

SECTION I

Q.1. Explain in Brief

(15 marks)

Q.2. (a) Ans.

(5 marks)

Step 1:**Identification:**

$$\frac{F - S}{S} = \frac{43.2300 - 42.4210}{42.4210} = 0.0191$$

$$\frac{(Rv - Rb)}{100} \times \frac{n}{12} = \frac{(12 - 8)}{100} \times \frac{6}{12} = 0.0200$$

$$\frac{F - S}{S} > \frac{Rv - Rb}{100} \times \frac{n}{12}$$

∴ We Borrow in Base currency (USD) and Invest in Variable Currency (INR).

Step 2:**Borrowing:**

Assume Borrow USD 1 million

$$\begin{aligned} \therefore \text{Amount Payable} &= P \times \left(1 + \frac{Rt}{100}\right) \\ &= 10,00,000 \times \left(1 + \frac{8}{100} \times \frac{6}{12}\right) \\ &= \text{USD } 10,40,000 \end{aligned}$$

Step 3:**Investment:**

- | | |
|---------------------------|---|
| i. Convert USD to INR | : 10,00,000 x 42.4210 |
| ii. Invest in INR | : (10,00,000 x 42.4210) x $\left(1 + \frac{12}{100} \times \frac{6}{12}\right)$ |
| iii. Reconvert INR to USD | : $\frac{(10,00,000 \times 42.4210)}{43.2300} \times \frac{212}{200}$ |
| ∴ Amount Receivable | = USD 10,40,163 |

Q.2. (b) Case Study

(10 marks)

SECTION II

Q.3. (a) Ans.

(5 marks)

USD/CAD 1.1630 – 1.1650

Direct Quote = Canada.

$$\text{Mid Rate} = \frac{\text{Ask} + \text{Bid}}{2} = \frac{1.1650 + 1.1630}{2} = \mathbf{1.1640}$$

$$\text{Spread} = \text{Ask} - \text{Bid} = 1.1650 - 1.1630 = \mathbf{0.0020}$$

$$\% \text{ Spread} = \frac{\text{Ask} - \text{Bid}}{\text{Ask} + \text{Bid}} \times 200 = \frac{0.0020}{2.3280} \times 200 = \mathbf{0.1718\%}$$

Inverse Quote:

$$(\text{CAD/USD})_{\text{BID}} = \frac{1}{(\text{USD/CAD})_{\text{ASK}}} = \frac{1}{1.1650} = 0.8584$$

$$(\text{CAD/USD})_{\text{ASK}} = \frac{1}{(\text{USD/CAD})_{\text{BID}}} = \frac{1}{1.1630} = 0.8598$$

 $\therefore \text{CAD/USD } \mathbf{0.8584 - 0.8598}$

Q.3. (b) Ans.

(5 marks)

USD/GBP 0.6542 – 0.6547

USD/CHF 1.5530 – 1.5535

$$(\text{GBP/CHF})_{\text{BID}} = (\text{GBP/USD})_{\text{BID}} \times (\text{USD/CHF})_{\text{BID}}$$

$$= \frac{1}{(\text{USD/GBP})_{\text{ASK}}} \times (\text{USD/CHF})_{\text{BID}}$$

$$= \frac{1}{0.6547} \times 1.5530$$

$$= \mathbf{2.3721}$$

$$\begin{aligned}
 (\text{GBP/CHF})_{\text{ASK}} &= (\text{GBP/USD})_{\text{ASK}} \times (\text{USD/CHF})_{\text{ASK}} \\
 &= \frac{1}{(\text{USD/GBP})_{\text{BID}}} \times (\text{USD/CHF})_{\text{ASK}} \\
 &= \frac{1}{0.6542} \times 1.5535 \\
 &= 2.3747
 \end{aligned}$$

Therefore:

Derived Quotation: GBP/CHF 2.3721 – 2.3747

Given Quotation: GBP/CHF 2.3722 – 2.3745

On comparison it can be seen that there is no situation where Bid Rate exceeds Ask Rate. Therefore there is no opportunity for arbitrage.

Q.4. (a) Ans.

(5 marks)

SPOT USD/INR	47.7000 – 47.7200
(+) 3 months Premium	0.0240 – 0.0300
3 months forward quote	47.7240 – 47.7500

AFM for BID Rates:

$$\begin{aligned}
 &= \left[\frac{F - S}{S} \right] \times \left[\frac{12}{n} \right] \times 100 \\
 &= \left[\frac{47.7240 - 47.7000}{47.7000} \right] \times \left[\frac{12}{3} \right] \times 100 \\
 &= 0.3019\%
 \end{aligned}$$

AFM for ASK Rates:

$$\begin{aligned}
 &= \left[\frac{F - S}{S} \right] \times \left[\frac{12}{n} \right] \times 100 \\
 &= \left[\frac{47.7500 - 47.7200}{47.7200} \right] \times \left[\frac{12}{3} \right] \times 100 \\
 &= 0.3772\%
 \end{aligned}$$

1 MONTH and 10 DAYS forward quote: (40 days)

SPOT USD/INR	47.7000 – 47.7200
(+) 40 days Premium	160 – 200
40 days forward quote	47.7240 – 47.7500

BID

$$\frac{FM\ 2 - FM\ 1}{SM\ 2 - SM\ 1} \times d$$

$$\frac{240-0}{60-0} \times 40$$

$$=160$$

ASK

$$\frac{FM\ 2 - FM\ 1}{SM\ 2 - SM\ 1} \times d$$

$$\frac{300-0}{60-0} \times 40$$

$$=200$$

Q.4. (b) Ans.**(5 marks)****Calculation of Interest Receivable:**i. Invest in INR 4 million

$$= 40,00,000 \times \left[1 + \frac{5.75}{100} \times \frac{6}{12} \right] - 40,00,000$$

$$= \text{INR } 1,15,000$$

ii. Invest in USD 4 million

$$= \frac{40,00,000}{44.87} \times \left[1 + \frac{4.25}{100} \times \frac{6}{12} \right] \times 45.20 - 40,00,000$$

$$= \text{INR } 1,15,043$$

iii. Invest in GBP 4 million

$$= \frac{40,00,000}{93} \times \left[1 + \frac{5.25}{100} \times \frac{6}{12} \right] \times 93.23 - 40,00,000$$

$$= \text{INR } 1,15,152$$

Recommendation:

Invest in currency GBP. Since it results into highest return on investment i.e. INR 1,15,152.

Q.5. Short Notes (2 X 5) 5 marks each**(10 marks)****Q.6. Short Notes (2 X 5) 5 marks each****(10 marks)**