

Basic Arithmetic Operations

ADDITION

(i). Positive no. + Positive no. = Positive no.

Eg : $+2 + +5 = +7$

(ii) Negative no. + Negative no = Negative no.

Eg : $-4 + -6 = -10$

(iii) Negative no. + Positive no. = Difference of nos. and sign of greater no.

Eg : $+9 + -11 = -2$, $-10 + +4 = -6$

QUICKER & SHORT CUT METHODS

FOR ADDITION

In the Bank PO examination, there will be a lot of situations in which you will have to add various numbers. But the most important thing is to add numbers in lightning speed. You should develop the habit of seeing the numbers and adding them instantly. You will not have the time to write down the numbers with a pen on a piece of paper and calculate in the usual manner.

1. The moment you see

9 + 5, the number 14 should flash in your mind.

2. As soon as you see

7 + 4 + 9, the number 20 should come.

Remember, you should not even read the numbers as seven plus four plus nine. Reading is time consuming. You just see and calculate. Your eye can recognise these numbers as 7 + 4 + 9 and instantly the mind can come out with the answer 20.

3. When you see a number, understand and represent it with shorter possible words.

(a) 748 should be understood as seven forty eight, not as seven hundred and forty eight.

(b) 1098 should be understood as ten ninety eight, not as one thousand and ninety eight.

(c) 89876 should be eighty nine eight seven six.

4. Double column addition will enable you to add numbers quicker and faster.

(a) Take the example of 78 + 65. The moment you see the numbers visualise in your mind that they are 78 + 60 + 5. This way you can straight away get the answer 143.

(b) 84 + 43 + 16 should be visualised as (84 + 40 + 10 + 9) = 143.

(c) 6328 + 4233 + 2495. Here try the double column addition

63	28
42	33
<u>24</u>	<u>95</u>
130	56

1st double column is $28 + 33 + 95 = 28 + 30 + 90 + 8 = 156$.

Write 56, and 1 is carried.

2nd double column is $63 + 42 + 24 + 1 = 63 + 40 + 20 + 7 = 130$

Once you master double column addition, you can easily visualise numbers in the addable form and add numbers horizontally, as it will provide you lightning speed in addition.

5. For addition of numbers containing decimals, the same procedure of double column addition can be used.

Eg. $369.003 + 9.63 + 0.02 + .0003 + 948 = 1326.6533$

6. In the case of problems involving both operations addition and subtraction, subtract the sum of all the negative terms from the sum of all the positive terms.

Eg. Find the value of $571 - 412 + 173 - 65 - 78 + 300$

Sum of positive terms = $571 + 173 + 300 = 1044$

Sum of negative terms = $412 + 65 + 78 = 555$

Required value = $1044 - 555 = 489$

QUICKER & SHORT CUTS : SUBTRACTION

Subtraction can be done through addition easily. Eg : $9687 - 4363 - 2401 = ?$

To find the answer, add all the unit's place digits of the negative integers. (ie) $3 + 1 = 4$. Now find the number that should be added to 4 to get 7 of 9687. It is 3 and write 3 as the unit's place digit of the answer.

Now add all the ten's place digit of the negative numbers. (ie) $0 + 6 = 6$. The number that should be added to 6 to get 8 of 9687 will be the ten's place digit of the answer. It is 2.

Now add all the hundred's place digits of the negative numbers. (ie) $3 + 4 = 7$. Now find the number that should be added to this 7 to get 6 of 9687. But it is not possible to get such a positive number. So treat 6 as 16 and this 1 is carried out for the next step. Here 9 should be added to 7 to get 16. Write 9 as the hundredth place digit of the answer.

In the next step, $4 + 2 + 1 = 7$, the 1 is got from the previous step. Here 2 should be added to this 7 to get 9 of 9687.

$$\therefore 9687 - 4363 - 2401 = 2923.$$

Similarly,

$$6884 - 2361 - 1592 = 2931 \quad 4328 - 325 - 659 = 3344 \quad 8203 - 3987 - 1697 = 2519.$$

MULTIPLICATION

- (i) Positive no. x Positive no. = Positive no. Eg : $8 \times 3 = 24$
- (ii) Negative no. x Negative no. = Positive no.
Eg : $-12 \times -10 = 120$
- (iii) Positive no. x Negative no. = Negative no.
Eg : $3 \times -15 = -45$
- (iv) Negative no. x Positive no. = Negative no. Eg : $-15 \times 3 = -45$

DIVISION

- (i) Positive No. \div Positive No = Positive No. Eg : $12 \div 3 = 4$
- (ii) Negative No. \div Negative No.= Positive No. Eg: $-12 \div -3 = 4$
- (iii) Positive No \div Negative No = Negative No. Eg : $+12 \div (-3) = -4$
- (iv) Negative No. \div Positive No. = Negative No. Eg : $-12 \div 3 = -4$

PRACTICE TEST

1. $3543 + 6413 + 5438 = ?$

(a) 14294

(b) 15394

(c) 15864

(d) 15495

2. $92431 + 64273 + 10428 = ?$
(a) 177232 (b) 176134 (c) 167132 (d) 168282
3. $98854 - 64321 - 12512 = ?$
(a) 22021 (b) 20223 (c) 20032 (d) 13403
4. $8000.3 + 990.59 + 1885.8 = ?$
(a) 10877.69 (b) 10876.69 (c) 10886.69 (d) 10866.69
5. $8888 + 888 + 88 + 8 = ?$
(a) 9872 (b) 10072 (c) 8962 (d) 9962
6. $832.9 + 6.73 + 11.8393 = ?$
(a) 851.4693 (b) 861.4793 (c) 851.4793 (d) 851.4893
7. $4628 - 954 - 1253 = ?$
(a) 2421 (b) 3513 (c) 4232 (d) 1029
8. $1286 + 655 - 423 + 638 = ?$
(a) 1146 (b) 2656 (c) 2056 (d) 2156
9. $1352 + 4352 + ? = 9827$
(a) 4213 (b) 4123 (c) 3215 (d) 5324
10. $81038 - ? = 61038$
(a) 19099 (b) 20100 (c) 19999 (d) 20000
11. $7329 - 2564 = 3256 + ?$
(a) 1509 (b) 1699 (c) 1599 (d) 1409
12. $549 \times 99 = ?$
(a) 55451 (b) 53451 (c) 54351 (d) 54361
13. $15.04 - 0.065 = ?$
(a) 15.795 (b) 14.875 (c) 14.957 (d) 14.975
14. $2589.47 + 3009.59 + 5099.09 = ?$
(a) 11609.85 (b) 10698.12 (c) 19808.15 (d) 16989.05
15. $282828280 \div 14 = ?$
(a) 202020 (b) 20202 (c) 20202020 (d) 2020220
16. $\frac{6 \times 21 \times 24}{36 \times 7 \times 15} = ?$
(a) $\frac{8}{5}$ (b) $\frac{3}{5}$ (c) $\frac{7}{2}$ (d) $\frac{2}{5}$
17. $6142 + ? = 5139 + 8136$
(a) 7313 (b) 7133 (c) 6863 (d) 7033
18. $91 \times 33 - 33 = ?$
(a) 0 (b) 3003 (c) 91 (d) 2970

19. $64640 \div 160 + 120 = ?$
(a) 52.40 (b) 89.77 (c) 524 (d) 64.40
20. $879 \times 37 \times 8 = ?$
(a) 32523 (b) 292707 (c) 260184 (d) 257224
21. $21932 + 67 + 98232 + 100 = ?$
(a) 121331 (b) 120331 (c) 120231 (d) 100331
22. $2740 \times 27 = ?$
(a) 73980 (b) 74890 (c) 73990 (d) 72880
23. $\frac{12.48 \div 3.9}{39 - 38.8} = ?$
(a) 8 (b) 16 (c) 24 (d) 48
24. $5099.09 + 3009.59 + 2589.47 = ?$
(a) 19608.15 (b) 10698.15 (c) 11609.85 (d) 16089.05
25. $4935 \times 101 = ?$
(a) 498435 (b) 488345 (c) 489345 (d) 589425
26. $43488 - 34567 + 14368 = ?$
(a) 23289 (b) 24289 (c) 13289 (d) 22289
27. $756 \div 18 + 6 = ?$
(a) 48 (b) 31.5 (c) 46 (d) 50
28. $13025 + 1019 - ? = 7622$
(a) 6412 (b) 7422 (c) 6422 (d) 7412
29. $182 \times 14 - 14 = ?$
(a) 2698 (b) 2534 (c) 2674 (d) 0
30. $\frac{32.4 \div 7.2}{27 - 26.5} = ?$
(a) 90 (b) 9 (c) 2.25 (d) 22.5
31. $6945 + 977 + ? + 59 = 8435$
(a) 1044 (b) 575 (c) 765 (d) 454
32. $5584 \times 51 = ?$
(a) 284784 (b) 235439 (c) 278484 (d) 327484
33. $\frac{0.0076}{1.9} = ?$
(a) 0.0004 (b) 4.004 (c) 0.04 (d) 0.004
34. $\frac{9 \times 72}{36^2} = ?$ (a) $\frac{1}{4}$ (b) $\frac{1}{3}$ (c) $\frac{1}{2}$ (d) $\frac{1}{5}$

35. $0.9329 - 0.7321 + 4.329 + 0.002 = ?$
(a) 4.5318 (b) 45.3180 (c) 0.45318 (d) 4.2514
36. $3 \times 0.3 \times 0.03 \times 0.003 = ?$
(a) 0.81 (b) 0.000081 (c) 0.081 (d) 0.00081
37. $64 \div 0.008 = ?$
(a) 80 (b) 800 (c) 8000 (d) 0.8
38. $0.999999 \div 0.011 = ?$
(a) 90.908 (b) 909.08 (c) 9.0908 (d) 90.909
39. $173 \times 240 = 48 \times ?$
40. $219495 = 7608 - 5719$
(a) 2108 (b) 545 (c) 685 (d) 865
(a) 2108 (b) 1670 (c) 1680 (d) 1570
41. $\frac{140 \times 20 - 8 \times 75}{11 \times 50} = ?$
(a) 152 (b) 2 (c) 75 (d) 4
42. $1265 \times 998 = ?$
(a) 1262470 (b) 1263470 (c) 226470 (d) 122670
43. $32 \div 3232 \times 100 = ?$
(a) $\frac{1000}{101}$ (b) $\frac{100}{101}$ (c) $\frac{100}{1001}$ (d) $\frac{101}{100}$
44. $1.113 - 0.8321 = ?$
(a) 0.2809 (b) 0.3809 (c) 0.2819 (d) 0.2009
45. $\frac{480 \times 8 + 160}{160 \times 5} = ?$
(a) 15 (b) 20 (c) 1.5 (d) 5
46. $608 \times 8 - 48 = ?$
(a) 2424 (b) 24240 (c) 4816 (d) 4800
47. $625 \times 54 = ?$
(a) 33750 (b) 34750 (c) 43750 (d) 33850
48. $0.023 \times 0.5 \times 30 = ?$
(a) 0.00345 (b) 0.0345 (c) 0.345 (d) 3.45
49. $89.467 - 45.971 + 9.991 = ?$
(a) 42.505 (b) 32.515 (c) 43.404 (d) 53.487
50. $13284 \div 81 = ?$
(a) 165 (b) 164 (c) 184 (d) 124

ANSWERS TO PRACTICE TEST

1. (b) 2. (c) 3. (a) 4. (b) 5. (a) 6. (a) 7. (a)
8. (d) 9. (b) 10. (d) 11. (a) 12. (c) 13. (d) 14. (b)
15. (c) 16. (d) 17. (b) 18. (d) 19. (c) 20. (c) 21. (b)
22. (a) 23. (b) 24. (b) 25. (a) 26. (a) 27. (a) 28. (c)
29. (b) 30. (b) 31. (d) 32. (a) 33. (d) 34. (c) 35. (a)
36. (b) 37. (c) 38. (d) 39. (d) 40. (b) 41. (d) 42. (a)
43. (b) 44. (a) 45. (d) 46. (c) 47. (a) 48. (c) 49. (d)
50. (b)

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