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Answer Paper	
ADVANCED FINANCIAL MANAGEMENT	Duration: 70
Details: Test 3 (Ch-5, 9 and 15)	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

(a) The Forward Price shall be $= S_0 e^{n(r-y)}$

Where S_0 = Spot price n = period

r = risk free rate of interest y = dividend yield

$$\text{Forward Price} = 2290 e^{90/365(0.0416 - 0.0175)}$$

$$= 2290 e^{0.005942}$$

$$= 2290(1.005960) = 2303.65$$

(b) Mr. X shall take long position in the Forward Contract on Index.

(c) Gain/loss on Long Position after 28 days

$$= 2450 - 2290 e^{(0.0416 - 0.0175)28/365}$$

$$= 2450 - 2290 e^{0.001849}$$

$$= 2450 - 2290(1.001851)$$

$$= 2450 - 2294.24 = 155.76$$

(d) Gain/loss on Long Position at maturity

$$= S_n - S_0 e^{n(r-y)}$$

$$= 2470.00 - 2303.65 = 166.35$$

(6 Marks)

Ans.2

(i) Cost of Capital

Retained earnings (45%)

Rs. 10 per share

Dividend (55%)	Rs. 12.22 per share
EPS (100%)	Rs. 22.22 per share
P/E Ratio	10 times
Market price	Rs. 22.22 × 10 = Rs. 222.20

Cost of equity capital

$$= \left(\frac{Div}{Price} \times 100 \right) + Growth \% = \frac{12.22}{222.20} \times 100 + 10\% = 15.50\%$$

$$(ii) \text{ Market Price} = \left(\frac{Dividend}{Cost\ of\ Capital(\%) - Growth\ Rate(\%)} \right)$$

$$= \left(\frac{Rs.12.22}{(15.50 - 12.00)\%} \right) = Rs. 349.14 \text{ per share}$$

(5 Marks)

Ans.3

Yes, agree with the statement.

Three main types of fund structure exist: one for domestic funds and two for offshore ones:

(a) Domestic Funds: Domestic Funds (i.e. one which raises funds domestically) are usually structured as:

- (i) A domestic vehicle for the pooling of funds from the investor, and
- (ii) A separate investment adviser that carries those duties of asset manager.

The choice of entity for the pooling vehicle falls between a trust and a company, (India, unlike most developed countries does not recognize a limited partnership), with the trust form prevailing due to its operational flexibility.

(b) Offshore Funds: Two common alternatives available to offshore investors are: the “offshore structure” and the “unified structure”.

Offshore structure

Under this structure, an investment vehicle (an LLC or an LP organized in a jurisdiction outside India) makes investments directly into Indian portfolio companies. Typically, the assets are managed by an offshore manager, while the investment advisor in India carries out the due diligence and identifies deals.

Unified Structure

When domestic investors are expected to participate in the fund, a unified structure is used. Overseas investors pool their assets in an offshore vehicle that invests in a locally managed trust, whereas domestic investors directly contribute to the trust. This is later device used to make the local portfolio investments.

(6 Marks)

Ans.4

$$1) \text{ Second Leg} = \text{Start Proceed} \times \left(1 + \text{Repo Rate} \times \frac{\text{No. of days}}{360} \right)$$

$$\text{Rs. } 20,03,17,590 = \text{Rs. } 20,00,67,500 \times \left(1 + \text{Repo Rate} \times \frac{9}{360} \right)$$

$$1.00125 = \left(1 + \text{Repo Rate} \times \frac{9}{360} \right)$$

$$\text{Repo Rate} = 0.05 = 5\%$$

$$(2) \text{ First Leg (Start Proceed)} = \text{Nominal Value} \times \frac{\text{Dirty Price}}{100} \times \frac{100 - \text{Intial Margin}}{100}$$

$$\text{Rs. } 20,00,67,500 = \text{Rs. } 20,00,00,000 \times \frac{\text{Dirty Price}}{100} \times \frac{100 - 1.25}{100}$$

$$10003.375 = 98.75 \times \text{Dirty Price}$$

Dirty Price = Rs. 101.30

(3) Dirty Price = Clean Price + Interest Accrued

$$\text{Rs. } 101.30 = \text{Clean Price} + 100 \times \frac{240}{360} \times 6\%$$

Clean Price = Rs. 97.30

(7 Marks)

Ans.5

(i) Since Mr. H holds 100 equity shares, he should buy equal no. of Put option i.e. 100 put options in the same stock to hedge his position. Total Premium amount to be paid = 50 x 100 Put = Rs. 5,000

(ii) Net Position after 2-months

Share price on exercise day	2,000	2,100	2,200	2,300	2,400
Option exercise	Yes	Yes	No	No	No
Inflow (strike price)	2,200	2,200	Nil	Nil	Nil
Inflow (in open market)	-	-	2,200	2,300	2,400
Less outflow (premium)	50	50	50	50	50
Position (per share)	2,150	2,150	2,150	2,250	2,350
Total Position	2,15,000	2,15,000	2,15,000	2,25,000	2,35,000

Thus, from above table it can be observed in any case the value of holding of Mr. H in V Ltd. shall not go below Rs. 2,150 per share.

(6 Marks)

Ans.6

As per Government Notification, an entity shall be considered as a Startup:

(i) Upto a period of ten years from the date of incorporation/ registration, if it is incorporated as a private limited company (as defined in the Companies Act, 2013) or registered as a partnership firm (registered under section 59 of the Partnership Act, 1932) or a limited liability partnership (under the Limited Liability Partnership Act, 2008) in India.

(ii) Turnover of the entity for any of the financial years since incorporation/ registration has not exceeded one hundred crore rupees.

(iii) Entity is working towards innovation, development or improvement of products or processes or services, or if it is a scalable business model with a high potential of employment generation or wealth creation.

Provided that an entity formed by splitting up or reconstruction of an existing business shall not be considered a 'Startup'.

Advise: In the present scenario, NIYA healthcare is converted into a private limited company. In other words there is a reconstruction of an exiting propriety business into a private limited company. In view of the above the company cannot be recognised as a startup company

(5 Marks)

MCQs:-

1. C) 9.68%

Explanation: According to Dividend Discount Model approach the firm's expected or required return on equity is computed as follows:

$$= D1 / P0 + G$$

Where,

K_e = Cost of equity share capital

D_1 = Expected dividend at the end of year 1

P_0 = Current market price of the share.

g = Expected growth rate of dividend.

$$K_e = 3.36 / 146 + 7.5\%$$

$$K_e = 9.80\%, \text{ Or } = 0.098$$

With rate of return on retained earnings (r) 10% and retention ratio (b) 60%, new growth rate will be as follows:

$$g = br \text{ i.e.}$$

$$= 0.10 \times 0.60 = 0.06$$

Accordingly dividend will also get changed and to calculate this, first we shall calculate previous retention ratio (b_1) and then EPS assuming that rate of return on retained earnings (r) is same.

With previous Growth Rate of 7.5% and $r = 10\%$ the retention ratio comes out to be: 0.075
 $= b_1 \times 0.10$

$$b_1 = 0.75 \text{ and payout ratio } = 0.25$$

With 0.25 payout ratio the EPS will be as follows:

$$3.36 = 13.44$$

$$0.25$$

With new 0.40 ($1 - 0.60$) payout ratio the new dividend will be $D_1 = 13.44 \times 0.40 = 5.376$

Accordingly new K_e will be

$$K_e = 5.376 / 146 + 6\%$$

$$K_e = 9.68\%$$

2. A) Rs. 1,908; Profit Rs. 42

Explanation: (i) Theoretical minimum futures price:

$$= 1,800 + (1,800 \times 12\% \times \frac{6}{12}) = 1,800 + 108 = \text{Rs. } 1,908$$

(ii) Arbitrage Opportunity:

Buy spot at Rs. 1,800 (funded by borrowing at 12%)

Sell futures at Rs. 1,950

Repay Rs. 1,908 at maturity

$$\text{Profit} = \text{Rs. } 1,950 - \text{Rs. } 1,908 = \text{Rs. } 42$$

Hence, arbitrage is possible with a profit of Rs. 42 per share.

3. A) Seed Money - For supporting a concept or idea or R&D for product development

Explanation: At the Seed Money stage, the company faces "Extreme" risk, as it involves supporting a concept or idea, including R&D for product development. This stage involves a low level of financing and carries high uncertainty due to the early-stage nature of the project.

4. C) Electricity Swaps

Explanation: The most suitable derivative instrument for ABC Power Corporation in this case would be Electricity Swaps. Electricity Swaps are financial contracts that enable their

holders to pay a fixed price for the underlying electricity, regardless of the floating spot electricity price, or vice versa, over the contracted time.

Since ABC Power Corporation has already entered into a PPA with a fixed price for the electricity supply, they can hedge against the risk of rising spot prices by entering into an Electricity Swap. In this swap, ABC Power Corporation would be the fixed price payer, agreeing to pay a fixed price for the electricity, while the counterparty (likely a financial institution or another market participant) would be the floating price payer, receiving the variable spot prices.

If the spot electricity prices rise above the fixed price agreed upon in the swap, ABC Power Corporation would receive the difference from the counterparty, effectively offsetting the higher costs they would have incurred in the spot market. Conversely, if the spot prices fall below the fixed price, ABC Power Corporation would pay the difference to the counterparty, but they would still be protected from the downside risk by the fixed price they receive from the PPA.

Electricity Swaps are specifically designed to provide price certainty and hedge against price volatility in the electricity market, making them the most suitable choice in this case.

5. C) Refund the bonds, as the net present value is Rs. 33.93 lakh

Explanation: Annual interest saving: Rs. 600 lakh \times (10% – 7%) = Rs. 18 lakh

Annual net cash saving after tax: Rs. 12.24 lakh

PV of net savings: Rs. 12.24 \times 4.341 = Rs. 53.13 lakh

Initial outlay (after tax adjustment): Rs. 19.20 lakh

NPV: Rs. 53.13 – Rs. 19.20 = Rs. 33.93 lakh (positive)

Hence, TN Ltd. should refund the bonds.

(5 x 1 = 5 Marks)