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Answer Paper	
ADVANCED FINANCIAL MANAGEMENT	Duration: 70
Details: Test 5 (Ch-2, 13 and 14)	Marks: 40

Instructions:

- All the questions are compulsory
- Properly mention test number and page number on your answer sheet, Try to upload sheets in arranged manner.
- In case of multiple choice questions, mention option number only Working notes are compulsory wherever required in support of your solution
- Do not copy any solution from any material. Attempt as much as you know to fairly judge your performance.

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Ans.1

$$(1.5)^2(0.50)^2 + (1.3)^2(0.50)^2 + 2(1.5)(1.3)(0.4)(0.50)(0.50)$$

$$= 0.5625 + 0.4225 + 0.39 = 1.375\%$$

$$\sigma \text{ (Standard Deviation)} = 1.375 = 1.172\%$$

$$\sigma \text{ (Standard Deviation) in Amount} = \text{Rs. } 800 \text{ lakhs} \times 1.172\% = \text{Rs } 9.37 \text{ lakhs}$$

Accordingly, the standard deviation of the 10-day change is Rs 9.37 lakhs $\times \sqrt{10} = \text{Rs. } 29.60$ 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 $2.33 \times \text{Rs. } 29.60 \text{ lakh} = \text{Rs. } 68.98 \text{ lakh}$

The 10-day 99% VaR is therefore Rs. 68, 98,000

The 10-day 99% value at risk for the Diamond investment is $\text{Rs. } 6, 00,000 \times \sqrt{10} \times 2.33 = \text{Rs. } 44,17,680$

The 10-day 99% value at risk for the Ruby investment is $\text{Rs. } 5, 20,000 \times \sqrt{10} \times 2.33 = 38, 31,079.$

The diversification benefit is: $4417680 + 3831079 - 6898000 = \text{Rs. } 13, 50,759.$

(5 Marks)

Ans.2

(i) Net cost of acquisition shall be computed as follows:

Cash Paid for the shares of T Ltd. (Rs. 60 \times 18,00,000)	Rs. 10,80,00,000
Less: Value of T Ltd., as a separate entity (18,00,000 \times Rs. 50)	Rs. 9,00,00,000
Net Cost of acquisition of Tall Ltd.	Rs. 1,80,00,000

(ii) Net Cost of acquisition in case of exchange of shares:

Exchange ratio = 1 share of L Ltd for every 3 shares of T Ltd.

Number of shares to be issued in L Ltd.	= 6,00,000 shares
$(18,00,000/3)$	= 36,00,000
Total no. of shares in L Ltd. after merger (30,00,000 + 6,00,000)	
Calculation of cost of Equity of T Ltd.	= $D1/P_0 + g$
Growth rate under new management after acquisition	= $Rs. 3/50 + 0.06 = 12\%$
Value of Merged company assuming perpetual growth	= 8%
Value of merged company (Rs. 180 x 30,00,000) + [Rs. 3/ (0.12 - 0.08)] x 18,00,000 = Rs. 54,00,00,000 + [Rs. 75 X 18,00,000]	= Rs. 67,50,00,000
Value per share of merged company (Rs. 67,50,00,000/36,00,000)	= Rs. 187.50 per share

Net cost of acquisition

Gross cost of acquisition (6,00,000 x Rs. 187.50)	Rs. 11,25,00,000
Less: CMP (18,00,000 x Rs. 50)	Rs. 9,00,00,000
Net Cost of acquisition	Rs. 2,25,00,000

Alternatively, Net Cost of Acquisition can also be computed as follows:

No. of shares issued to shareholders of T Ltd. in the ratio of 1:3	6,00,000
Existing price of one share of L Ltd.	Rs. 180
Value of consideration paid for acquisition of T Ltd.	Rs. 10,80,00,000

Less: Existing Value of T Ltd., as a separate entity	Rs. 9,00,00,000
Net Cost of acquisition of T Ltd.	Rs. 1,80,00,000

(iii) Calculation of gain from acquisition:

Total Earnings of L Ltd. (Rs. 12 x 30,00,000)	Rs. 3,60,00,000
Total Earnings of T Ltd. (Rs. 5 x 18,00,000)	Rs. 90,00,000
Combined Earnings	Rs. 4,50,00,000
PE Ratio of L Ltd. (180/12)	15
Value of L Ltd. after acquisition	Rs. 67,50,00,000
Less: Value of two companies separately	
L Ltd. (Rs. 180 x 30,00,000) Rs. 54,00,00,000	
T Ltd. (Rs. 50 x 18,00,000) Rs. 9,00,00,000	Rs. 63,00,00,000
Gain from Acquisition	Rs. 4,50,00,000

(5 Marks)

Ans.3

Computation of Business Value

	(Lakhs)	(Rs. Lakhs)
Profit before tax 120 (1-0.20)		150
Less: Extraordinary income		(5)
Add: Extraordinary losses		15

Profit from new product			160
Sales		100	
Less: Material costs	10		
Labour costs	20		
Fixed costs	20	(50)	50
			210.00
Less: Taxes @20%			42.00
Future Maintainable Profit after taxes			168.00
Relevant Capitalization Factor			0.10
Value of Business (Rs. 168/0.10)			1680

ii. Determination of Market Price of Equity Share

Future maintainable profits (After Tax)	168,00,000
Less: Preference share dividends 1,00,000 shares of Rs. 100 @ 13%	13,00,000
Earnings available for Equity Shareholders	155,00,000
No. of Equity Shares	50,00,000
Earning per share = $155,00,000 / 50,00,000$	3.10
PE ratio	10
Market price per share	31

(6 Marks)

Ans.4

(i) Calculation of maximum price per share at which ABC Ltd. can offer to pay for XYZ Ltd.'s share

Market Value (10,00,000 x Rs. 34)	Rs. 3,40,00,000
Synergy Gain	Rs. 1,00,00,000
Saving of Overpayment	Rs. 25,00,000
	Rs. 4,65,00,000
Maximum Price (Rs. 4,65,00,000/10,00,000)	Rs. 46.50

Alternatively, it can also be computed as follows:

Let ER be the swap ratio then,

$$30 = \frac{34 \times 10,00,000 + 30 \times 15,00,000 + 1,00,00,000 + 25,00,000}{15,00,000 + 10,00,000 \times ER}$$

$$ER = 1.55$$

$$MP = PE \times EPS \times ER = \frac{30}{5} \times Rs. 5 \times 1.55 = Rs. 46.50$$

$$MP = \text{Market Price of Share of XYZ Ltd.} \times 1.55 = Rs. 30.00 \times 1.55$$

$$= Rs. 46.50$$

(ii) Calculation of minimum price per share at which the management of XYZ Ltd.'s will be willing to offer for their controlling interest

Value of XYZ Ltd.'s Management Holding (30% of 10,00,000 x Rs. 34)	Rs. 1,02,00,000
Add: PV of loss of remuneration to top management	Rs. 25,00,000
	Rs. 1,27,00,000
No. of Shares	3,00,000

Minimum Price (Rs. 1,27,00,000/3,00,000)	Rs. 42.33
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(6 Marks)

Ans.5

Estimation of Ratio

SI No.	Particulars	SK Ltd.	AS Ltd.	Average
(i)	Market to book value	$\left(\frac{450}{400}\right)=1.125$	$\left(\frac{400}{300}\right)=1.333$	1.2290
(ii)	Market to Replacement cost	$\left(\frac{450}{600}\right)=0.750$	$\left(\frac{400}{550}\right)=0.727$	0.7385
(iii)	Market to sales	$\left(\frac{450}{550}\right)=0.818$	$\left(\frac{400}{450}\right)=0.889$	0.8535
(iv)	Market to Net Income	$\left(\frac{450}{18}\right)=25$	$\left(\frac{400}{16}\right)=25$	25

Application of ratios to XY Ltd.

SI No.	Particulars	XY Ltd.	Average	Indicative Value of XY Ltd. (Rs.)
(i)	book value	250	1.2290	$250 \times 1.2290 = 307.25$
(ii)	Replacement cost	500	0.7385	$500 \times 0.7385 = 369.25$
(iii)	sales	500	0.8535	$500 \times 0.8535 = 426.75$
(iv)	Net Income	14	25	$14 \times 25 = 350.00$
	Average			Rs.363.31

Value of XY Ltd. according to the comparable method is Rs. 363.31

(7 Marks)

Ans.6

A business organization faces multiple risks that can affect its strategic direction, operations, legal standing, and financial stability. The key types of risks are:

Strategic Risk: This risk occurs when a company's long-term plans or business strategies become ineffective due to changes in the external environment, such as technological advancements, evolving consumer preferences, or market competition. It prevents the organization from achieving its objectives and requires regular review and adaptation of strategies.

Example (Negative): Kodak developed a digital camera in 1975 but failed to capitalize on it, fearing it would hurt its core business. This strategic failure led to its decline.

Example (Positive): Xerox adapted successfully by shifting from photocopiers to laser printers when technology evolved.

Compliance Risk: This refers to the risk of legal or regulatory penalties resulting from the failure to comply with applicable laws, rules, and regulations. It is particularly relevant when an organization enters new sectors or geographical locations where unfamiliar compliance requirements exist.

Example: A cement company entering the sugar business in a new state may face compliance risk if it fails to understand and follow local laws governing sugar mills.

Operational Risk: Operational risk arises from internal failures within processes, systems, or from human errors. It affects the routine operations of the organization and may lead to financial loss, service disruption, or reputational damage. Proper internal controls and monitoring systems are essential to mitigate this risk.

Example: An employee accidentally pays Rs. 1,00,000 instead of Rs. 10,000. This highlights both human error and process inadequacy. Solutions include dual verification or automated alerts.

Financial Risk: This risk results from unexpected changes in financial variables such as interest rates, exchange rates, credit ratings, or market prices. These fluctuations can

impact the financial performance of the business and may include broader risks like political instability in foreign markets.

Example: A sudden political change in a foreign country may lead to “country risk,” affecting investments and causing financial loss.

(6 Marks)

MCQs:-

1. D) D) Earnings Per Share (EPS) tends to increase after a share buyback due to reduced outstanding shares.

Explanation: Earnings Per Share (EPS) tends to increase after a share buyback due to reduced outstanding shares. An equity buyback, a company uses its surplus cash to buy back its own shares from the public, resulting in a reduction in the number of outstanding shares. This reduction in outstanding shares typically leads to an increase in Earnings Per Share (EPS) because earnings are spread across fewer shares. This aligns with Rajesh's objective of strengthening the promoter's position by increasing his stake in the equity. Options A and B are incorrect because equity buyback reduces the number of outstanding shares, and it does not involve issuing shares to the public for the first time. Option C is incorrect because, as shown in the example, ROA typically increases after a share buyback.

2. C) Counterparty Risk

Explanation: Counterparty Risk occurs when the other party in a financial transaction fails to fulfill its obligations. In this case, XYZ Suppliers defaulted by not delivering the laptops after receiving payment, which is a classic example of counterparty risk.

Political Risk (A) relates to government actions, Interest Rate Risk (B) involves changes in borrowing costs, and Market Risk (D) refers to broader market fluctuations—none of which apply here.

3. A) The Modified DCF Valuation method incorporates probability distributions for cashflows and adjusts discount rates for default risk, while the DCF Valuation + Distress Value method only considers the expected cashflows.

Explanation: The Modified DCF Valuation method incorporates probability distributions for cashflows and adjusts discount rates for default risk, while the DCF Valuation + Distress Value method only considers the expected cashflows. The passage explains that the Modified DCF Valuation method requires the estimation of probability distributions for cashflows, adjusting discount rates for default risk, and considering the likelihood of distress. On the other hand, the DCF Valuation + Distress Value method focuses on the expected cashflows and estimates the distress sale value as a percentage of book value or DCF value of equity. Therefore, the primary difference lies in the treatment of probability distributions and default risk adjustments between these two methods.

4. B) Rs. 40 lakhs

Explanation: To calculate the true cost of the merger from Elrond Limited's perspective, the steps are as follows:

Shares received by Doom Limited's shareholders:

Doom Limited will receive 5 lakh shares of Elrond Limited based on the exchange ratio of 0.5 (0.5 shares for each Doom Limited share).

Total value of Elrond Limited after the merger:

Value of Elrond Limited's shares = Rs. 50 × 20 lakh = Rs. 1000 lakh

Value of Doom Limited's shares = Rs. 25 × 10 lakh = Rs. 250 lakh

Add the present value of the merger gains: Rs. 200 lakh

Total value after merger = Rs. 1000 lakh + Rs. 250 lakh + Rs. 200 lakh = Rs. 1450 lakh

True Cost of the Merger:

Value attributable to Doom Limited's shareholders = 20% of Rs. 1450 lakh = Rs. 290 lakh

Subtract the value of Doom Limited's shares from this amount:

Rs. 290 lakh – Rs. 250 lakh = Rs. 40 lakh

Hence, the true cost of the merger for Elrond Limited is Rs. 40 lakh.

5. C) Rs. 9.32 lakh

Explanation: Daily volatility in rupees = 2% of Rs. 2 crore = Rs. 4 lakh.

Maximum loss = Rs. 4 lakh × 2.33 = Rs. 9.32 lakh.

(5 x 1 = 5 Marks)

