Two months forward	1.5250 / 1.5270
Three months forward	1.5415/ 1.5445

and in the interbank market US dollars were quoted as under:

Spot	USD 1 = ₹	49.4302/.4455
Spot / April		4100/.4200
Spot/May		.4300/.4400
Spot/June		.4500/.4600

Calculate the cancellation charges, payable by the customer if exchange margin required by the bank is 0.10% on buying and selling.

(SM TYK – 45 & Exam November – 2015) (8 Marks)

Solution:

Cancelation Rate

First customer buy $ from ₹

SR	= 49.4455
(+) 1 Month Swap	= 0.4200
	= 49.8655
(+) Margin	= 0.10%
₹/ $	= 49.9154

After that Customer Buy SF from $

$SF/_{\$}$ 1.5150

$$\text{Cancellation Rate } ₹/_{SF} = \frac{49.9154}{1.5150}$$

= ₹ 32.9475

Calculation of Cancellation Charge

Buying rate of Bank $\left(₹/_{SF}\right)$ = ₹ 32.4000

Selling rate of Bank $(₹/_{SF})$	= ₹ 32.9475
Gain to Bank	= ₹ 0.5475
(×) Contract Size	= SF 1,00,000
Cancellation Charges	= ₹ 54,750

Question – 54

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.

The market rates for Rupee 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 :

(A) To cover payables in the forward market and

(B) 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?

(SM TYK – 43 & Exam May – 2012) (8 Marks)

Solution:

(A) Cover payable in forward market

Payable

Buy $ 7,00,000 at 3 Month FR (48.70 + 0.45) = 49.15

Cash Outflows (7,00,000 × 49.15) (A) = ₹ 34,40,500

Receivable

Sell $ 4,50,000 at 48.90 (4,50,000 × 48.90) = ₹ 2,20,05,000

Interest (2,20,05,000 × 12 × 1/12)		= ₹ 2,20,050
Cash Inflows	(B)	= ₹ 2,22,25,050
Net Cash Outflow (A – B)		= ₹ 1,21,79,950

(B) Lag the receivable by one month

Forward contract cancelled	
Buying Rate of Bank	= ₹ 48 .90
(–) Selling Rate of Bank (48.70 + 0.30)	= ₹ 49.00
Gain to Bank	= ₹ 0.10
(×) Contract Size	= $ 4,50,000
Cancellation Charges	= ₹ 45,000
Net $ payable after 3 month	
$ Payable	= $ 7,00,000
(–) $ Receivable	= $ 4,50,000
Net $ Payable	= $ 2,50,000
Cash Outflows	
Buy $ 2,50,000 at 3 month FR	
($ 2,50,000 × 49.15)	= ₹ 1,22,87,500
(+) Cancellation Charges	= ₹ 45,000
Cash Outflow	= ₹ 1,23,32,500

Option A is better due to lower cash outflow.

(II) EARLY DELIVERY

Question – 55

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

requests for early delivery of US $. 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 form the customer on the transaction?

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

(Exam November – 2018) (8 Marks)

Solution:

Amount receivable from customer

Sell $ 7,000 at contracted rate (7,000 × 46.67) = ₹ 3,26,690

Swap Loss/Gain

Bank enter into buy-sell swap where bank buy spot from other bank & sell one months forward to other Bank.

Buy spot	= ₹ 46.5800
Sell forward	= ₹ 46.3550
Swap loss	= ₹ 0.225
(×) Contract size	= ₹ 7,000
Swap loss	= ₹ 1,575

Note: अगर Swap Gain होता तो Customer को Transfer करना पड़ता।

Interest on outlay of fund/inflow of fund (19/2)

Cash outflow on buy spot ($ 7,000 × 46.5800)	= ₹ 3,26,060
Cash Inflows on sell to customer ($ 70,000×46.67)	= ₹ 3,26,690
Net cash inflows	= ₹ 630

Interest on Inflows of fund = ₹ 630 × 12% × 1/12 = ₹ 6.30

Total amount receivable from customer

(₹ 3,26,690 +1,575 – 6.30) = ₹ 3,28,258.70

Question – 56

On 1st October, 2020 Mr. Guru, and exporter, enters into a forward contract with the Bank to sell USD 1,00,000 on 31st December 2020 at INR/USD 75.40. However, at the request of the importer, Mr. Guru received the amount on 30th November, 2020. Mr. Guru requested the bank take delivery of the remittance on 30th November, 2020 i.e. before due date.
The inter-bank rate on 30th November, 2020 was as follows:

Spot INR/USD 75.22 - 75.27

One Month Premium 10/15

Assume 365 days in a year.

(i) If bank agrees to take early delivery then what will be net inflow to Mr. Guru assuming that the prevailing prime lending rate is 18% per annum.

(ii) If Mr. Guru can deploy these funds in USD, he gets return at the rate of 3% per annum. Which is better? Why?

(Exam July – 2021) (8 Marks)

Solution:

Option 1: Early Delivery

- **Swap Loss or Gain**

Swap difference on 30/11 Bank sell spot & buy one month forward

Selling rate	= 75.22
Buying rate	= 75.42
Swap loss	= 0.20
(×) Contract size	= $ 1,00,000
Swap loss	= ₹ 20,000

- **Interest on inflows or outflows**

Cash outflows ($ 1,00,000 × 75.40)	= ₹ 75,40,000
Cash inflows ($ 1,00,000 × 75.22)	= ₹ 75,22,000
Net outflows	= 18,000
Interest = 18,000 × 18% × 31/365	= 275.18
Net inflow to Guru ($ 1,00,000 × 75.40)	= ₹ 75,40,000
Swap loss	= - 20,000
Interest on outflow	= - 275.18
	= ₹ 75,19,724.62

Option 2: Invest in $ Fund at 3% p.a.

Cash inflow in $ on 31/12	
Principal	= $ 1,00,000
Interest ($ 1,00,000 × 3% × 31/365)	= $ 254.79
Cash inflows (₹)	
$ 1,00,000 × 75.40	= 75,40,000
$ 254.79 × 75.32 (75.22 + 0.10)	= 19,190.78
	= 75,59,190.78

Option 2 is better due to higher cash inflows

(III) OVERDUE FORWARD CONTRACT

Question – 57

An importer booked a forward contract with his bank on 10th April for USD 2,00,000 due on 10th June @ ₹ 64.4000. The bank covered its position in the market at ₹ 64.2800.

The exchange rates for dollar in the interbank market on 10th June and 13th June were:

	10th June	13th June
Spot	USD 1= ₹ 63.8000/8200	₹ 63.6800/7200
Spot/June	₹ 63.9200/9500	₹ 63.8000/8500
July	₹ 64.0500/0900	₹ 63.9300/9900
August	₹ 64.3000/3500	₹ 64.1800/2500
September	₹ 64.6000/6600	₹ 64.4800/5600

Exchange Margin 0.10% and interest on outlay of funds @ 12%. The importer requested on 14th June for extension of contract with due date on 10th August.

Rates rounded to 4 decimal in multiples of 0.0025.

On 10th June, Bank Swaps by selling spot and buying one month forward.

Calculate:

(i) Cancellation rate

(ii) Amount payable on $ 2,00,000

(iii) Swap loss

(iv) Interest on outlay of funds, if any

(v) New contract rate

(vi) Total Cost

Solution:

(i) Cancellation Rate

Particular	Amount
Buying Rate of Bank (13/6)	₹ 63.6800
(-) Margin	0.10%
Customer Rate	₹ 63.6163
Round Off	₹ 63.6175

(ii) Cancellation Charge

Particular	Amount
Selling Rate of Bank	₹ 64.4000
(-) Buying rate of Bank	₹ 63.6175
Gain to Bank	0.7825
(×) Contract Size	$ 2,00,000
Amount Payable by Customer	₹ 1,56,500

If gain to customer then amounts can't be paid to customer

(iii) Swap Loss

On 10th June bank sell spot to other Bank & buy forward from other Bank

Particular	Amount
Sell Spot	₹ 63.8000
(-) Buy Forward	₹ 63.9500
Swap Loss	₹ 0.15
(-) Contract Size	₹ 2,00,000
Swap Loss	₹ 30,000

Note: अगर Swap Gain होता तो Ram को Transfer नहीं करते।

(iv) Interest on Outlay of Fund

On 10th June bank buy ($ 2,00,000 at Cover Rate hence Cash Outflows & sell at $ 2,00,000 at SR)

Particular	Amount
Cash Outflow ($ 2,00,000 × 64.2800)	₹ 1,28,56,000
Cash Inflow ($ 2,00,000 × 63.8000)	₹ 1,27,60,000
Net Cash Outflow	₹ 96,000
Interest on Net Cash Outlay (₹ 96,000 12% × 3/360)	₹ 96

Note: अगर Net Cash Inflow होता तो उस पर Interest Ram को Transfer नहीं किया जाता।

(v) New Contract Rate (Available on 13/6)

Particular	Amount
Selling Rate of Bank	₹ 64.2500
(+) Margin	0.10%
Customer Rate	₹ 64.3142
Round off	₹ 64.3150

(vi) Total Cost

Particular	Amount
Cancellation Charges	₹ 1,56,500
(+) Swap Loss	₹ 30,000
(+) interest on Outlay of Fund	96
	₹ 1,86,596

Question – 58

On 10th July, an importer entered into a forward contract with bank for US $ 50,000 due on 10th September at an exchange rate of ₹ 66.8400. The bank covered its position in the interbank market at ₹ 66.6800.

How the bank would react if the customer requests on 13th September:

(i) To cancel the contract?

(ii) To execute the contract?

(iii) To extend the contract with due date to fall on 10th November?

The exchange rates for US$ in the interbank market were as below:

	10th September	13th September
Spot	US$1=66.1500/1700	65.9600/9900
Spot/September	66.2800/3200	66.1200/1800
Spot/October	66.4100/4300	66.2500/3300
Spot/November	66.5600/6100	66.4000/4900

Exchange margin was 0.1% on buying and selling.

Interest on outlay of funds was 12% p.a.

You are required to show the calculations to:

(i) Cancel the Contract,

(ii) Execute the Contract, and

(iii) Extend the Contract as above.

Solution:

(i) Cancellation Rate

Particular	Amount
Buying Rate of Bank	₹ 65.9600
(-) Margin	₹ 0.10%
Rounded Off	₹ 65.8940

(ii) Cancellation Charge

Particular	Amount
Selling Rate of Bank	₹ 66.8400
(-) Buying rate of Bank	₹ 65.8950
Gain to Bank	0.945
(x) Contract Size	$ 50,000
Cancelation Charges	₹ 47,250

(iii) Swap Loss

On 10th Sep Bank Sold $ 50,000 at SR & Buy $ 50,000 at Forward Rate means Sell- Buy

Particular	Amount
Selling Rate (SR)	₹ 66.1500
Buying Rate	₹ 66.3200
Swap Loss	₹ 0.17
(×) Contract Size	₹ 50,000
Swap Loss	₹ 8,500

(iv) Interest on Outlay of Fund

On 10th Sep

Particular	Amount
Cash Outflow (Buy$ at Cover Rate) ($ 50,000 × 66.68)	₹ 33,34,000

Cash Inflow (Sell $ at SR) ($ 50,000 × ₹ 66.1500)	₹ 33,07,500
Net Cash Outlay	₹ 26,500
Interest on Outlay of fund (₹ 26,500 × 12% × 3/360)	₹ 26

(v) New FR

Particular	Amount
Selling Rate (Nov)	₹ 66.4900
(+) Margin	0.1 %
	₹ 66.5565
Rounded Off	₹ 66.5575

(I) Cancel the Contract

Particular	Amount
Total amount payable by customer	
Cancellation charges	₹ 47,250
(+) Swap Loss	₹ 8,500
(+) Interest on Outlay of Fund	₹ 26

(II) Execute the Contract

Particular	Amount
Total amount of cancellation	₹ 55,776
(+) Buy $ 50,000 at SR on 13th Sep (65.9900 + 0.1%) 66.0560 ($ 50,000 × 66.0550)	₹ 33,02,750
	₹ 33,58,526

(III) Extension

Particular	Amount
Total Amount of Cancellation	₹ 55,776
Book New Contract for 13th Nov	₹ 66.5575

Question – 59

An import customer booked a forward contract with the bank on 10th April for USD 20,000 due on 10th June at ₹ 49.4000. The bank covered its position in the market at ₹ 49.2800.

The exchange rate for dollar in the interbank market on 10thJune and 20th June were:

	10th June	20th June
Spot	USD 1 = ₹ 48.8000/8200	48.6800/7200
Spot/ June	48.9200/9500	48.8000/8500
Spot/July	49.0500/0900	48.9300/9900
Spot/August	49.3000/3500	49.1800/2500
Spot/September	49.6000/6600	49.4800/5600
Exchange margin is 0.10%		
Interest on outlay of funds 12%		

Calculate how the bank will react, if the customer requires on 20th June:

(i) To cancel the contract.

(a) Exchange difference,

(b) Swap loss,

(c) Interest on outlay of funds and

(d) Cancellation charges

(ii) To Execute the contract.

(iii) To Extend the contract with due date to fall on 10th August.

(Exam November – 2023) (8 Marks)

Solution:

(i) Cancellation of Contract

(a) Exchange Difference

The forward sale contract shall be cancelled at Spot TT Purchase for $ prevailing on the date of cancellation as follows:

$/ ₹ Market Buying Rate	₹ 48.6800
Less: Exchange Margin @ 0.10%	₹ 0.0487
	₹ 48.6313

Rounded off to ₹ 48.6325

Exchange Difference Payable

Bank sells $ 20,000 @ ₹ 49.4000	₹ 9,88,000
Bank buys $ 20,000 @ ₹ 48.6325	₹ 9,72,650
Amount payable by customer	₹ 15,350

(b) Swap Loss

On 10th June the bank does a swap sale of $ at market buying rate of ₹ 48.8000 and forward purchase for June at market selling rate of ₹ 48.9500.

Bank buys at	₹ 48.9500
Bank sells at	₹ 48.8000
Amount payable by customer	₹ 0.1500

Swap Loss for $ 20,000 is = ₹ 3,000

(c) Interest on Outlay of Funds On 10th June, the bank receives delivery under cover contract at ₹ 49.2800 and sell spot at ₹ 48.8000.

Bank buys at	₹ 49.2800
Bank sells at	₹ 48.8000
Amount payable by customer	₹ 0.4800

Outlay for $ 20,000 is ₹ 9,600

Interest on ₹ 9,600 @ 12% for 10 days ₹ 31.56 or ₹ 32.00

(d) Cancellation Charges

Particulars	Amount (₹)
Exchange Difference	15,350
Swap Loss	3,000
Interest on Outlay of Funds	32.00
Cancellation Charges payable by Customer	18,382

OR,

Particulars	Amount (₹)
Exchange Difference	15,350
Swap Loss	3,000
Interest on Outlay of Funds	31.56
Cancellation Charges payable by Customer	18,381.56

(ii) Execution of Contract

Cancellation charges of ₹ 18,382 or ₹ 18,381.56 as computed above will be recovered. The contract will be executed at the spot TT selling rate calculated as follows:

Dollar/₹ interbank spot selling rate	₹ 48.7200
Add: exchange margin at 0.10%	+ 0.0487
	₹ 48.7687

(iii) Extension of Contract

Cancellation charges of ₹ 18,382 or ₹ 18,381.56 as computed above will be recovered.

The contract will be extended at the current rate.

Dollar/₹ market forward selling rate for August	₹ 49.2500
Add: exchange margin at 0.10%	+ 0.0492
	₹ 49.2992

The exchange rate applied for the extended contract is ₹ 49.3000 or ₹ 49.2992.

(8) FOREIGN CURRENCY A/C

Question – 60

You as a dealer in foreign exchange have the following position in Swiss Francs on 31st October, 2009:

	Swiss Francs
Balance in the Nostro A/c Credit	1,00,000
Opening Position Overbought	50,000
Purchased a bill on Zurich	80,000
Sold forward TT	60,000
Forward purchase contract cancelled	30,000
Remitted by TT	75,000
Draft on Zurich cancelled	30,000

What steps would you take, if you are 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?

(SM TYK – 51 & MTP March – 2022)

Solution:

Cash Position

	Cr.	Dr.
Opening balance credit	1,00,000	---
TT sales	---	75,000
	1,00,000	75,000
Closing balance (credit)	---	25,000

Exchange Position

	Long	Short
Opening balance over brought	50,000	---
Purchased bill	80,000	---
Forward sales	---	60,000
Forward purchase contract cancelled	---	30,000
TT sales	---	75,000
Draft cancelled	30,000	---
	1,60,000	1,65,000
Oversold position	5,000	---

The bank has to buy spot Swiss Francs 5,000 to increase the balance in NOSTRO A/c Swiss Francs 30,000 this would being down the oversold position as nil.

Since bank requires overbought position of Swiss Francs 10,000 it has to buy forward Swiss Francs 10,000.

Question – 61

ABN-Amro Bank, Amsterdam, wants to purchase ₹ 15 million against US$ for funding their NOSTRO account with Canara Bank, New Delhi. Assuming the inter-bank, rates of US$ is ₹ 51.3625/3700, what would be the rate Canara Bank would quote to ABN-Amro Bank? Further, if the deal is struck, what would be the equivalent US$ amount.

(SM TYK – 02)

Solution:

$ Required to buy ₹ 15,000,000

$= \frac{₹\ 15,000,000}{51.3625} = \$\ 2,92,042$

Question – 62

XYZ Bank, Amsterdam, wants to purchase ₹ 25 million against £ for funding their NOSTRO account and they have credited LORO account with Bank of London, London.

Calculate the amount of £'s credited. Ongoing inter-bank rates are per $, ₹ 61.3625/3700 & per £, $ 1.5260/70.

(SM TYK – 03)

Solution:

₹/$ = 61.3625

$/£ = 1.5260

₹/£ = 61.3625 × 1.5260

= 93.3692

Amount of £ to be credited

$= \frac{₹\ 2,50,00,000}{93.3692} = £\ 2,67,754.25$

(9) CURRENCY OF BORROWING

Question – 63

Sun Ltd. is planning to import equipment from Japan at a cost of 3,400 lakh yen. The company may avail loans at 18 percent per annum with quarterly rests with which it can import the equipment. The company has also an offer from Osaka branch of an India based bank extending credit of 180 days at 2 percent per annum against opening of an irrecoverable letter of credit.

Additional information:

Present exchange rate	₹ 100 = 340 yen
180 day's forward rate	₹ 100 = 345 yen

Commission charges for letter of credit at 2 percent per 12 months.

Advice the company whether the offer from the foreign branch should be accepted.

(SM TYK – 42 & Exam January – 2021) (8 Marks)

Solution:

Option 1: Loan from Indian Bank

Payable = ¥ 3,400 lacs

Buy ¥ 3,400 lacs at SR ¥/₹ = 3.40

$$\frac{¥\ 3,400}{3.40} = ₹\ 1,000 \text{ lacs}$$

Borrow ₹ 1,000 lacs at 18%. p.a. for 6 months

Cash outflows = 1,000 $(1.045)^2$ = ₹ 1,092.03 lacs

Option 2: Loan from Japan

Loan amount = ¥ 3400 lacs

Borrow ¥ 3,400 lacs at 2 % p.a. for 180 days

Cash outflows (¥ 3,400 lacs × 1.01) = ¥ 3,434 lacs

Buy ¥ 3,434 lacs at 180 day FR ¥/₹ = 3.45

$$\frac{¥\ 3,434}{3.45} = ₹\ 995.36$$

Commission [Payment आज होता है।]

Loan amount $= \frac{¥\ 3,400}{3.40}$ = ₹ 1,000 lacs

Commission = 1,000 lacs × 1% = ₹ 10 lacs

Commission after 6 month = 10 $(1.045)^2$

= ₹ 10.92 lacs

Total cash outflows = ₹ 995.36 + 10.92

= 1,006.28 lacs

Loan from Japan is better due to lower cash outflows.

Question – 64

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 borrowings end 6- months borrowings 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.

(Exam November – 2018) (8 Marks)

Solution:

Suppose we need $ 100 for 6 months

(i) Borrow from US

Principal	= $ 100
Interest ($ 100 × 5.5% × 6/12)	= $ 2.75
	= $ 102.75

Buy $ 102.75 at 6 month FR

Cash outflows = $ 102.75 × 36.40

= ₹ 3,740.10

(ii) Borrow from India

₹ Required to buy $100 at SR ($100 × 36.10)	= ₹ 3,610
Interest (3,610 × 11.5% × 6/12)	= ₹ 207.575
Cash outflows	= ₹ 3,817.575

Borrow in $ is better due to lower cash outflows.

Indifference Rate

₹ Borrowing

$$3 \text{ months rate} = \left[\frac{1.0575}{1.03} - 1\right] \times 100 \times \frac{12}{3} = 10.68\%$$

$ Borrowing

$$3 \text{ months FRA} = \left[\frac{1.0275}{1.015} - 1\right] \times 100 \times \frac{12}{3} = 4.93\% \text{ p.a.}$$

Question – 65

A German subsidiary of an US based MNC has to mobilize 1,00,000 Euro's working capital for the next 12 months. It has the following options:

Loan from German Bank	:	@ 5% p.a.
Loan from US Parent Bank	:	@ 4% p.a.
Loan from Swiss Bank	:	@ 3% p.a.

Banks in Germany charge an additional 0.25% p.a. towards loan servicing. Loans from outside Germany attract withholding tax of 8% on interest payments. If the interest rates given above are market determined, examine which loan is the most attractive using interest rate differential.

(Exam November – 2019) (5 Marks)

Solution:

Calculation of cost of loan

(i) Borrow from German Bank