Total No. of Questions – 7 www.pace2race.com

Time Allowed – 3 Hours Maximum Marks – 100

Q-PEE-SFM-1

Answers to questions are to be given only in English except in the case of candidates who have opted for Hindi Medium. If a candidate has not opted for Hindi medium, his/her answers in Hindi will not be valued.

Question No.1 is compulsory

Candidates are also required to answer any five questions from the remaining six questions. Wherever necessary suitable assumptions may be made and disclosed by way of a note. Working Notes should form part of the answer.

Marks

1 (a) Mr. Tamarind intends to invest in equity shares of a company the value of which depends upon various parameters as mentioned below: **5**

Factor	*Beta*	*Expected value in %*	*Actual value in %*
GNP	1.20	7.70	7.70
Inflation	1.75	5.50	7.00
Interest	1.30	7.75	9.00
Stock market index	1.70	10.00	12.00
Industrial Production	1.00	7.00	7.50

If the risk free rate of interest be 9.25%, how much is the return of the share under Arbitrage Pricing Theory?

(b) The current market price of an equity share of Penchant Ltd is ₹ 420. Within a period of 3 months, the maximum and minimum price of it is expected to be 500 and ₹ 400 respectively. If the risk free rate of interest be 8% p.a., what should be the value of a "3 month's" CALL option under the 'Risk neutral' method at the strike rate of ₹ 450? Given $e^{0.02} = 1.0202$ **5**

(c) XY Ltd. has under its consideration a project with an initial investment of Rs. 1,00,000. Three probable cash inflow scenarios with their probabilities of occurrence have been estimated as below: **10**

Annual Cash Inflow (Rs.)	20,000	30,000	40,000
Probability	0.1	0.7	0.2

The project life is 5 years and the desired rate of return is 20%. The estimated terminal values for the project assets under the three probability alternatives, respectively, are Rs. 0, 20,000 and 30,000.

You are required to :

(i) Find the probable NPV;

(ii) Find the worst-case NPV and the best-case NPV; and

(iii) State the probability occurrence of the worst case, if the cash flows are perfectly

positively correlated over time.

2 **(a)** Drilldip Inc. a US based company has a won a contract in India for drilling oil filed. The project will require an initial investment of ₹ 500 crore. The oil field along with equipments will be sold to Indian Government for ₹ 740 crore in one year time. Since the Indian Government will pay for the amount in Indian Rupee (₹) the company is worried about exposure due exchange rate volatility. **12**

You are required to:
(a) Construct a swap that will help the Drilldip to reduce the exchange rate risk.
(b) Assuming that Indian Government offers a swap at spot rate which is 1US$ = ₹ 50 in one year, then should the company should opt for this option or should it just do nothing. The spot rate after one year is expected to be 1US$ = ₹ 54. Further you may also assume that the Drilldip can also take a US$ loan at 8% p.a.

(b) The following information is available in respect of Security X **4**

Equilibrium Return	15%
Market Return	15%
7% Treasury Bond Trading at	$140
Covariance of Market Return and Security Return	225%
Coefficient of Correlation	0.75

You are required to determine the Standard Deviation of Market Return and Security Return.

3 **(a)** Simple Ltd. and Dimple Ltd. are planning to merge. The total value of the companies are dependent on the fluctuating business conditions. The following information is given for the total value (debt + equity) structure of each of the two companies. **8**

Business Condition	Probability	Simple Ltd. ₹ Lacs	Dimple Ltd. ₹ Lacs
High Growth	0.20	820	1050
Medium Growth	0.60	550	825
Slow Growth	0.20	410	590

The current debt of Dimple Ltd. is ₹ 65 lacs and of Simple Ltd. is ₹ 460 lacs.
Calculate the expected value of debt and equity separately for the merged entity.

(b) Pragya Limited has issued 75,000 equity shares of ₹ 10 each. The current market price per share is ₹ 24. The company has a plan to make a rights issue of one new equity share at a price of ₹ 16 for every four share held. **8**
You are required to:

(i) Calculate the theoretical post-rights price per share;
(ii) Calculate the theoretical value of the right alone;
(iii) Show the effect of the rights issue on the wealth of a shareholder, who has 1,000 shares assuming he sells the entire rights; and
(iv) Show the effect, if the same shareholder does not take any action and ignores the issue

4 (a) Sensex futures are traded at a multiple of 50. Consider the following quotations of Sensex futures in the 10 trading days during February, 2009: **8**

Day	High	Low	Closing
4-2-09	3306.4	3290.00	3296.50
5-2-09	3298.00	3262.50	3294.40
6-2-09	3256.20	3227.00	3230.40
7-2-09	3233.00	3201.50	3212.30
10-2-09	3281.50	3256.00	3267.50
11-2-09	3283.50	3260.00	3263.80
12-2-09	3315.00	3286.30	3292.00
14-2-09	3315.00	3257.10	3309.30
17-2-09	3278.00	3249.50	3257.80
18-2-09	3118.00	3091.40	3102.60

Abshishek bought one sensex futures contract on February, 04. The average daily absolute change in the value of contract is ₹ 10,000 and standard deviation of these changes is ₹ 2,000. The maintenance margin is 75% of initial margin.
You are required to determine the daily balances in the margin account and payment on margin calls, if any.

(b) The rate of inflation in USA is likely to be 3% per annum and in India it is likely to be 6.5%. The current spot rate of US $ in India is ₹ 43.40. Find the expected rate of US $ in India after one year and 3 years from now using purchasing power parity theory. **8**
On April 1, 3 months interest rate in the UK £ and US $ are 7.5% and 3.5% per annum respectively. The UK £/US $ spot rate is 0.7570. What would be the forward rate for US $ for delivery on 30th June?

5 (a) NP and Co. has imported goods for US $ 7,00,000. The amount is payable after three months. The company has also exported goods for US $ 4,50,000 and this amount is .receivable in two months. For receivable amount a forward contract is already taken at ₹ 48.90. **8**

The market rates for ₹and Dollar are as under:
Spot ₹ 48.50/70
Two Months 25/30 points

Three Months 40/45 points

The company wants to cover the risk and it has two options as under:

- To cover payables in the forward market and
- To lag the receivables by one month and cover the risk only for the net amount. No interest for delaying the receivables is earned.

Evaluate both the options if the cost of Rupee Funds is 12%. Which option is preferable?

(b) A Mutual Fund Co. has the following assets under it on the close of business as on: **8**

		1st Feb 2012	2nd Feb 2012
Company	No. of shares	Market Price/share	Market Price/share
		₹	₹
L	20,000	20.00	20.50
M	30,000	312.40	360.00
N	20,000	361.20	383.10
P	60,000	505.10	503.90

i. Calculate Net Assets Value (NAV) of the Fund.

ii. Following information is given:
Assuming one Mr. A, submits a cheque of ₹ 30,00,000 to the Mutual Fund and the Fund manager of this company purchases 8,000 shares of M Ltd; and the balance amount is held in Bank. In such a case, what would be the position of the Fund?

iii. Find new NAV of the Fund as on 2ndFebruary 2012.

6 (a) ABC Ltd. has been maintaining a growth rate of 10 percent in dividends. The company has paid dividend @ ₹3 per share. The rate of return on market portfolio is 12 percent and the risk free rate of return in the market has been observed as 8 percent. The Beta co-efficient of company's share is 1.5. **4**

You are required to calculate the expected rate of return on company's shares as per CAPM model and equilibrium price per share by dividend growth model.

(b) T Ltd. and E Ltd. are in the same industry. The former is in negotiation for acquisition of the latter. Important information about the two companies as per their latest financial statements is given below: **12**

	T Ltd.	E Ltd.
10 Equity shares outstanding	12 Lakhs	6 Lakhs
Debt:		
10% Debentures (₹ Lakhs)	580	-
12.5% Institutional Loan (₹ Lakhs)	-	240

Earning before interest, depreciation and tax (EBIDAT) (₹ Lakhs)	400.86	115.71
Market Price/share (₹)	220.00	110.00

T Ltd. plans to offer a price for E Ltd., business as a whole which will be 7 times EBIDAT reduced by outstanding debt, to be discharged by own shares at market price.
E Ltd. is planning to seek one share in T Ltd. for every 2 shares in E Ltd. based on the market price. Tax rate for the two companies may be assumed as 30%.
Calculate and show the following under both alternatives - T Ltd.'s offer and E Ltd.'s plan:
(i) Net consideration payable.
(ii) No. of shares to be issued by T Ltd.
(iii)EPS of T Ltd. after acquisition.
(iv)Expected market price per share of T Ltd. after acquisition.
(v) State briefly the advantages to T Ltd. from the acquisition.
Calculations (except EPS) may be rounded off to 2 decimals in lakhs.

7 Write short notes on 4 of following: **(4x5)**

(a) Debt Securitization

(b) What is the significance of an underlying in relation to a derivative instrument?

(c) Explain the significance of LIBOR in international financial transactions

(d) What are the steps for simulation analysis?

(e) Meaning and Advantages of Netting
