 \text{ crore per year}$$

$$\text{Present value of this cash flow in perpetuity} = (₹ 20.178 \text{ crore} / 0.11) \times 0.659 = ₹ 120.885 \text{ crore}$$

There would be a further six years of tax benefits from tax allowable depreciation. The present value of these cash flows would be ₹ 1.12 crore  $\times 2.787 = ₹ 3.121$  crore

Increase in NPV of production and sales continuing beyond the first four years would be:

$$₹ 120.885 \text{ crore} + ₹ 3.121 \text{ crore} = ₹ 124.006 \text{ crore}$$

In other words, NPV of the planned investment would be ₹ 122.632 crore (₹ 124.006 crore – ₹ 1.376 crore)

**Advice:** If production and sales beyond the first four years are considered, the NPV is strongly positive and so the planned investment is financially acceptable. **(10 marks)**

- (b) The securitization has the following features:

- (i) **Creation of Financial Instruments** – The process of securities can be viewed as process of creation of additional financial product of securities in market backed by collaterals.
- (ii) **Bundling and Unbundling** – When all the assets are combined in one pool it is bundling and when these are broken into instruments of fixed denomination it is unbundling.

- (iii) **Tool of Risk Management** – In case assets are securitized on non-recourse basis, then securitization process acts as a risk management tool as the risk of default is shifted from originator (of securities) to investor (in securities).
- (iv) **Structured Finance** – In the process of securitization, financial instruments are tailor structured to meet the risk return trade off profile of the investor, and hence, these securitized instruments are considered as best examples of structured finance.
- (v) **Trenching** – Portfolio of different receivable or loan or asset are split into several parts based on risk and return they carry called 'Tranche'. Each Trench carries a different level of risk and return.
- (vi) **Homogeneity** – Under each tranche the securities issued are of homogenous nature and even meant for small investors who can afford to invest in small amounts. **(4 Marks)**

4. (a) The variance of Security's Return

$$\sigma^2 = \beta_i^2 \sigma_m^2 + \sigma_{ei}^2$$

The variance of the portfolio is 626.50. Let X be standard deviation of the index is X.

Accordingly, variance of various securities

	$\sigma^2$	Weight(w)	$\sigma^2 X w$
L	$(1.60)^2 (X)^2 + 7^2 = 2.56X^2 + 49$	0.25	$0.64 X^2 + 12.25$
M	$(1.15)^2 (X)^2 + 11^2 = 1.32 X^2 + 121$	0.30	$0.40 X^2 + 36.30$
N	$(1.40)^2 (X)^2 + 3^2 = 1.96 X^2 + 9$	0.25	$0.49 X^2 + 2.25$
K	$(1.00)^2 (X)^2 + 9^2 = 1.00 X^2 + 81$	0.20	$0.20 X^2 + 16.20$
	Variance		$1.73 X^2 + 67$

Thus,  $1.73 X^2 + 67 = 626.50$

$1.73 X^2 = 559.50$

$X^2 = 323.41$

$X = \sqrt{323.41} = 17.98$

Thus, standard deviation ( $\sigma_m$ ) of the market index shall be approx. 17.98.

**(6 marks)**

(b) **Comparative Evaluation**

<b>Basis</b>	<b>Buy &amp; Hold Policy</b>	<b>Constant Mix Policy</b>	<b>Constant Proportion Portfolio Insurance</b>
Pay-off Line	Straight	Concave	Convex
Protection in Down/Up Markets	Definitely poor in Down market	Not much in Down market but relatively poor in Up market	Good in Down market and performs well in Up market
Performance in flat market	Performs between Constant and CPPI	Tend to do well in flat market.	Performs poorly.

(4 marks)

- (c) A Unicorn is a privately held start-up company which has achieved a valuation US\$ 1 billion. This term was coined by venture capitalist Aileen Lee, first time in 2013. Unicorn, a mythical animal represents the statistical rarity of successful ventures.

A start-up is referred as a Unicorn if it has following features:

- (i) A privately held start-up.
- (ii) Valuation of start-up reaches US\$ 1 Billion.
- (iii) Emphasis is on the rarity of success of such start-up.
- (iv) Other common features are new ideas, disruptive innovation, consumer focus, high on technology etc.

However, it is important to note that in case the valuation of any start-up slips below US\$ 1 billion it can lose its status of 'Unicorn'. Hence a start-up may be Unicorn at one point of time and may not be at another point of time.

**OR**

As the name suggests, venture capital firms have made this famous. Such investors seek a return equal to some multiple of their initial investment or will strive to achieve a specific internal rate of return based on the level of risk they perceive in the venture.

The method incorporates this understanding and uses the relevant time frame in discounting a future value attributable to the firm.

The post-money value is calculated by discounting the rate representing an investor's expected or required rate of return.

The investor seeks a return based on some multiple of their initial investment. For example, the investor may seek a return of 10x, 20x, 30x, etc., their original investment at the time of exit.

New-age startups are disruptors in their own right and a necessary tool for global innovation and progress. By their very nature, startups disrupt set processes and industries to add value. In that process, they transcend traditional indicators of success like revenues, profitability, asset size, etc. Accordingly, it is no mean feat to uncover the actual value of a startup.

While the traditional methods fall short, there is no shortage of new innovative methods used to value startups based on their value drivers. However, the valuation of a startup is much more than the application of ways – it is about understanding the story of the future trajectory and communicating that narrative using substantial numbers. **(4 marks)**

5. (a) (i) **Swap Ratio**

Gross NPA	5:40	$5/40 \times 30\%$	0.0375
CAR	5:16	$5/16 \times 28\%$	0.0875
Market Price	12:96	$12/96 \times 32\%$	0.0400
Book Value Per Share	12:120	$12/120 \times 10\%$	0.0100
			0.1750

Thus, for every share of Weak Bank, 0.1750 share of Strong Bank shall be issued.

Calculation of Book Value Per Share

Particulars	Weak Bank (W)	Strong Bank (S)
Share Capital (₹ Lakhs)	150	500
Reserves & Surplus (₹ Lakhs)	80	5,500
	230	6,000
Less: Preliminary Expenses (₹ Lakhs)	50	--
Net Worth or Book Value (₹ Lakhs)	180	6,000
No. of Outstanding Shares (Lakhs)	15	50
Book Value Per Share (₹)	12	120

(ii) No. of equity shares to be issued:

$$\frac{150}{10} \times 0.1750 = 2.625 \text{ lakh shares}$$

(iii) **Balance Sheet after Merger**

Calculation of Capital Reserve

Book Value of Shares	₹ 180.00 lac
Less: Value of Shares issued	₹ 26.25 lac
Capital Reserve	₹ 153.75 lac

**Balance Sheet**

	₹ lac		₹ lac
Paid up Share Capital	526.25	Cash in Hand & RBI	2900.00
Reserves & Surplus	5500.00	Balance with other banks	2000.00
Capital Reserve	153.75	Investment	20100.00
Deposits	48000.00	Advances	30500.00
Other Liabilities	3390.00	Other Assets	2070.00
	<b>57570.00</b>		<b>57570.00</b>

(iv) **Calculation CAR & Gross NPA % of Bank 'S' after merger**

$$\text{CAR / CRWAR} = \frac{\text{Total Capital}}{\text{Risky Weighted Assets}}$$

	Weak Bank	Strong Bank	Merged
Capital Adequacy Ratio (CAR)	5%	16%	
Total Capital	₹ 180 lac	₹ 6000 lac	₹ 6180 lac
Risky Weighted Assets	₹ 3600 lac	₹ 37500 lac	₹ 41100 lac

$$\text{CAR} = \frac{6180}{41100} \times 100 = 15.04\%$$

$$\text{GNPA Ratio} = \frac{\text{Gross NPA}}{\text{Gross Advances}} \times 100$$

	Weak Bank	Strong Bank	Merged
GNPA (Given)	0.40	0.05	
	$0.40 = \frac{\text{GNPA}_R}{₹ 3500 \text{ lac}}$	$0.05 = \frac{\text{GNPA}_S}{₹ 27000 \text{ lac}}$	
Gross NPA	₹ 1400 lac	₹ 1350 lac	₹ 2750 lac

(10 Marks)

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

$$₹ 12 \times 20 = ₹ 240$$

(ii) **Percentage of the downside risk**

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

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

(iii) **Conversion Premium**

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

$$\frac{₹ 265 - ₹ 240}{₹ 240} \times 100 = 10.42\%$$

(iv) **Conversion Parity Price**

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

$$\frac{₹ 265}{20} = ₹ 13.25$$

This indicates that if the price of shares rises to ₹ 13.25 from ₹ 12 the investor will neither gain nor lose on buying the bond and exercising it. Observe that ₹ 1.25 (₹ 13.25 – ₹ 12.00) is 10.42% of ₹ 12, the Conversion Premium. (4 Marks)

6. (a)

Period 1	Closing Prices	Change	Period 2	Closing Prices	Change
1	33453.99		11	33251.53	
2	33434.83	-19.16	12	33285.89	34.36
3	33431.93	- 2.90	13	33329.28	43.39
4	33383.41	- 48.52	14	33284.17	- 45.11
5	33370.93	- 12.48	15	33298.78	14.61
6	33340.75	- 30.18	16	33325.38	26.6
7	33330.98	-9.77	17	33329.95	4.57
8	33335.08	4.1	18	33319.67	-10.28
9	33301.97	- 33.11	19	33302.32	-17.35
10	33259.03	- 42.94	20	33319.61	17.29

X	Y	X <sup>2</sup>	Y <sup>2</sup>	XY
-19.16	34.36	367.11	1180.61	-658.34
-2.90	43.39	8.41	1882.69	-125.83
-48.52	-45.11	2354.19	2034.91	2188.74
-12.48	14.61	155.75	213.45	-182.33
-30.18	26.6	910.83	707.56	-802.79
-9.77	4.57	95.45	20.88	-44.65
4.1	-10.28	16.81	105.68	-42.15
-33.11	-17.35	1096.27	301.02	574.46
-42.94	17.29	1843.84	298.94	-742.43
$\sum X = -194.96$	$\sum Y = 68.08$	$\sum X^2 = 6848.66$	$\sum Y^2 = 6745.74$	$\sum XY = 164.68$
$\bar{X} = -21.66$	$\bar{Y} = 7.56$			

$$b = \frac{\sum XY - n\bar{X}\bar{Y}}{\sum X^2 - n(\bar{X})^2} = \frac{164.68 - 9(-21.66)(7.56)}{6848.66 - 9(-21.66)^2} = 0.62$$

$$a = \bar{Y} - b\bar{X} = 7.56 - 0.62(-21.66) = 20.99$$

$$r^2 = \frac{a\sum Y + b\sum XY - n(\bar{Y})^2}{\sum Y^2 - n(\bar{Y})^2} = \frac{21.08(68.08) + 0.62(164.68) - 9(7.56)^2}{6745.74 - 9(7.56)^2}$$

$$r^2 = 0.16$$

$$r = 0.40$$

There is moderate degree of correlation between the returns of two periods hence it can be concluded that the market does not show the weak form of efficiency.

**(8 Marks)**

**(b)**

Day	Principal (₹)	MIBOR (%)	Interest (₹)
Tuesday	10,00,00,000	7.75	21,233
Wednesday	10,00,21,233	8.15	22,334
Thursday	10,00,43,567	8.12	22,256
Friday	10,00,65,823	7.95	21,795
Saturday & Sunday (*)	10,00,87,618	7.98	43,764
Monday	10,01,31,382	8.15	<u>22,358</u>
Total Interest @ Floating			1,53,740
Less: Net Received			<u>317</u>
Expected Interest @ fixed			<u>1,53,423</u>
Thus Fixed Rate of Interest			0.07999914
Approx.			8%

(\*) i.e. interest for two days.

**(6 Marks)**