

$$35,446 \rightarrow 35,000 \text{ [As } 4 < 5 \Rightarrow 446 \rightarrow 000 \Rightarrow 5446 \rightarrow 5000 \text{]}$$

$$39,802 \rightarrow 40,000 \text{ [As } 8 > 5 \Rightarrow 802 \rightarrow 1000 \Rightarrow 39,802 \rightarrow 40,000 \text{]}$$

$$35,446 + 39,802 \rightarrow 35,000 + 40,000 = 75,000$$

$\therefore$  Estimated sum = 75,000 Ans

$$(3) 21,397 + 27,807 + 42,505$$

Solution:

Rounding off to nearest thousands, we have

$$21,397 \rightarrow 21,000 \text{ [As } 3 < 5 \Rightarrow 397 \rightarrow 000 \Rightarrow 1397 \rightarrow 1000 \text{]}$$

$$27,807 \rightarrow 28,000 \text{ [As } 8 > 5 \Rightarrow 807 \rightarrow 1000 \Rightarrow 7807 \rightarrow 8000 \text{]}$$

$$42,505 \rightarrow 43,000 \text{ [As } 5 = 5 \Rightarrow 505 \rightarrow 1000 \Rightarrow 2505 \rightarrow 3000 \text{]}$$

$$21,397 + 27,807 + 42,505 \rightarrow 21,000 + 28,000 + 43,000$$

$\therefore$  Estimated sum = 92,000 Ans

Q.D. Make an estimate of the following. Compare your result with the actual difference:

(a) to the nearest tens (b) to the nearest hundreds

$$(1) 3521 - 613$$

Solution:

Step-I

(a) Rounding off to nearest tens, we have

$$3521 \rightarrow 3520 \text{ [As } 1 < 5 \Rightarrow 1 \rightarrow 0 \Rightarrow 21 \rightarrow 20 \text{]}$$

$$613 \rightarrow 610 \text{ [As } 3 < 5 \Rightarrow 3 \rightarrow 0 \Rightarrow 13 \rightarrow 10 \text{]}$$

$$3521 - 613 \rightarrow 3520 - 610 = 2910$$

$\therefore$  Estimated difference = 2910 Ans(i)

$$\text{Actual difference} = 3521 - 613 = 2908$$

$$\therefore 2910 > 2908$$

$\Rightarrow$  Estimated difference > Actual difference. Ans(ii)

Step-II

(b) Rounding off to nearest hundreds, we have

$$3521 \rightarrow 3500 \text{ [As } 2 < 5 \Rightarrow 21 \rightarrow 00 \Rightarrow 521 \rightarrow 500 \text{]}$$

$$613 \rightarrow 600 \text{ [As } 1 < 5 \Rightarrow 13 \rightarrow 00 \Rightarrow 613 \rightarrow 600 \text{]}$$

$$3521 - 613 = 3500 - 600 = 2900$$

$$\therefore \text{Estimated difference} = \underline{2900} \text{ Ans ii}$$

$$\text{Actual difference} = 3521 - 613 = 2908$$

$$\therefore 2900 < 2908$$

$\Rightarrow$  Estimated difference  $<$  Actual difference. Ans iii

Q.D. (3)  $7256 - 2345$

Solution: Step-I

(a) Rounding off to nearest tens, we have

$$7256 \rightarrow 7260 \text{ [As } 6 > 5 \Rightarrow 6 \rightarrow 10 \Rightarrow 56 \rightarrow 60]$$

$$2345 \rightarrow 2350 \text{ [As } 5 = 5 \Rightarrow 5 \rightarrow 10 \Rightarrow 45 \rightarrow 50]$$

$$\text{Thus, } 7256 - 2345 \rightarrow 7260 - 2350 = 4910$$

$$\therefore \text{Estimated difference} = \underline{4910} \text{ Ans ii}$$

$$\text{Actual difference} = 7256 - 2345 = 4911$$

$$\therefore 4910 < 4911$$

$\Rightarrow$  Estimated difference  $<$  Actual difference Ans iii

Step-II

(b) Rounding off to nearest hundreds, we have

$$7256 \rightarrow 7300 \text{ [As } 5 = 5 \Rightarrow 56 \rightarrow 100 \Rightarrow 256 \rightarrow 300]$$

$$2345 \rightarrow 2300 \text{ [As } 4 < 5 \Rightarrow 45 \rightarrow 00 \Rightarrow 345 \rightarrow 300]$$

$$\text{Thus, } 7256 - 2345 \rightarrow 7300 - 2300 = 5000$$

$$\therefore \text{Estimated difference} = \underline{5000} \text{ Ans ii}$$

$$\text{Actual difference} = 7256 - 2345 = 4911$$

$$\therefore 5000 > 4911$$

$\Rightarrow$  Estimated difference  $>$  Actual difference. Ans iii

Q.E. Estimate the following difference to the nearest thousands:

(1)  $36,863 - 26,473$

Solution:

Rounding off to nearest thousands, we have

$$36,863 \rightarrow 37,000 \text{ [As } 8 > 5 \Rightarrow 863 \rightarrow 1000 \Rightarrow 36863 \rightarrow 37000]$$

$$26,473 \rightarrow 26,000 \text{ [As } 4 < 5 \Rightarrow 473 \rightarrow 000 \Rightarrow 26473 \rightarrow 26000]$$

$$\text{Thus, } 36,863 - 26,473 \rightarrow 37,000 - 26,000 = 11,000$$

$\therefore$  Estimated difference = 11,000 Ans

(3)  $45,363 - 37,205$

Solution:

Rounding off to nearest thousands, we have:

$$45,363 \rightarrow 45,000 \text{ [As } 3 < 5 \Rightarrow 363 \rightarrow 000 \Rightarrow 45,363 \rightarrow 45,000]$$

$$37,205 \rightarrow 37,000 \text{ [As } 2 < 5 \Rightarrow 205 \rightarrow 000 \Rightarrow 37,205 \rightarrow 37,000]$$

$$\text{Thus, } 45,363 - 37,205 \rightarrow 45,000 - 37,000 = 8000$$

$\therefore$  Estimated difference = 8000 Ans

Q.F. Estimate each of the following products by rounding off each number to the nearest tens:

(1)  $37 \times 62$

Solution:

Rounding off to nearest tens, we have

$$37 \rightarrow 40 \text{ [As } 7 > 5 \Rightarrow 7 \rightarrow 10 \Rightarrow 37 \rightarrow 40]$$

$$62 \rightarrow 60 \text{ [As } 2 < 5 \Rightarrow 2 \rightarrow 0 \Rightarrow 62 \rightarrow 60]$$

$$\text{Thus, } 37 \times 62 \rightarrow 40 \times 60 = 2400$$

$\therefore$  Estimated product = 2400 Ans

(3)  $27 \times 62$

Solution:

Rounding off to nearest tens, we have

$$27 \rightarrow 30 \text{ [As } 7 > 5 \Rightarrow 7 \rightarrow 10 \Rightarrow 27 \rightarrow 30]$$

$$62 \rightarrow 60 \text{ [As } 2 < 5 \Rightarrow 2 \rightarrow 0 \Rightarrow 62 \rightarrow 60]$$

$$\text{Thus, } 27 \times 62 \rightarrow 30 \times 60 = 1800$$

$\therefore$  Estimated product = 1800 Ans

(5)  $63 \times 59$

Solution:

Rounding off to nearest tens, we have