

QUESTION – 12

The following 2-way quotes appear in the foreign exchange market:

	Spot	2-months spread
₹/US \$	74.007/74.25	1.00/1.25

(i) You are required to calculate:

Swap

(a) 2 months forward rates.

(b) How many US dollars should the firm sell to get ₹ 10 lakhs in the spot market and after 2 months?

(c) How many Rupees is the firm required to pay to obtain US \$ 80,000 in the spot market and after 2 months?

(ii) Assume the firm has US \$ 27,600 in current account earning no interest. ROI on Rupee investment is 10% p.a. Should the firm encash the US \$ now or after 2 months?

(Exam Nov-22)

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QUESTION - 13

In March, 2009, the Multinational Industries make the following assessment of dollar rates per British pound to prevail as on 1.9.2009:

\$/Pound	Probability
1.60	0.15
1.70	0.20
1.80	0.25
1.90	0.20
2.00	0.20

\$/£

(i) What is the expected spot rate for 01/09/2009?

(ii) If, as of March, 2009, the 6-month forward rate is \$ 1.80, should the firm sell forward its pound receivables due in September, 2009?

(Study Material & PM)

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① Expected spot Rate

$$\begin{aligned}\text{Expected SR} &= (1.60 \times 0.15) \\ &+ (1.70 \times 0.20) + (1.80 \times 0.25) \\ &+ (1.90 \times 0.20) + (2.00 \times 0.20) \\ \$/\text{£} &= 1.81\end{aligned}$$

② No firm should not sell its pound receivable at FR because Expected SR is more than FR.

QUESTION - 14 (Imp)

JKL Ltd., an Indian company has an export exposure of JPY 10,000,000 receivable August 31, 2014. Japanese Yen (JPY) is not directly quoted against Indian Rupee.

The current spot rates are:

INR/US \$ = ₹ 62.22 ₹/\$

JPY/US\$ = JPY 102.34 ¥/\$

It is estimated that Japanese Yen will depreciate to 124 level and Indian Rupee to depreciate against US \$ to ₹ 65.

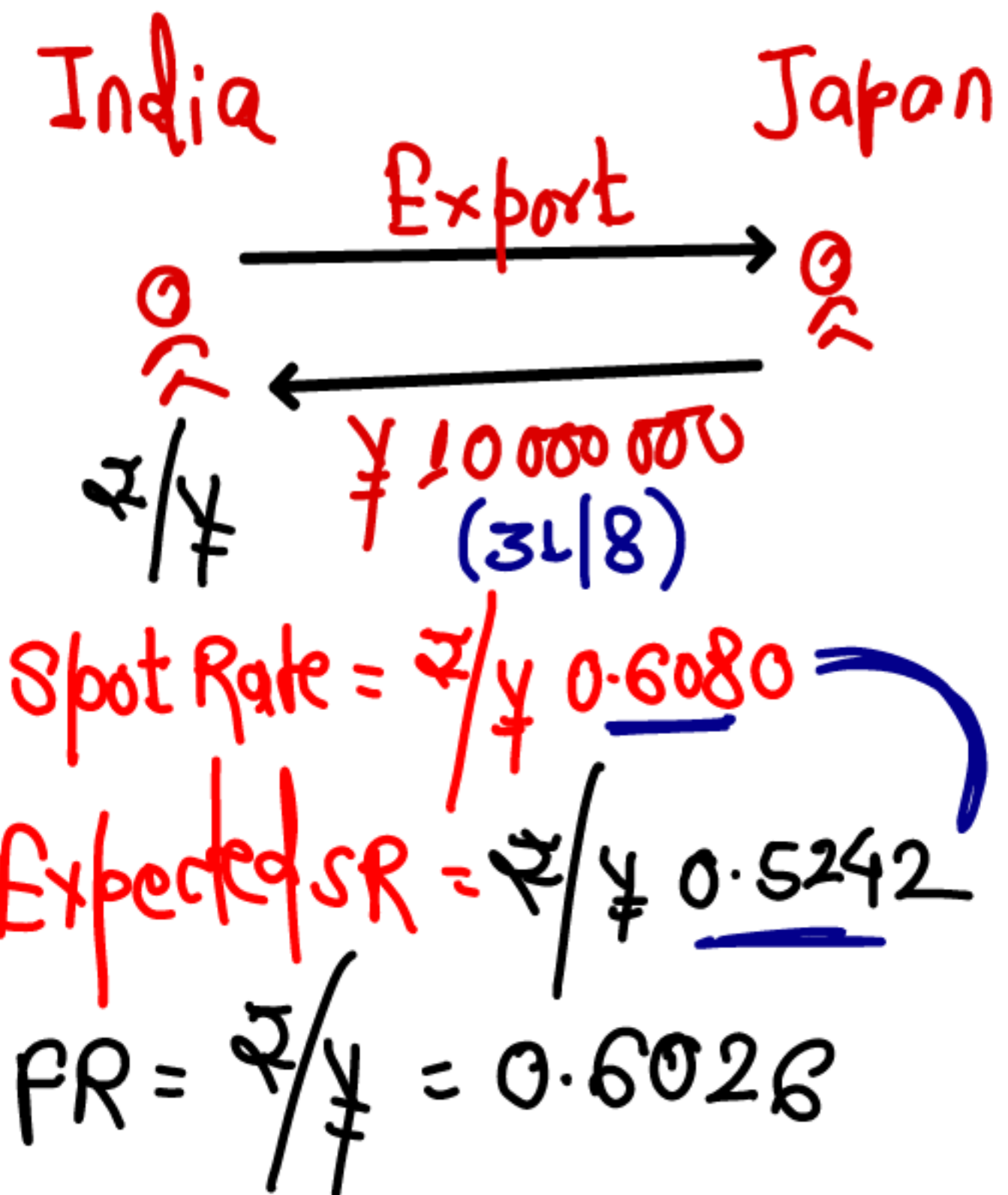
Forward rates for August 2014 are

INR/US \$ = ₹ 66.50 ₹/\$

JPY/US\$ = JPY 110.35 ¥/\$

Required:

- (i) Calculate the expected loss, if the hedging is not done. How the position will change, if the firm takes forward cover?



① Expected Loss if Hedging is not done

$$SR = ₹/¥ = \frac{₹62.22}{102.34} = ₹0.6080$$

$$\text{Expected SR } ₹/¥ = \frac{65}{124} = ₹0.5242$$

$$FR \quad ₹/¥ = \frac{66.50}{110.35} = ₹0.6026$$

• Expected Loss (SR & ESR)

$$\text{If sell ¥ at SR} = ¥10000000 \times 0.6080 = ₹6080000$$

$$\text{If sell ¥ at Expected SR} = ¥10000000 \times 0.5242 = ₹5242000$$

$$\text{Expected Loss} = \underline{\underline{₹838000}}$$

• Loss if Hedging is done (SR & FR)

$$\text{If sell ¥ at SR}$$

$$= ₹6080000$$

$$\text{If sell ¥ at FR } (¥10000000 \times 0.6026) = ₹6026000$$

$$\text{Loss } \underline{\underline{₹54000}}$$

$$\text{Savings in Loss } (838000 - 54000) = ₹784000$$

(ii) If the spot rates on August 31, 2014 are:

INR/US \$ = ₹ 66.25

JPY/US\$ = JPY 110.85

$$\left. \begin{array}{l} \text{INR/US \$} = ₹ 66.25 \\ \text{JPY/US\$} = \text{JPY } 110.85 \end{array} \right\} ₹/¥ = 0.5977$$

Is the decision to take forward cover justified?

(Study Material, PM & Exam May – 2014)

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Yes forward cover is justified due to Lower Loss.

⑪

Aug 31, 2014

$$\text{Spot Rate} = ₹/¥ \frac{66.25}{110.85} = 0.5977$$

Calculation of Loss

If sell ¥ at SR =

6080000

If sell ¥ at SR (34/8)

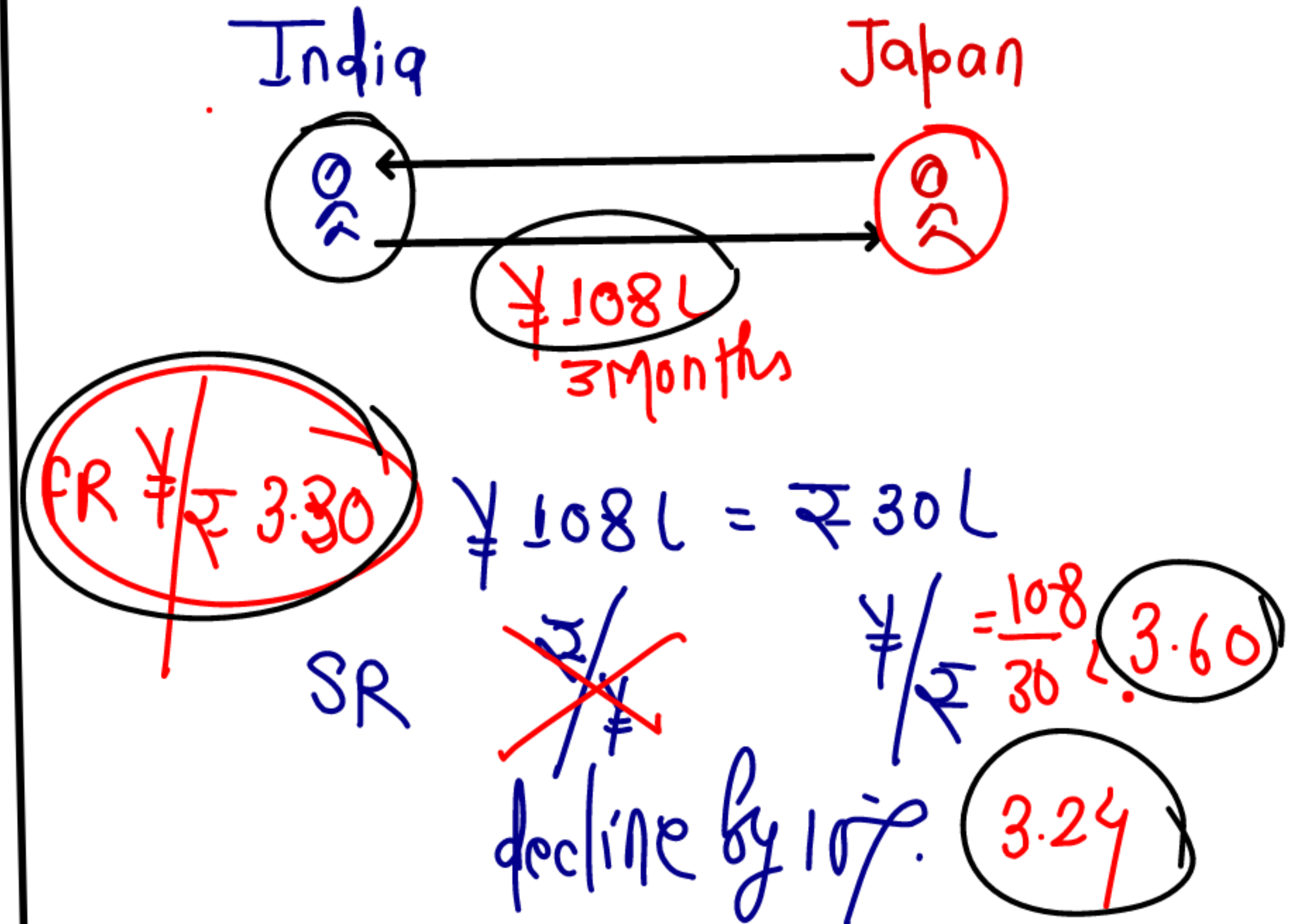
$$\begin{array}{r} \text{If sell ¥ at SR (34/8)} \\ (\text{¥ } 10000000 \times 0.5977) \\ \text{Loss} \end{array} \begin{array}{r} 5977000 \\ \hline 103000 \end{array}$$

QUESTION - 15

A company operating in Japan has today effected sales to an Indian company, (the payment being due 3 months from the date of invoice). The invoice amount is 108 lakhs yen. At today's spot rate, it is equivalent to ₹ 30 lakhs. It is anticipated that the exchange rate will decline by 10% over the 3 months period and in order to protect the yen payments, the importer proposes to take appropriate action in the foreign exchange market. The 3 months forward rate is presently quoted as 3.3 yen per rupee. You are required to calculate the expected loss and to show how it can be hedged by a forward contract.

(Study Material & PM)

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• Expected Loss if Hedging is not done

If Buy Yen at SR $\left(\frac{¥108}{3.60} \right) = ₹ 3000000$

If Buy Yen at Expected SR = $\left(\frac{¥10800000}{3.24} \right) = ₹ 3333333$

Expected Loss

₹ 333333

• Loss if Hedging is done

If Buy Yen at SR

₹ 3000000

If Buy Yen at FR $\left(\frac{¥10800000}{3.30} \right)$

₹ 3272727

Loss

₹ 272727

Saving in Loss due to FC $(333333 - 272727)$
 $= ₹ 60606$

QUESTION – 16

A Japanese Company effected sales to X Ltd., an Indian Company, the payment being due after 3 months. The invoice amount is JPY 216 lakhs, at today's spot rate it is equalent to ₹ 50 lakhs. It is anticipated that exchange rate will decline by 8% over the 3 months period and in order to protect the JPY payments, the importer proposes to take appropriate action in the foreign exchange market. The 3 months forward rate is presently quoted as JPY 4.12 per rupee.

You are required to calculate the expected loss and show how it can be hedged by a forward contract

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QUESTION – 17

Humata Ltd. a Japanese Corporation, has sold goods today to Peacock Ltd., an Indian company for an amount of JPY 74 lakhs. The payment will be due in three months from the date of invoice. At today's spot rate, it is equivalent to INR 50 lakhs. It is anticipated that the INR will decline by 10% over the 3 – months period and in order to protect the Yen payments, Peacock decides to take appropriate action in the foreign exchange market. The 3 – months forward rate is presently quoted at JPY/INR 1.44.

You are required to calculate:

- (i) The expected loss to the importer and
- (ii) Impact of hedging by a forward contract.

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QUESTION - 18

(Imp)

A company is considering hedging its foreign exchange risk. It has made a purchase on 1st July, 2016 for which it has to make a payment of US\$ 60,000 on December 31, 2016. The present exchange rate is 1 US \$ = ₹ 65. It can purchase forward 1 \$ at ₹ 64. The company will have to make an upfront premium @ 2% of the forward amount purchased. The cost of funds to the company is 12% per annum.

In the following situations, compute the profit/loss the company will make if it hedges its foreign exchange risk with the exchange rate on 31st December, 2016 as:

(i) ₹ 68 per US \$.

(ii) ₹ 62 per US \$.

(iii) ₹ 70 per US \$.

(iv) ₹ 65 per US \$.

(Study Material, PM & Exam November - 2016)

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Hedging Cost

Upfront premium 76800
($\$60000 \times 64 \times 2\%$)

Opp. Cost ($76800 \times 12\% \times \frac{6}{12}$) 4608

Cost of Hedging ₹ 81408

(i) If Exchange Rate ₹ 68

Gain on forward cover 240000
($68 - 64$) $\times$ 60000

(-) Hedging Cost 81408
Net Gain ₹ 158592

(ii) If Exchange Rate ₹ 62

Loss on forward contract 120000
($64 - 62$) $\times$ 60000

(+) Hedging cost 81408
₹ 201408

QUESTION – 19

TT Ltd. is planning to hedge its foreign exchange risk. It has made a purchase on 1st April 2021 for which it has to make a payment of US \$ 1 Lakh on 30/09/2021. The present exchange rate is 1US \$ = ₹ 73. It can purchase forward 1US \$ at ₹ 74. TT Ltd. will have to make an upfront premium @ 1% of the forward amount purchased. The cost of the funds to the company is 10% p.a. In the following situations, compute the Gain/(Loss) of the TT Ltd. will make if they hedge with exchange rate on 30/09/2021 as:

- (i) ₹ 76/US \$
- (ii) ₹ 70/US \$
- (iii) ₹ 79/US \$

Note: Calculation to be done on monthly basis.

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