FOREX

IMPORTANT QUESTIONS

CLASS WORK QUESTIONS

Question 5:

Consider the following quotations:

1 USD	= GBP 0.7650/70
1 SOUTH AFRICAN RAND (SAR)	= SWISS FRANC (SFR) 0.3540/10
1 MEXICAN PESO (MP)	= SPANISH PESETA (SP) 15.3250/90

i. A British exporter exports goods worth USD 90,000 from London. What amount of GBP will be receivable on conversion ?
ii. A Mexican firm imports goods from Spain worth SP 90,000. What amount of MP is required to settle the payment ?
iii. A South African firm has surplus funds of SAR 4,00,000 and decides to invest in Switzerland. What amount of SFR would be invested ?

(*Source: FOD)*

Question 13:

M/s. Sky products Ltd., of Mumbai, an exporter of sea foods has submitted a 60 days bill for EUR 5,00,000 drawn under an irrevocable Letter of Credit for negotiation. The company has desired to keep 50% of the bill amount under the Exchange Earners Foreign Currency Account (EEFC). The rates for ₹/USD and USD/EUR in inter-bank market are quoted as follows:

	₹/ USD	USD/EUR
Spot	67.8000 - 67.8100	1.0775 - 1.8000
1 month forward	10/11 Paise	0.20/0.25 Cents
2 months forward	21/22 Paise	0.40/0.45 Cents
3 months forward	32/33 Paise	0.70/0.75 Cents

Transit Period is 20 days. Interest on post shipment credit is 8 % p.a. Exchange Margin is 0.1%. Assume 365 days in a year.

You are required to calculate:

i. Exchange rate quoted to the company
ii. Cash inflow to the company
iii. Interest amount to be paid to bank by the company.

(*Source: ICAI)*

Question 15:

Followings are the spot exchange rates quoted at three different forex markets:

USD/INR	68.30 in Mumbai
GBP/INR	95.80 in London
GBP/USD	1.3231 in New York

The arbitrageur has USD1,000,000. Assuming that there are no transaction costs, explain whether there is any arbitrage gain possible from the quoted spot exchange rates.

(Source: ICAI)

Question 26:

On April 3, 2016, a Bank quotes the following:

Spot exchange Rate (US \$ 1)	INR 66.2525	INR 67.5945
2 months' swap points	70	90
3 months' swap points	160	186

In a spot transaction, delivery is made after two days.

Assume spot date as April 5, 2016.

Assume 1 swap point = 0.0001,

You are required to:

i. ascertain swap points for 2 months and 15 days. (For June 20, 2016),
ii. determine foreign exchange rate for June 20, 2016, and
iii. compute the annual rate of premium/discount of US\$ on INR, on an average rate.

(Source: ICAI)

Question 27:

An importer customer of your bank wishes to book a forward contract with your bank on 3rd September for sale to him of SGD 5,00,000 to be delivered on 30th October.

The spot rates on 3rd September are USD 49.3700/3800 and USD/SGD 1.7058/68. The swap points are:

USD /₹		USD/SGD	
Spot/September	0300/0400	1st month forward	48/49
Spot/October	1100/1300	2nd month forward	96/97
Spot/November	1900/2200	3rd month forward	138/140
Spot/December	2700/3100	Spot/January	3500/4000

Calculate the rate to be quoted to the importer by assuming an exchange margin of 5 paisa.

(Source: ICAI)

Question 30:

A bank enters into a forward purchase TT covering an export bill for Swiss Francs 1,00,000 at ₹ 32.4000 due 25th April and covered itself for same delivery in the local inter bank market at ₹ 32.4200. However, on 25th March, exporter sought for cancellation of the contract as the tenor of the bill is changed.

In Singapore market, Swiss Francs were quoted against dollars as under:

Spot	USD 1 = Sw. Fcs.	1.5076/1.5120
One month forward		1.5150/ 1.5160
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.

(*Source: ICAI)*

Question 31:

On 30th June 2009 when a forward contract matured for execution you are asked by an importer customer to extend the validity of the forward sale contract for US$ 10,000 for a further period of three months.

Contracted Rate US$1 = Rs.41.87

The US Dollar quoted on 30.6.2009

Spot	Rs. 40.4800/Rs. 40.4900
Premium July	0.1100/0.1300
Premium August	0.2300/0.2500
Premium September	0.3500/0.3750

Calculate the cost for your customer in respect of the extension of the forward contract. Rupee values to be rounded off to the nearest Rupee.

Margin 0.080% for Buying Rate
Margin 0.25% for Selling Rate

(*Source: ICAI)*

Question 35:

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 20th June were:

	10th June	20th 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 20th 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

(Source: ICAI)

Question 37:

You as a dealer in foreign exchange have the following position in GBP on 31st October, 2019:

	GBP
GBP Balance in the Nostro A/c Credit	2,00,000
Opening Position Overbought	1,00,000
Purchased a bill on London	1,60,000
Sold forward TT	1,20,000
Forward purchase contract cancelled	60,000
Remitted by TT	1,50,000
Draft on London cancelled	60,000

Decide the steps would you take, if you are required to maintain a credit Balance of GBP 65,000 in the Nostro A/c and keep as oversold position on GBP 20,000?

(Source: ICAI)

Question 42:

Poomphar Electronic Ltd in Chennai exports refrigerators to Belgium by importing all the components from south Korea. Imports are invoiced in Hong Kong dollars and exports in Euro. The company is exporting 6000 unit at a price of Euro 165 per unit. The cost of imported components is HK$ 75. The fixed cost and other variable costs per unit per unit are ₹1200 and ₹2500 respectively. The cash flows in foreign currencies are due in six months. The current exchange rates are as follows :

₹/Euro : 59.60/62

₹/HK$: 5.96/5.98

After six months the exchanges rates (at the time of receipts and payments of foreign currency) turn out as follows :

₹/Euro : 60.30/32

₹/HK$: 6.23/25

You are required to :

a. Calculate the loss/gain due to the transaction exposure.
b. Based on the following additional information, calculate the loss/gain due to transaction and operating exposure if the life contracted price of washing marching is ₹9500.
   - The current exchange rates change to
     ₹/Euro : 59.85/87
     ₹/HK$: 6.00/02
   - Price elasticity of demand of the product in Germany is estimated as 2.5.
   - Payment and receipts are to be settled/received at the end of six months.

(Source: FOD)

Question 43:

Somu Electronics imported goods from Japan on July 1st 2009, of JP ¥ 1 million, to be paid on 31st, December 2009. The treasury manager collected the following exchange rates on July 01, 2009 from the bank.

Delhi Rs./US$ Spot	45.86 /88
6 months forward	46.00/03
Tokyo JP ¥/ US$ Spot	108/108.50
6 months forward	110/110.60

In spite of fact that the forward quotation for JP ¥ was available through cross currency rates, Mr. X, the treasury manager purchased spot US$ and converted US$ into JP ¥ in Tokyo using 6 months forward rate.

However, on 31st December, 2009 Rs./US$ spot rate turned out to be 46.24 /26.

You are required to calculate the loss or gain in the strategy adopted by Mr. X by comparing the notional cash flow involved in the forward cover for Yen with the actual cash flow of the transaction.

(*Source: ICAI)*

Question 44:

On 1st February 2020, XYZ Ltd. a laptop manufacturer imported a particular type of Memory Chips from SKH Semiconductor of South Korea. The payment is due in one month from the date of Invoice, amounting to 1190 Million South Korean Won (SKW). Following Spot Exchange Rates (1st February) are quoted in two different markets:

USD/ INR	75.00/ 75.50	in Mumbai
USD/ SKW	1190.00/ 1190.75	in New York

Since hedging of Foreign Exchange Risk was part of company's strategic policy and no contract for hedging in SKW was available at any in-shore market, it approached an off-shore Non-Deliverable Forward (NDF) Market for hedging the same risk.

In NDF Market a dealer quoted one-month USD/ SKW at 1190.00/1190.50 for notional amount of USD 100,000 to be settled at reference rate declared by Bank of Korea.

After 1 month (1st March 2020) the dealer agreed for SKW 1185/ USD as rate for settlement and on the same day the Spot Rates in the above markets were as follows:

USD/ INR	75.50/ 75.75	in Mumbai
USD/ SKW	1188.00/ 1188.50	in New York

Analyze the position of company under each of the following cases, comparing with Spot Position of 1st February:

i. Do Nothing.
ii. Opting for NDF Contract.

Note: Both Rs./ SKW Rate and final payment (to be computed in Rs. Lakh) to be rounded off upto 4 decimal points.

(*Source: ICAI)*

Question 45:

The US dollar is selling in India at ₹ 55.50. If the interest rate for 6 months borrowing in India is 10% per annum and the corresponding rate in USA is 4%.

i. Do you expect that US dollar will be at a premium or at discount in the Indian Forex Market?
ii. What will be the expected 6-months forward rate for US dollar in India? and
iii. What will be the rate of forward premium or discount?

(Source: ICAI)

Question 50:

If the interest rate for the next 6 months for the US$ is 1.5% (annual compounding). The interest rate for the € is 2% (annual compounding). The spot price of the € is US $ 1.665. The forward price is expected to be US$ 1.664. Please determine correct forward price and recommend an arbitrage strategy.

(Source: ICAI)

Question 54:

The Treasury desk of a global bank incorporated in UK wants to invest GBP 200 million on 1st January, 2019 for a period of 6 months and has the following options:

1. The Equity Trading desk in Japan wants to invest the entire GBP 200 million in high dividend yielding Japanese securities that would earn a dividend income of JPY 1,182 million. The dividends are declared and paid on 29th June. Post dividend, the securities are expected to quote at a 2% discount. The desk also plans to earn JPY 10 million on a stock borrow lending activity because of this investment. The securities are to be sold on June 29 with a T+1 settlement and the amount remitted back to the Treasury in London.
2. The Fixed Income desk of US proposed to invest the amount in 6 month G-Secs that provides a return of 5% p.a.

The exchange rates are as follows:

Currency Pair	1 Jan 2019 (Spot)	30 Jun 2019 (Forward)
GBP - JPY	148.0002	150.0000
GBP- USD	1.28000	1.30331

As a treasurer, advise the bank on the best investment option. What would be your decision from a risk perspective? You may ignore taxation.

(Source: ICAI)

Question 62:

M/s. Daksh Ltd is planning to import multipurpose machine from USA at a cost of $15000. The company can avail loans at 19% Interest per annum with quarterly rests with which it can import the machine.

However, there is an offer from New York branch of an Indian based bank extending credit of 180 days at 2% per annum against opening of an irrevocable letter of credit.

Other Information:

Spot rate US$ 1 = ₹ 75
180 days forward rate US $ 1 = ₹ 77

Commission charges for letter of credit at 2% per 12 months

i. Justify why the offer from the foreign branch should be accepted?
ii. Based on the present market condition company is not interested to take the risk of currency fluctuations and wanted to hedge with an additional expenses of ₹ 30,000, if so, what is your advise to the company?

Assume 360 days in the year.

(Source: ICAI)

Question 65:

H Ltd. is an Indian firm exporting handicrafts to North America. All the exports are invoiced in US$. The firm is considering the use of money market or forward market to cover the receivable of $50,000 expected to be realized in 3 months time and has the following information from its banker:

	Exchange Rates
Spot	₹ /$ 72.65/73
3-m forward	₹ I$ 72.95/73.40

The borrowing rates in US and India are 6 % and 12% p.a. and the deposit rates are 4% and 9% p.a. respectively.

i. Which option is better for H Ltd. ?

ii. Assume that H Ltd. anticipates the spot exchange rate in 3-months time to be equal to the current 3-months forward rate. After 3-months the spot exchange rate turned out to be ₹/$: 73/73.42. What is the foreign exchange exposure and risk of H Ltd.?

(Source: ICAI)

Question 66:

Columbus Surgicals Inc. is based in US, has recently imported surgical raw materials from the UK and has been invoiced for £ 480,000, payable in 3 months. It has also exported surgical goods to India and France.

The Indian customer has been invoiced for £ 138,000, payable in 3 months, and the French customer has been invoiced for € 590,000, payable in 4 months.

Current spot and forward rates are as follows:

£ / US$

Spot:	0.9830 – 0.9850
Three months forward:	0.9520 – 0.9545

US$ / €

Spot:	1.8890 – 1.8920
Four months forward:	1.9510 – 1.9540

Current money market rates are as follows:

UK:	10.0% – 12.0% p.a.
France:	14.0% – 16.0% p.a.
USA:	11.5% – 13.0% p.a.

You as Treasury Manager are required to show how the company can hedge its foreign exchange exposure using Forward markets and Money markets hedge and suggest which the best hedging technique is.

(Source: ICAI)

Question 67:

XYZ Ltd. has imported goods to the extent of US$ 8 Million. The payment terms are as under:

a. 1% discount if full amount is paid immediately; or
b. 60 days interest free credit. However, in case of a further delay up to 30 days, interest at the rate of 8% p.a. will be charged for additional days after 60 days. M/s XYZ Ltd. has ₹ 25 Lakh available and for remaining it has an offer from bank for a loan up to 90 days @ 9.0% p.a.

The quotes for foreign exchange are as follows:

Spot Rate INR/ US$ (buying)	₹ 66.98
60 days Forward Rate INR/ US$ (buying)	₹ 67.16

90 days Forward Rate INR/ US$ (buying) ₹ 68.03

Advise which one of the following options would be better for XYZ Ltd.

i. Pay immediately after utilizing cash available and for balance amount take 90 days loan from bank.
ii. Pay the supplier on 60th day and avail bank's loan (after utilizing cash) for 30 days.
iii. Avail supplier offer of 90 days credit and utilize cash available.

Further presume that the cash available with XYZ Ltd. will fetch a return of 4% p.a. in India till it is utilized.

Assume year has 360 days. Ignore Taxation.

Compute your working upto four decimals and cash flows in Crore.

(*Source: ICAI)*

Question 70:

BC Export Co are holding an Export bill in United States Dollar (USD) 1,00,000 due 60 days hence. Rate at which deal was finalized @ Rs.47.50 per USD. The Company is worried about the fluctuating exchange rate. The Firm's Bankers have agreed to make advance against the bill after deduction of interest 9% per annum and also quoted a 60-day forward rate of Rs.48.10. The cost of capital for the exporter is 15% p.a. Advise whether the exporter will agree to the banker's offer.

(*Source: ICAI)*

Question 72:

The rate of inflation in India is 8% per annum and in the U.S.A. it is 4%. The current spot rate for USD in India is ₹ 46. What will be the expected rate after 1 year and after 4 years applying the Purchasing Power Parity Theory. **(*Source: ICAI)***

Question 77:

A US based company is planning to set up a subsidiary company in India (where so far it was exporting) in view of growing demand for its product and competition from other US based companies. The initial project cost consisting of plant and machinery including installation is estimated to be US$ 490 million. The net working capital requirements are estimated at US$ 60 million. The company follows straight line method of depreciation. Currently, the company is exporting two million units every year at a unit price of US$ 90, its variable cost per unit being US$ 50.

The CFO of the Company has estimated the following operating cost and other data in respect of proposed project:

i. Variable operating cost will be US $ 30 per unit of production;
ii. Additional cash fixed cost will be US $ 30 million p.a. and project's share of allocated fixed cost will be US $ 3 million p.a. based on principle of ability to share;
iii. Expected useful life of the proposed plant is five years with no salvage value;
iv. Production capacity of the proposed project in India will be 5 million units;
v. Existing working capital investment for production and sale of two million units through exports was US $ 25 million;
vi. Export of the product in the coming year will decrease to 1.5 million units, provided the company does not set up subsidiary company in India, in view of the presence of competing other US based companies that are in the process of setting up their subsidiaries in India;
vii. Applicable Corporate Income Tax rate is 35%, and
viii. Required rate of return for such project is 12%.

Assuming that there will be no variation in the exchange rate of two currencies and all profits will be repatriated as there will be no withholding tax, Estimate Net Present Value of the proposed project in India and give your advice. Present Value Interest Factors (PVIF) @ 12% for five years is as below :

Year	1	2	3	4	5
PVIF	0.8929	0.7972	0.7118	0.6355	0.5674

(Source: ICAI)

Question 79:

X Ltd., an Indian company, is considering a proposal to make an investment of USD 1,65,00,000 in Latin America. The project will have a life of 5 years. The current spot exchange rate is INR/USD 72. All investments and revenues will occur in USD. The USD and INR risk free rates are 8% and 12% respectively. The following cash flow is expected form the project.

Year	Cash inflow (USD)
1	30,00,000
2	37,50,000
3	45,00,000
4	60,00,000
5	75,00,000

Assume required rate of return on the project as 14%.

You are required to calculate:

i. The viability of the project using foreign currency approach.
ii. What will be the impact if there is a withholding tax of 10% applicable on the project.

(Source: ICAI)

Question 80:

The Management of a multinational company TL Ltd. is engaged in construction of Infrastructure Project. A proposal to construct a Toll Road in Nepal is under consideration of the Management.

The following information is available:

The initial investment will be in purchase of equipment costing USD 250 lakhs. The economic life of the equipment is 10 years. The depreciation on the equipment will be charged on straight line method.

EBIDTA to be collected from the Toll Road is projected to be USD 33 lakhs per annum for a period of 20 years.

To encourage investment Nepalese government is offering a 15 year term loan of USD 150 lakhs at an interest rate of 6 per cent per annum. The interest is to be paid annually. The loan will be repaid at the end of 15 year in one tranche.

The required rate of return for the project under all equity financing is 12 per cent per annum.

Post tax cost of debt is 5.6 per cent per annum.

Corporate Tax Rate is 30 per cent.

All cash Flows will be in USD.

Ignore inflation.

You are required to advise the management on the viability of the proposal by using Adjusted Net Present Value method.

Given

PVIFA (12%, 10) = 5.650, PVIFA (12%, 20) = 7.469, PVIFA (8%,15) = 8.559, PVIF (8%,15) = 0.315.

(*Source: ICAI)*

Question 86:

M/s. Raghu Ltd. is interested in expanding its operation and planning to install manufacturing plant at US. It requires 8.82 million USD (net of issue expenses/ floatation cost) to fund the proposed project. GDRs are proposed to be issued to finance this project. The estimated floatation cost of GDRs is 2%.

Additional information:

i. Expected market price of share at the time of issue of GDR is ₹ 360 (Face Value ₹ 100)
ii. Each GDR will represent two underlying Shares.
iii. The issue shall be priced at 10% discount to the market price.
iv. Expected exchange rate is INR/USD 72.
v. Dividend is expected to be paid at the rate of 20% with growth rate of 12%.

1. You, as a financial consultant, are required to compute the number of GDRs to be issued and cost of the GDR.
2. What is your suggestion if the company receives an offer from a US Bank willing to provide an equivalent loan with an interest rate of 12%?
3. How much company can save by choosing the option as recommended by you?

(*Source: ICAI)*

HOME WORK QUESTIONS

Question 20:

On 1st October, 2020 Mr. Guru, an 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 ?

(Source: ICAI)

INTERNATIONAL WORKING CAPITAL MANAGEMENT

Question 82:

Trueview plc, a group of companies controlled from the United Kingdom includes subsidiaries in India, Malaysia and the United States. As per the CFO's forecast that, at the end of the June 2010 the position of inter-company indebtedness will be as follows:

- The Indian subsidiary will be owed Rs. 1,44,38,100 by the Malaysian subsidiary and will to owe the US subsidiary US$ 1,06,007.
- The Malaysian subsidiary will be owed MYR 14,43,800 by the US subsidiary and will owe it US$ 80,000.

Suppose you are head of central treasury department of the group and you are required to net off inter-company balances as far as possible and to issue instructions for settlement of the net balances.

For this purpose, the relevant exchange rates may be assumed in terms of £ 1 are US$ 1.415; MYR 10.215; Rs. 68.10.

What are the net payments to be made in respect of the above balances?

(Source: ICAI)

Question 83:

AMK Ltd. an Indian based company has subsidiaries in U.S. and U.K.

Forecasts of surplus funds for the next 30 days from two subsidiaries are as below:

U.S.	$12.5 million
U.K.	£ 6 million

Following exchange rate information is obtained:

	$/₹	£/₹
Spot	0.0215	0.0149
30 days forward	0.0217	0.0150

Annual borrowing/deposit rates (Simple) are available.

₹	6.4%/6.2%
$	1.6%/1.5%
£	3.9%/3.7%

The Indian operation is forecasting a cash deficit of ₹500 million.

It is assumed that interest rates are based on a year of 360 days.

i. Calculate the cash balance at the end of 30 days period in ₹ for each company under each of the following scenarios ignoring transaction costs and taxes:
   a. Each company invests/finances its own cash balances/deficits in local currency independently.
   b. Cash balances are pooled immediately in India and the net balances are invested/borrowed for the 30 days period.

ii. Which method do you think is preferable from the parent company's point of view?

(*Source: ICAI*)

Question 85:

A Company's international transfer of funds amounts to about $2 million monthly. Presently the average transfer time is ten days. It has been proposed that the transfer of funds be turned over to one of the larger international banks, which can reduce the transfer time to an average of two days. A charge of one-half of 1 percent of the volume of transfer has been proposed for this service. In view of the fact that the firm's opportunity cost of funds is 12 percent, should this offer be accepted?

(*Source: ICAI*)