

Roll No. ....

Total No. of Questions – 6

Total No. of Printed Pages – 08

Time Allowed – 3 Hours

Maximum Marks – 100

## BSTK

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 **four** questions from the remaining **five** questions.

Working notes should form part of the respective answers.

**Marks**

1. (a) Tangent Ltd. is considering calling ₹ 3 crores of 30 years, ₹ 1,000 bond issued 5 years ago with a coupon interest rate of 14 per cent. The bonds have a call price of ₹ 1,150 and had initially collected proceeds of ₹ 2.91 crores since a discount of ₹ 30 per bond was offered. The initial floating cost was ₹ 3,90,000. The Company intends to sell ₹ 3 crores of 12 per cent coupon rate, 25 years bonds to raise funds for retiring the old bonds. It proposes to sell the new bonds at their par value of ₹ 1,000. The estimated floatation cost is ₹ 4,25,000. The company is paying 40% tax and its after tax cost of debt is 8 per cent. As the new bonds must first be sold and then their proceeds to be used to retire the old bonds, the company expects a two months period of overlapping interest during which interest must be paid on both the old and the new bonds. You are required to evaluate the bond retiring decision. [PVIFA 8%, 25 = 10.675] **8**

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- (b) A dealer in foreign exchange has the following position in Swiss Francs on 31<sup>st</sup> 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 ?

- (c) Explain Angel Investors.

**4**

2. (a) Shares of Volga Ltd. are being quoted at a price-earning ratio of 8 times. The company retains 50% of its Earnings Per Share. The Company's EPS is ₹ 10.

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You are required to determine :

- (1) the cost of equity to the company if the market expects a growth rate of 15% p.a.
- (2) the indicative market price with the same cost of capital and if the anticipated growth rate is 16% p.a.
- (3) the market price per share if the company's cost of capital is 20% p.a. and the anticipated growth rate is 18% p.a.

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(3)

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(b) Mr. Kapoor owns a portfolio with the following characteristics :

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	Security X	Security Y	Risk Free Security
Factor 1 sensitivity	0.75	1.50	0
Factor 2 sensitivity	0.60	1.10	0
Expected Return	15%	20%	10%

It is assumed that security returns are generated by a two factor model.

- (i) If Mr. Kapoor has ₹ 1,00,000 to invest and sells short ₹ 50,000 of security Y and purchases ₹ 1,50,000 of security X, what is the sensitivity of Mr. Kapoor's portfolio to the two factors ?
- (ii) If Mr. Kapoor borrows ₹ 1,00,000 at the risk free rate and invests the amount he borrows along with the original amount of ₹ 1,00,000 in security X and Y in the same proportion as described in part (i), what is the sensitivity of the portfolio to the two factors ?
- (iii) What is the expected return premium of factor 2 ?

(c) Discuss about the Primary Participants in the process of Securitization.

**4**

3. (a) A mutual fund having 300 units has shown its NAV of ₹ 8.75 and ₹ 9.45 at the beginning and at the end of the year respectively. The Mutual fund has given two options to the investors :

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- (i) Get dividend of ₹ 0.75 per unit and capital gain of ₹ 0.60 per unit, or
- (ii) These distributions are to be reinvested at an average NAV of ₹ 8.65 per unit.

What difference would it make in terms of returns available and which option is preferable by the investors ?

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**Marks**

- (b) The equity share of SSC Ltd. is quoted at ₹ 310. A three month call option is available at a premium of ₹ 8 per share and a three month put option is available at a premium of ₹ 7 per share. **8**

Ascertain the net payoffs to the option holder of a call option and a put option, considering that :

- (i) the strike price in both cases is ₹ 320; and  
(ii) the share price on the exercise day is ₹ 300, 310, 320, 330 and 340.

Also indicate the price range at which the call and the put options may be gainfully exercised.

- (c) How different stakeholders view the financial risk ? **4**

4. (a) TK Ltd. and SK Ltd. are both in the same industry. The former is in negotiation for acquisition of the latter. Information about the two companies as per their latest financial statements are given below : **12**

	<b>TK Ltd.</b>	<b>SK Ltd.</b>
₹ 10 Equity shares outstanding	24 Lakhs	12 Lakhs
Debt :		
10% Debentures (₹ Lakhs)	1160	-
12.5% Institutional Loan (₹ Lakhs)	-	480
Earnings before interest, depreciation and tax (EBIDAT) (₹ Lakhs)	800.00	230.00
Market Price/Share (₹)	220.00	110.00

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TK Ltd. plans to offer a price for SK Ltd. business, as a whole, which will be 7 times of EBIDAT as reduced by outstanding debt and to be discharged by own shares at market price.

SK Ltd. is planning to seek one share in TK Ltd. for every 2 shares in SK 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 – TK Ltd.'s offer and SK Ltd.'s plan :

- (i) Net consideration payable.
- (ii) No. of shares to be issued by TK Ltd.
- (iii) EPS of TK Ltd. after acquisition.
- (iv) Expected market price per share of TK Ltd. after acquisition.
- (v) State briefly the advantages to TK Ltd. from the acquisition.

Calculations may be rounded off to two decimals points.

(b) An Indian company obtains the following quotes (₹/\$)

Spot :	35.90/36.10
3-Months forward rate :	36.00/36.25
6-Months forward rate :	36.10/36.40

The company needs \$ funds for six months. Determine whether the company should borrow in \$ or ₹. Interest rates are :

3-Months interest rate :	₹ : 12%, \$ : 6%
6-Months interest rate :	₹ : 11.50%, \$ : 5.5%

Also determine what should be the rate of interest after 3-months to make the company indifferent between 3-months borrowing and 6-months borrowing in the case of :

- (i) Rupee borrowing
- (ii) Dollar borrowing

**Note :** For the purpose of calculation you can take the units of dollar and rupee as 100 each.

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5. (a) Following details are available for X Ltd.

**12**

Income Statement for the year ended 31<sup>st</sup> March, 2018

Particulars	Amount
Sales	40,000
Gross Profit	12,000
Administrative Expenses	6,000
Profit Before tax	6,000
Tax @ 30%	1,800
Profit After Tax	4,200

Balance sheet as on 31<sup>st</sup> March, 2018

Particulars	Amount
Fixed Assets	10,000
Current Assets	6,000
Total Assets	16,000
Equity Share Capital	15,000
Sundry Creditors	1,000
Total Liabilities	16,000

The Company is contemplating for new sales strategy as follows :

- (i) Sales to grow at 30% per year for next four years.
- (ii) Assets turnover ratio, net profit ratio and tax rate will remain the same.
- (iii) Depreciation will be 15% of value of net fixed assets at the beginning of the year.
- (iv) Required rate of return for the company is 15%.

Evaluate the viability of new strategy.

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(b) A dealer quotes 'All-in-cost' for a generic swap at 6% against six month LIBOR flat. If the notional principal amount of swap is ₹ 8,00,000 :

- (i) Calculate semi-annual fixed payment.
- (ii) Find the first floating rate payment for (i) above if the six month period from the effective date of swap to the settlement date comprises 181 days and that the corresponding LIBOR was 5% on the effective date of swap.
- (iii) In (ii) above, if the settlement is on 'Net' basis, how much the fixed rate payer would pay to the floating rate payer ? Generic swap is based on 30/360 days basis.

(c) Explain the concept of Riba in Islamic Finance. 4

6. (a) The following data are available for three bonds A, B and C. These bonds are used by a bond portfolio manager to fund an outflow scheduled in 6 years. Current yield is 9%. All bonds have face value of ₹ 100 each and will be redeemed at par. Interest is payable annually. 12

Bond	Maturity (Years)	Coupon rate
A	10	10%
B	8	11%
C	5	9%

- (i) Calculate the duration of each bond.
- (ii) The bond portfolio manager has been asked to keep 45% of the portfolio money in Bond A. Calculate the percentage amount to be invested in bonds B and C that need to be purchased to immunise the portfolio.
- (iii) After the portfolio has been formulated, an interest rate change occurs, increasing the yield to 11%. The new duration of these bonds are : Bond A = 7.15 Years, Bond B = 6.03 Years and Bond C = 4.27 years.

Is the portfolio still immunized ? Why or why not ?

- (iv) Determine the new percentage of B and C bonds that are needed to immunize the portfolio. Bond A remaining at 45% of the portfolio.

Present values be used as follows :

Present Values	$t_1$	$t_2$	$t_3$	$t_4$	$t_5$
$PVIF_{0.09, t}$	0.917	0.842	0.772	0.708	0.650

Present Values	$t_6$	$t_7$	$t_8$	$t_9$	$t_{10}$
$PVIF_{0.09, t}$	0.596	0.547	0.502	0.460	0.4224

- (b) On 19<sup>th</sup> January, Bank A entered into forward contract with a customer for a forward sale of US \$ 7,000, delivery 20<sup>th</sup> March at ₹ 46.67. On the same day, it covered its position by buying forward from the market due 19<sup>th</sup> March, at the rate of ₹ 46.655. On 19<sup>th</sup> February, the customer approaches the bank and requests for early delivery of US \$.

8

Rates prevailing in the interbank markets on that date are as under :

Spot (₹/\$) 46.5725/5800

March 46.3550/3650

Interest on outflow of funds is 16% and on inflow of funds is 12%.

Flat charges for early delivery are ₹ 100.

What is the amount that would be recovered from the customer on the transaction ?

Note : Calculation should be made on months basis than on days basis.