

Roll No.....

Total No. of questions – 6

Total No. of Printed Pages -12

Time Allowed – 3 Hours

Maximum Marks - 100

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Answers to questions are to be given only in English except in 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 four questions from the remaining **five** questions.

Working notes should form part of the respective answer.

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1. (a) The following particulars relating to Vishnu Fund Schemes: **12**

Particulars	Value ₹ in Crores
1. Investment in Shares (at cost)	
a. Pharmaceuticals companies	79
b. Construction Industries	31
c. Service Sector Companies	56
d. IT Companies	34
e. Real Estate Companies	10
2. Investment in Bonds (Fixed Income)	

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a. Listed Bonds (8000, 14% Bonds of ₹ 15,000 each)	12
b. Unlisted Bonds	7
3. No. of Units outstanding (crores)	4.2
4. Expenses Payable	3.5
5. Cash and Cash equivalents	1.5
6. Market expectations on listed bonds	8.842%

Particulars relating to each sector are as follows:

Sector	Index on Purchase date	Index on Valuation date
Pharmaceutical companies	260	465
Construction Industries	210	450
Service Sector Companies	275	480
IT Companies	240	495
Real Estate Companies	255	410

The fund has incurred the following expenses:

Consultancy and Management fees ₹ 480 Lakhs

Office Expenses ₹ 150

Lakhs Advertisement Expenses ₹ 38 Lakhs

You are required to calculate the following:

- i. Net Asset Value of the fund

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- ii. Net Asset Value per unit
 - iii. If the period of consideration is 2 years, and the fund has distributed ₹ 3 per unit per year as cash dividend, ascertain the Net return (Annualized).
 - iv. Ascertain the Expenses ratio.
- (b) On November 26, 2001, ABC Bank sold 12% GOI 2011 of Rs.250 crore to XYZ Bank on Repo basis for a period of 4 days. The Repo rate was 6% p.a. The date of last coupon payment was October 11, 2001. Assume the sale price was Rs.104 for the face value of Rs.100. **4**
- You are required to compute the cashflows involved in the transaction.
- (c) Write a short note on securitization in India. **4**
2. (a) You are interested in buying some equity stocks of RK Ltd. **8**
The company has 3 divisions operating in different industries. Division A captures 10% of its industries sales which is forecasted to be Rs. 50 crore for the industry. Division B and C captures 30% and 2% of their respective industry's sales, which are expected to be Rs. 20 crore and Rs. 8.5 crore respectively. Division A traditionally had a 5% net income margin, whereas divisions B and C had 8% and 10% net income margin

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respectively. RK Ltd. has 3,00,000 shares of equity stock outstanding, which sell at Rs. 250.

The company has not paid dividend since it started its business 10 years ago. However, from the market sources you come to know that RK Ltd. will start paying dividend in 3 years time and the pay-out ratio is 30%. Expecting this dividend, you would like to hold the stock for 5 year. By analysing the past financial statements, you have determined that RK Ltd.'s required rate of return is 18% and that P/E ratio of 10 for the next year and on ending P/E ratio of 20 at the end of the fifth year are appropriate.

Evaluate:

- (i) Whether you will be in purchasing RK Ltd. equity at this time based on your one year forecast?
- (ii) Price you will like to pay for the stock of RK Ltd if you expect earnings to grow @ 15% continuously.

Ignore taxation.

PV factors are given below:

Years	1	2	3	4	5
PVIF@ 18%	0.847	0.718	0.609	0.516	0.437

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- (b) In March 2020, XYZ Bank sold some 7% Interest Rate Futures underlying Notional 7.50% Coupon Bonds. The exchange provides following details of eligible securities that can be delivered: **8**

Security	Quoted Price of Bonds	Conversion Factor
7.96 GOI 2023	1037.40	1.0370
6.55 GOI 2025	926.40	0.9060
6.80 GOI 2029	877.50	0.9195
6.85 GOI 2026	972.30	0.9643
8.44 GOI 2027	1146.30	1.1734
8.85 GOI 2028	1201.70	1.2428

Recommend the Security that should be delivered by the XYZ Bank if Future Settlement Price is 1000.

- (c) The idea of Quant Fund is stock-picking free from human intervention. Discuss. **4**
3. (a) Punjab Bank has entered into a plain vanilla swap through on Overnight Index Swap (OIS) on a principal of ₹ 2 crore and agreed to receive MIBOR overnight floating rate for a fixed payment on the principal. The swap was entered into on Monday, 24th July, 2017 and was to commence on 25th July, 2017 and run for a period of 7 days. **8**

Respective MIBOR rates for Tuesday to Monday were:

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8.70%, 9.10%, 9.12%, 8.95%, 8.98% and 9.10%.

If Punjab Bank received ₹ 507 net on settlement, calculate Fixed rate and interest under both legs.

Notes:

- i. Sunday is a Holiday.
- ii. Workout in rounded rupees and avoid decimal working.
- iii. Consider a year consists of 365 days.

(b) On the basis of the following information:

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Current dividend (D_0) = ₹ 2.50

Discount rate (k) = 10.5%

Growth rate (g) = 2%

- i. Calculate the present value of stock of ABC Ltd.
- ii. Is its stock overvalued if stock price is ₹ 35, ROE = 9% and EPS = ₹ 2.25? Show detailed calculation. Using PE Multiple Approach and Earning Growth Model.

(c) Can a company with no commercial operations raise capital via an IPO ? Discuss.

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4. (a) In March 2020, XYZ Bank sold some 7% Interest Rate Futures underlying Notional 7.50% Coupon Bonds. The exchange provides following details of eligible securities that can be delivered: **8**

Security	Quoted Price of Bonds	Conversion Factor
7.96 GOI 2023	1037.40	1.0370
6.55 GOI 2025	926.40	0.9060
6.80 GOI 2029	877.50	0.9195
6.85 GOI 2026	972.30	0.9643
8.44 GOI 2027	1146.30	1.1734
8.85 GOI 2028	1201.70	1.2428

Recommend the Security that should be delivered by the XYZ Bank if Future Settlement Price is 1000.

- (b) R Ltd. and S Ltd. operating in same industry are not experiencing any rapid growth but providing a steady stream of earnings. R Ltd.'s management is interested in acquisition of S. Ltd. due to its excess plant capacity. Share of S Ltd. is trading in market at ₹ 3.20 each. Other data relating to S Ltd. is as follows: **8**

Balance Sheet of S Ltd.

Liabilities	Amount (₹)	Assets	Amount (₹)
Current Liabilities	1,59,80,000	Current Assets	2,48,75,000
Long Term	1,28,00,000	Other Assets	94,00,000

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Liabilities			
Reserve & Surplus	2,79,95,000	Property Plants & Equipment	3,45,00,000
Share Capital (80 Lakhs shares of ₹ 1.5 each)	1,20,00,000		
Total	6,87,75,000	Total	6,87,75,000

Particulars	R Ltd. (₹)	S Ltd. (₹)	Combined Entity (₹)
Profit after Tax	86,50,000	49,72,000	1,21,85,000
Residual Net Cash Flows per year	90,10,000	54,87,000	1,85,00,000
Required return on equity	13.75%	13.05%	12.5%

You are required to compute the following:

- i. Minimum price per share S Ltd. should accept from R Ltd.
- ii. Maximum price per share R Ltd. shall be willing to offer to S Ltd.
- iii. Floor Value of per share of S Ltd., whether it shall play any role in decision for its acquisition by R Ltd.

(c) Explain various stages of Venture Capital Funding.

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5. (a) ABC Ltd. is considering a project X, which is normally distributed and has mean return of Rs. 2 crore with Standard Deviation of Rs. 1.60 crore. **8**

In case ABC Ltd. loses on any project more than Rs. 1.00 crore there will be financial difficulties. Determine the probability the company will be in financial difficulty.

Given: Standard Normal Distribution Table (Z-Score) providing area between Mean and Z score

Z Score	Area
1.85	0.4678
1.86	0.4686
1.87	0.4693
1.88	0.4699
1.89	0.4706

- (b) Equity of KGF Ltd. (KGFL) is ₹ 410 Crores, its debt, is worth ₹ 170 Crores. Printer Division segments value is attributable to 74%, which has an Asset Beta (β_p) of 1.45, balance value is applied on Spares and Consumables Division, which has an Asset Beta (β_{sc}) of 1.20 KGFL Debt beta (β_D) is 0.24. **8**

You are required to calculate:

- Equity Beta (β_E),
- Ascertain Equity Beta (β_E), if KGF Ltd. decides to change its

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Debt Equity position by raising further debt and buying back of equity to have its Debt Equity Ratio at 1.90. Assume that the present Debt Beta (β_{D1}) is 0.35 and any further funds raised by way of Debt will have a Beta (β_{D2}) of 0.40.

iii. Whether the new Equity Beta (β_E) justifies increase in the value of equity on account of leverage?

(c) What do you know about swaptions and their uses? **4**

6. (a) A dealer in foreign exchange has the following position in Swiss Francs on 31 st January, 2018: **8**

	(Swiss Francs)
Balance in the Nostro A/c Credit	1,00,000
Opening Position Overbought	50,000
Purchased a bill on Zurich	70,000
Sold forward TT	49,000
Forward purchase contract cancelled	41,000
Remitted by TT	75,000
Draft on Zurich cancelled	40,000

Examine what steps would the dealer take, if he is required to maintain a credit balance of Swiss Francs 30,000 in the Nostro A/c and keep as overbought position on Swiss Francs 10,000?

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- (b) The closing value of Sensex for the month of October, 2007 is given below :

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Date Closing	Sensex Value
1.10.07	2800
3.10.07	2780
4.10.07	2795
5.10.07	2830
8.10.07	2760
9.10.07	2790
10.10.07	2880
11.10.07	2960
12.10.07	2990
15.10.07	3200
16.10.07	3300
17.10.07	3450
19.10.07	3360
22.10.07	3290
23.10.07	3360
24.10.07	3340
25.10.07	3290
29.10.07	3240
30.10.07	3140
31.10.07	3260

With the help of above data evaluate the weak form of efficient market hypothesis by applying the run test at 5% and 10% level of

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significance.

Following value can be used:

Value of t at 5% is 2.101 at 18 degrees of freedom

Value of t at 10% is 1.734 at 18 degrees of freedom

(c) Explain Random Walk theory. **4**

OR

Explain Asset Allocation Strategies. **4**

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