

Mock Test Paper - Series I: November, 2025

Date of Paper: 19th November, 2025

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

ANSWERS OF PART – II DESCRIPTIVE QUESTIONS

1. (a) (i) The following swap arrangement can be entered by True Life Inc.
 - (1) Swap a US\$ loan today at an agreed rate with any party to obtain Indian Rupees (₹) to make initial investment.
 - (2) After one year swap back the Indian Rupees with US\$ at the agreed rate. In such case the company is exposed only on the profit earned from the project.

(ii) With the swap

	Year 0 (Million US\$)	Year 1 (Million US\$)
Buy ₹ 8000 million at spot rate of 1 US\$ = ₹ 80	(100.00)	-----
Swap ₹ 8000 million back at agreed rate of ₹ 80		100.00
Sell ₹ 1600 million at 1 US\$ = ₹ 84		19.05
Interest on US\$ loan @6% for one year		(6.00)
	(100.00)	113.05

Net result is a net receipt of US\$ 13.05 million.

Without the swap

	Year 0 (Million US\$)	Year 1 (Million US\$)
Buy ₹ 8000 million at spot rate of 1 US\$ = ₹ 80	(100.00)	
Sell ₹ 9600 million at 1 US\$ = ₹ 84		114.29
Interest on US\$ loan @6% for one year		(6.00)
	(100.00)	108.29

Net result is a net receipt of US\$ 8.29 million.

Decision: Since the net receipt is higher in swap option the company should opt for the same. **(6 marks)**

(b) (i) $\beta = \frac{\text{Covariance of Market Return and Security Return}}{\text{Variance of Market Return}}$

$$\beta = \frac{30\%}{20\%} = 1.25$$

$$\begin{aligned} \text{Required Rate of Return} &= R_f + \beta (R_m - R_f) \\ &= 12\% + 1.25(16\% - 12\%) \\ &= 12\% + 5.00\% = 17.00\% \end{aligned}$$

(ii) Intrinsic Value

Year	Dividend (₹)	PVF (17%,n)	Present Value (₹)
1	3.90	0.855	3.33
2	5.07	0.731	3.71
3	6.59	0.624	4.11
4	8.57	0.534	4.58
5	11.14	0.456	5.08
			20.81

$$\text{PV of Terminal Value} = \frac{11.14 \times 1.15}{0.17 - 0.15} \times 0.456 = ₹ 292.09$$

$$\text{Intrinsic Value} = ₹ 20.81 + ₹ 292.09 = ₹ 312.90$$

(4 Marks)

(c) Following steps are involved in Business Succession Strategy

Step 1 – Evaluate key leadership positions: - To evaluate which roles are critical, risk or impact assessment can be performed. Generally, these are such positions which would bring transformation to the entire business or create strategic direction for the organization.

Step 2 – Map competencies required for above positions: - In this step, one needs to identify qualifications, behavioral and technical competencies required to perform the role successfully.

Step 3 – Identify competencies of current workforce: - Identifying what are possible internal options that can deliver results as expected in Step-2, and also if there is a need for training and development of certain skills required. The organization should also place weight on whether is there a need to search outside the organization.

Step 4 – Bridge Leader: - In family owned business appointment of an outsider as 'bridge leaders' will help to develop the business and prepare young family members for leadership role.

(4 marks)

2. (a) (i)

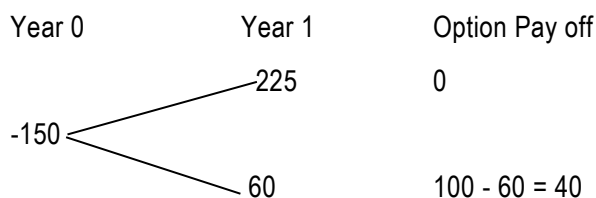
Date	1 Nifty	2 EMA for Previous Day	3 1 - 2	4 3x0.062	5 EMA 2 ± 4
2	21742	21500.00	242.00	15.00	21515.00
3	21665	21515.00	150.00	9.30	21524.30

4	21517	21524.30	-7.30	-0.45	21523.85
5	21462	21523.85	-61.85	-3.83	21520.02
8	21238	21520.02	-282.02	-17.49	21502.53
9	21182	21502.53	-320.53	-19.87	21482.66
10	20997	21482.66	-485.66	-30.11	21452.55
11	20926	21452.55	-526.55	-32.65	21419.90
12	20901	21419.90	-518.90	-32.17	21387.73

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

(6 marks)

- (b) Decision Tree showing pay off



First of all, we shall calculate probability of high demand (p) using risk neutral method as follows:

$$8\% = p \times 50\% + (1-p) \times (-60\%)$$

$$0.08 = 0.50p - 0.60 + 0.60p$$

$$p = 0.68/1.10 = 0.618 \text{ or } 0.62$$

The value of abandonment option will be as follows:

Expected Payoff at Year 1

$$= p \times 0 + [(1-p) \times 40]$$

$$= 0.618 \times 0 + [0.382 \times 40]$$

$$= ₹ 15.28 \text{ crore}$$

Since expected pay off at year 1 is ₹ 15.28 crore. Present value of expected pay off will be:

$$\frac{15.28}{1.08} = ₹ 14.15 \text{ crore}$$

Thus, the value of abandonment option is ₹ 14.15 crore. **(4 marks)**

(c) The already existing use of DTL or Blockchain in various fields are discussed below:

- (a) Financial Services: Blockchain can be used to provide an automated trade lifecycle in terms of the transaction log of any transaction of asset or property - whether physical or digital such as laptops, smartphones, automobiles, real estate, etc. from one person to another.
- (b) Healthcare: Blockchain provides secure sharing of data in healthcare industry by increasing the privacy, security, and interoperability of the data by eliminating the interference of third party and avoiding the overhead costs.
- (c) Government: At the government front, there are instances where the technical decentralization is necessary but politically should be governed by governments like land registration, vehicle registration and management, e-voting etc. Blockchain improves the transparency and provides a better way to monitor and audit the transactions in these systems.
- (d) Travel Industry: Blockchain can be applied in money transactions and in storing important documents like passports/other identification cards, reservations and managing travel insurance, loyalty, and rewards thus, changing the working of travel and hospitality industry.
- (e) Economic Forecasts: Blockchain makes possible the financial and economic forecasts based on decentralized prediction markets, decentralized voting, and stock trading, thus enabling the organizations to plan and shape their businesses. **(4 marks)**

3. (a) (i) Forward Hedge

Amount payable after 3 months	\$ 1000000
3 month applicable buying rate	¥ 145/\$
Amt. payable in Yen	¥ 145 million

(ii) Buy 3 month call option $X = ¥ 145.20$

If expected spot price after 3 month is ¥ 145.05

Then company would not exercise its option. Accordingly, the cost of import will be:

Buying Yen in spot Market after 3 month	¥ 145.05 million
Add: Premium Paid ¥ 145.20 x 1.6766% x \$ 1 million	¥ 2.43 million
	¥ 147.48 million

(iii) Selling 3 month Put at X = ¥ 145.20

If expected spot price after 3 month ¥ 144.90, then Put Option buyer will exercise his /her option.

Accordingly, the import Bill will be:

Buying Yen in under option after 3 month	¥ 145.20 million
Less: Premium Receipt ¥ 145.20 x 1.7414% x \$ 1 million	¥ 2.53 million
	¥ 142.67 million

(iv) Buying Call and selling Put at X = ¥ 146

Net Premium receipt

Premium paid on call option = ¥ 146.00 x 1.3505%	¥ 1.9717 million
Premium Receipt on Put option = ¥ 146.00 x 2.1006%	¥ 3.0669 million
	¥ 1.0952 million

If expected spot Rate expiry happens to be ¥ 144.90/145.05, then call option will be lapsed and Put option by buyer will be exercised. Accordingly, the import bill will be:

Buying US\$ under Put Option	¥ 146.00 million
Less: Receipt of Net Premium	¥ 1.09520 million
	¥ 144.905 million

Decision: Since expected outflow is least in case of selling Put option, the same strategy is recommended. **(6 marks)**

(b) (i) **Cost of Capital**

Retained earnings (45%)	₹ 5 per share
Dividend (D0) (55%)	₹ 6.11 per share

EPS (E0) (100%) ₹ 11.11 per share
P/E Ratio 8 times
Market price ₹ 11.11 × 8 = ₹ 88.88

Cost of equity capital

$$= \left(\frac{\text{Div}}{\text{Price}} \times 100 \right) + \text{Growth \%} = \frac{6.11(1+0.15)}{88.88} \times 100 + 15\% = 22.97\%$$

$$\begin{aligned} \text{(ii) Market Price} &= \left(\frac{\text{Dividend}}{\text{Cost of Capital(\%) - Growth Rate(\%)}} \right) \\ &= \frac{\text{₹ } 6.11(1+0.16)}{(22.91 - 16)\%} = \text{₹ } 102.60 \text{ per share} \end{aligned}$$

$$\text{(iii) Market Price} = \frac{\text{₹ } 6.11(1+0.19)}{(20-19)\%} = \text{₹ } 727.00 \text{ per share} \quad \textbf{(4 marks)}$$

- (c) The Berkus Approach, created by American venture capitalist and angel investor Dave Berkus, looks at valuing a startup enterprise based on a detailed assessment of five key success factors:

- (1) Basic value,
- (2) Technology,
- (3) Execution,
- (4) Strategic relationships in its core market, and
- (5) Production and consequent sales.

A detailed assessment is carried out evaluating how much value the five critical success factors in quantitative measure add up to the total value of the enterprise. Based on these numbers, the startup is valued.

This method caps pre-revenue valuations at \$2 million and post-revenue valuations at \$2.5 million. Although it doesn't consider other market factor, the limited scope is useful for businesses looking for an uncomplicated tool.

(4 marks)

OR

To compute EFR and the type of funding, the following approaches can be used:

- (1) *Analytical Approach*: In this approach, we begin by analyzing each item on the balance sheet in relation to changes in sales and determine their amounts while considering prescribed conditions, such as maintaining specific Debt-to-Equity or Current Ratios, among others.
- (2) *Formula based Approach*: In this approach, we first calculate the amount of EFR using the following formula:

$$\text{EFR} = \frac{\text{TA}}{\text{Sales}} \times \Delta S - \frac{\text{Payable and Liabilities}}{\text{Sales}} \times \Delta S - mS_1(1 - d)$$

Where:

ΔS = Change in Sales

S_1 = Revised Sales

TA = Total Assets

Payable and Liabilities = Payables and liabilities that change spontaneously in accordance with level of sales.

m = Profit Multiplier or percentage of Net Profit after Tax

d = Dividend Pay-out Ratio

(4 marks)

4. (a) (i) On the basis of standard deviation project X be chosen because it is less risky than Project Y having higher standard deviation.

(ii) $CV_x = \frac{SD}{ENPV} = \frac{90,000}{1,22,000} = 0.738$

$$CV_y = \frac{1,20,000}{2,25,000} = 0.533$$

On the basis of Co-efficient of Variation (C.V.) Project X appears to be riskier and hence Y should be accepted.

- (iii) However, the NPV method in such conflicting situation is best because the NPV method is in compatibility of the objective of wealth maximisation in terms of time value. **(4 marks)**

- (b) (i) If return is 29%

	₹
Fixed fee (A) 0.10% of ₹ 20 crore	2,00,000
New Fund Value (1.29 x ₹ 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

- (ii) If return is 4.5%

	₹
Fixed (A) 0.10% of ₹ 20 crore	2,00,000
New Fund Value (1.045 x ₹ 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

- (iii) If return is (-1.8%)

No incentive only fixed fee of ₹ 2,00,000 will be paid. **(6 marks)**

(c) **Advantages of FCCBs**

- (i) The convertible bond gives the investor the flexibility to convert the bond into equity at a price or redeem the bond at the end of a specified period, normally three years if the price of the share has not met his expectations.
- (ii) Companies prefer bonds as it leads to delayed dilution of equity and allows company to avoid any current dilution in earnings per share that a further issuance of equity would cause.
- (iii) FCCBs are easily marketable as investors enjoy the option of conversion into equity resulting into capital appreciation. Further investor is assured of a minimum fixed interest earnings.

Disadvantages of FCCBs

- (i) Exchange risk is more in FCCBs as interest on bonds would be payable in foreign currency. Thus, companies with low debt equity ratios, large forex earnings potential only opt for FCCBs.

- (ii) FCCBs mean creation of more debt and a forex outgo in terms of interest which is in foreign exchange.
- (iii) In the case of convertible bonds, the interest rate is low, say around 3–4% but there is exchange risk on the interest payment as well as re-payment if the bonds are not converted into equity shares. The only major advantage would be that where the company has a high rate of growth in earnings and the conversion takes place subsequently, the price at which shares can be issued can be higher than the current market price. **(4 marks)**

5. (a) (i) Variance of Returns

$$\text{Cor}_{i,j} = \frac{\text{Cov}(i,j)}{\sigma_i \sigma_j}$$

Accordingly, for MFX

$$1 = \frac{\text{Cov}(X,X)}{\sigma_X \sigma_X}$$

$$\sigma_X^2 = 4.800$$

Accordingly, for MFY

$$1 = \frac{\text{Cov}(Y,Y)}{\sigma_Y \sigma_Y}$$

$$\sigma_Y^2 = 4.250$$

Accordingly, for Market Return

$$1 = \frac{\text{Cov}(M,M)}{\sigma_M \sigma_M}$$

$$\sigma_M^2 = 3.100$$

Alternatively, by referring diagonally the given Table these values can be identified as follows:

$$\text{Variance}_X = 4.800$$

$$\text{Variance}_Y = 4.250$$

$$\text{Variance}_M = 3.100$$

(ii) **Portfolio return, beta, variance and standard deviation**

$$\text{Weight of MFX in portfolio} = \frac{1,20,000}{2,00,000} = 0.60$$

$$\text{Weight of MFY in portfolio} = \frac{80,000}{2,00,000} = 0.40$$

Accordingly, Portfolio Return

$$0.60 \times 15\% + 0.40 \times 14\% = 14.60\%$$

Beta of each Fund

$$\beta = \frac{\text{Cov (Fund, Market)}}{\text{Variance of Market}}$$

$$\beta_x = \frac{3.370}{3.100} = 1.087$$

$$\beta_y = \frac{2.800}{3.100} = 0.903$$

Portfolio Beta

$$0.60 \times 1.087 + 0.40 \times 0.903 = 1.013$$

Portfolio Variance

$$\begin{aligned}\sigma_{XY}^2 &= w_X^2 \sigma_X^2 + w_Y^2 \sigma_Y^2 + 2 w_X w_Y \text{Cov}_{X,Y} \\ &= (0.60)^2 (4.800) + (0.40)^2 (4.250) + 2(0.60) (0.40) (4.300) \\ &= 4.472\end{aligned}$$

Or Portfolio Standard Deviation

$$\sigma_{XY} = \sqrt{4.472} = 2.115$$

(iii) **Expected Return, Systematic and Unsystematic Risk of Portfolio**

$$\text{Portfolio Return} = 10\% + 1.0134(12\% - 10\%) = 12.03\%$$

$$\text{MF X Return} = 10\% + 1.087(12\% - 10\%) = 12.17\%$$

$$\text{MF Y Return} = 10\% + 0.903(12\% - 10\%) = 11.81\%$$

$$\text{Systematic Risk} = \beta^2 \sigma^2$$

Accordingly,

$$\text{Systematic Risk of MFX} = (1.087)^2 \times 3.10 = 3.663$$

$$\text{Systematic Risk of MFY} = (0.903)^2 \times 3.10 = 2.528$$

$$\text{Systematic Risk of Portfolio} = (1.013)^2 \times 3.10 = 3.181$$

$$\text{Unsystematic Risk} = \text{Total Risk} - \text{Systematic Risk}$$

Accordingly,

$$\text{Unsystematic Risk of MFX} = 4.80 - 3.663 = 1.137$$

$$\text{Unsystematic Risk of MFY} = 4.250 - 2.528 = 1.722$$

$$\text{Unsystematic Risk of Portfolio} = 4.472 - 3.181 = 1.291$$

(iv) Sharpe and Treynor Ratios and Alpha

Sharpe Ratio

$$\text{MFX} = \frac{15\% - 10\%}{\sqrt{4.800}} = 2.282$$

$$\text{MFY} = \frac{14\% - 10\%}{\sqrt{4.250}} = 1.94$$

$$\text{Portfolio} = \frac{14.6\% - 10\%}{2.115} = 2.175$$

Treynor Ratio

$$\text{MFX} = \frac{15\% - 10\%}{1.087} = 4.60$$

$$\text{MFY} = \frac{14\% - 10\%}{0.903} = 4.43$$

$$\text{Portfolio} = \frac{14.6\% - 10\%}{1.0134} = 4.54$$

Alpha

$$\text{MFX} = 15\% - 12.17\% = 2.83\%$$

$$\text{MFY} = 14\% - 11.81\% = 2.19\%$$

$$\text{Portfolio} = 14.6\% - 12.03\% = 2.57\%$$

(8 Marks)

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

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

Where

P = Premium

A = Principal Amount

rp = Rate of Premium

i = Fixed Rate of Interest

t = Time

$$= \frac{0.01}{\left[(1/0.035) - \frac{1}{0.035 \times 1.035^4} \right]} \times £15,000,000 \text{ or } \frac{0.01}{(0.966 + 0.933 + 0.901 + 0.871)}$$

× £15,000,000

$$= \frac{0.01}{\left[(28.571) - \frac{1}{0.0402} \right]} \times £15,000,000 = £ 40,595 \text{ or } \frac{£150,000}{3.671} = £ 40,861$$

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

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

* Alternatively, if premium paid is considered as £ 40,595, then above figure of £ 214,917 shall be changed to £ 215,715.

(6 Marks)

6. (a) First we shall compute the risk adjusted dollar rate for discounting as follows:

$$(1 + 0.06978) / (1 + \text{Risk Premium}) = (1 + 0.15)$$

$$\text{Or, } 1 + \text{Risk Premium} = 1.15 / 1.06978 = 1.0750$$

Therefore, Risk adjusted dollar rate is $= (1.0750 \times 1.04186) - 1 = 1.1199 - 1 = 0.1199$ say 0.12 i.e. 12%

Now we shall calculate the NPV of the project as follows:

Year	Cash flow US\$ lakh	PV Factor at 12%	PV (US\$ lakh)
1	30.00	0.893	26.79
2	40.00	0.797	31.88
3	50.00	0.712	35.60
4	60.00	0.636	38.16
5	70.00	0.567	<u>39.69</u>
			172.12
		Less: Investment	<u>150.00</u>
		NPV	<u>22.12</u>

Since PQR Ltd. is expecting a net surplus of USD 22.12 lakh after the closure of the project the recommended forward rate of INR/ USD is ₹ 84.00 (₹ 1858.08 lakh/ USD 22.12 lakh).

(8 Marks)

(b) Value of share at present $= \frac{D_1}{k_e - g}$

$$= \frac{2(1.06)}{0.08 - 0.06} = ₹ 106$$

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:

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

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

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

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

In order to maintain his receipt at least ₹ 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.

(6 Marks)