

CHAPTER - 10

Integers

Revision Exercise : Level - I

Q.1: Given

(i), 8 negative integers and 1 positive integer.

Sol: - (Negative) 8 times \times (positive) 1 time

Negative multiplied \cdot Even times is positive

So positive \times positive

= Positive //

(ii), 21 Negative Integers and 3 positive Integers.

Sol: - (Negative) 21 times \times (positive) 3 times

Negative multiplied by odd times is negative

positive multiplied by odd times is positive

Therefore, \Rightarrow Negative \times positive

= Negative //

(iii), 199 negative Integers and 10 positive integers

Sol: - (Negative) 199 times \times (positive) 10 times

Negative multiplied by odd times is Negative

positive multiplied by Even times is positive

Therefore, Negative \times positive
= Negative,

for example,

Product of $19^{\text{-ve}}$ integer = Negative. let it be $-x$

Product of $10^{\text{+ve}}$ integers = positive. let it be y .

Then, $-x \times y = -xy = \text{Negative}$,

2 Sol - Given,

$$\text{i, } 19 \times \{7 + (-3)\} = 19 \times 7 + 19 \times (-3)$$

$$\Rightarrow 19 \times \{7 - 3\} = 133 + (-57)$$

$$\Rightarrow 19 \times \{4\} = 133 - 57$$

$$\Rightarrow 76 = 76$$

$\therefore \text{LHS} = \text{RHS}$ "

$$\text{ii, } (-23) \{(-5) + (+19)\} = (-23) \times (-5) + (-23) \times 19$$

$$(-23) \{-5 + 19\} = 115 - 437$$

$$(-23) \{14\} = -322$$

$$-322 = -322$$

$\therefore \text{LHS} = \text{RHS}$ "

3 Sol: Given,

i, $(-2) \times 36 \times (-5)$

Sol: $\Rightarrow -72 \times (-5)$

$\Rightarrow 360 //$

ii, $18 \times (-27) \times 30$

Sol: $\Rightarrow -486 \times 30$

$\Rightarrow -14,580$

iii, $(-45) \times 55 \times (-10)$

Sol: $\Rightarrow (-2475) \times (-10)$

$\Rightarrow 24750 //$

4 Sol: Given,

i, $(-8) + (-4) \square (-8) - (-4)$

Sol: $(-8) - 4 \square -8 + 4$

$-12 \square -4 //$

ii, $-3 + 7 - (19) \square 15 - 8 + (-9)$

$4 - 19 \square 7 - 9$

$-15 \square -2 //$

5 Sol: Given

$$(i) (-3) + (-8) \div (-4) - 2 \times (-2) = (c) 3.$$

Sol: $-3 - 8 \div (-4) - 2 \times (-2)$

$$\Rightarrow -3 + 2 + 4$$

$$\Rightarrow -3 + 6 = 3 //$$

$$(ii) (-3) \times (-4) \div (-2) + (-1)$$

Sol: $(d) = -7$

Explanation: $(-3) \times (-4) \div (-2) + (-1)$

$$\Rightarrow -3 \times 2 - 1$$

$$\Rightarrow -6 - 1 = -7 //$$

$$(iii) (-40) \times (-1) + (-28) \div 7$$

Sol: (a) 36

Explanation: $(-40) \times (-1) + (-28) \div 7$

$$\Rightarrow 40 - 4$$

$$\Rightarrow 36 //$$

6 Sol: Given,

$$(i) 25 - \frac{1}{2} \{5 + 4 - (3 + 2 - 173)\}$$

Sol: (d) 21.

Explanation: $25 - \frac{1}{2} \{5 + 4 - (3 + 2 - 173)\}$

$$\Rightarrow 25 - \frac{1}{2} \{ 5+4 - (3+2-4) \}$$

$$\Rightarrow 25 - \frac{1}{2} \{ 9 - (5-4) \}$$

$$\Rightarrow 25 - \frac{1}{2} \{ 9 - 1 \}$$

$$\Rightarrow 25 - \frac{1}{2} \{ 8 \}$$

$$\Rightarrow 25 - 4$$

$$= 21 \quad //$$

$$\text{ii, } 27 - [38 - \{46 - (15 - 13 - 2)\}]$$

Sol: (b) 31.

Explanation: - $27 - [38 - \{46 - 18(15 - 13 - 2)\}]$

$$\Rightarrow 27 - [38 - \{46 - (15 - 11)\}]$$

$$\Rightarrow 27 - [38 - \{46 - 4\}]$$

$$\Rightarrow 27 - [38 - 42]$$

$$\Rightarrow 27 - (-4)$$

$$\Rightarrow 27 + 4$$

$$\Rightarrow 31 \quad //$$

$$\text{iii, } 36 - [18 - \{14 - (15 - 4 \div 2 \times 2)\}]$$

Sol: (b) 21

Explanation: - $[18 - \{14 - (15 - 4 \div 2 \times 2)\}]$

$$\Rightarrow [18 - \{14 - (15 - 2 \times 2)\}]$$

$$\Rightarrow 36 - [18 - \{14 - (15 - 4)\}]$$

$$\Rightarrow 36 - [18 - \{14 - 11\}]$$

$$\Rightarrow 36 - [18 - 3]$$

$$\Rightarrow 36 - 15$$

$$\Rightarrow 21 //$$

Sol: Given,

$$i, 63 - (-3) \{-2 - 8 - 3\} \div 3 \{5 + (-2)(-1)\}$$

Sol: (a) 62.

$$\text{Explanation: } 63 - (-3) \{-2 - 8 - 3\} \div 3 \{5 + (-2)(-1)\}$$

$$\Rightarrow 63 + 3 \{-2 - 5\} \div 3 \{5 + 2\}$$

$$\Rightarrow 63 + 3 \{-7\} \div 3 \{7\}$$

$$\Rightarrow 63 - 21 \div 21 \Rightarrow 63 - 1$$

$$\Rightarrow 62 //$$

$$ii, [29 - (-2) \{6 - (7 - 3)\}] \div [3 \times \{5 + (-3) \times (-2)\}]$$

Sol: (c) 1.

$$\text{Explanation: } [29 - (-2) \{6 - (7 - 3)\}] \div [3 \times \{5 + (-3) \times (-2)\}]$$

$$\Rightarrow [29 + 2 \{6 - 4\}] \div [3 \times \{5 + 6\}]$$

$$\Rightarrow [29 + 2(2)] \div [3 \times 11]$$

$$\Rightarrow [29 + 4] \div 33$$

$$\Rightarrow 33 \div 33$$

$$\Rightarrow 1,,$$

Sol: Given,

$$(i) 15 - (-3) \{ 4 + 7 - 3 \} \div [25 + (-3) \times (-6)]$$

Sol:

Sol: Given

$$(i) 48 - [18 - \{16 - (4 - 1)\}]$$

Sol: (a) 43

Explanation: $48 - [18 - \{16 - (4 - 1)\}]$

$$\Rightarrow 48 - [18 - \{16 - 3\}]$$

$$\Rightarrow 48 - [18 - 13]$$

$$\Rightarrow 48 - 5$$

$$\Rightarrow 43 \quad \checkmark$$

$$(ii) [5 + \{28 - (29 - 7)\}]$$

Sol: (b) 11

Explanation: $[5 + \{28 - (29 - 7)\}]$

$$\Rightarrow [5 + \{28 - 22\}]$$

$$\Rightarrow [5 + 6] = 11 \quad \checkmark$$

9 sol:- Given,

$$i, 23 - [23 - \{23 - (23 - \overline{23-23})\}]$$

sol:- (a) 0.

Explanation:- $23 - [23 - \{23 - (23 - \overline{23-23})\}]$

$$\Rightarrow 23 - [23 - \{23 - (23 - 0)\}]$$

$$\Rightarrow 23 - [23 - \{23 - 23\}]$$

$$\Rightarrow 23 - [23 - 0]$$

$$\Rightarrow 23 - 23$$

$$\Rightarrow 0 \quad \checkmark$$

$$ii, 4 + \frac{1}{5} [\{ -10 \times (25 - \overline{13-3}) \} \div (-5)]$$

sol:- d, 10.

Explanation:- $4 + \frac{1}{5} [\{ -10 \times (25 - \overline{13-3}) \} \div (-5)]$

$$\Rightarrow 4 + \frac{1}{5} [\{ -10 \times (25 - 10) \} \div (-5)]$$

$$\Rightarrow 4 + \frac{1}{5} [\{ -10 \times 15 \} \div (-5)]$$

$$\Rightarrow 4 + \frac{1}{5} [\{ -150 \} \div (-5)]$$

$$\Rightarrow 4 + \frac{1}{5} [30]$$

$$\Rightarrow 4 + 6$$

$$\Rightarrow 10 \quad \checkmark$$

Sol: - Given,

$$i, 15 - (-3) \{4 - 7 - 3\} \div [\{5 + (-3) \times (-6)\}]$$

Sol: - (d) 15

Explanation: Given, $15 - (-3) \{4 - 7 - 3\} \div [\{5 + (-3) \times (-6)\}]$

$$\Rightarrow 15 + 3 \{4 - 4\} \div [\{5 + 18\}]$$

$$\Rightarrow 15 + 3 \{0\} \div [23]$$

$$\Rightarrow 15 + 0 \div 23$$

$$\Rightarrow 15 + 0$$

$$\Rightarrow 15 //$$

$$ii, 118 - [121 \div (11 \times 11) - (-4) - \{3 - 9 - 2\}]$$

Sol: - (b) 109.

Explanation: - Given, $118 - [121 \div (11 \times 11) - (-4) - \{3 - 9 - 2\}]$

$$\Rightarrow 118 - [121 \div 121 + 4 - \{3 - 7\}]$$

$$\Rightarrow 118 - [1 + 4 - (-4)]$$

$$\Rightarrow 118 - [1 + 5 + 4]$$

$$\Rightarrow 118 - 9$$

$$\Rightarrow 109 //$$

11, Sol: - Given $10 - \{5 + (-3) + 8 - (-11)\}$

Sol: - (a) -11

Explanation: - Given, $10 - \{5 + (-3) + 8 - (-11)\}$

$$\Rightarrow 10 - \{5 - 3 + 8 + 11\}$$

$$\Rightarrow 10 - \{24 - 3\}$$

$$\Rightarrow 10 - 21$$

$$\Rightarrow -11 //$$

12, Given, $140 - 2 \times [3 - 4 \{3 - 2 \times (-8)\}]$

Sol: - (a) 286.

Explanation: - Given, $140 - 2 \times [3 - 4 \{3 - 2 \times (-8)\}]$

$$\Rightarrow 140 - 2 \times [3 - 4 \{3 - (-16)\}]$$

$$\Rightarrow 140 - 2 \times [3 - 4 \{3 + 16\}]$$

$$\Rightarrow 140 - 2 \times [3 - 4 (19)]$$

$$\Rightarrow 140 - 2 \times [3 - 76]$$

$$\Rightarrow 140 - 2 \times [-73]$$

$$\Rightarrow 140 + 146$$

$$\Rightarrow 286 //$$

Level-2

13 Soli - Given, In a Competitive exam,

3 marks are given for every correct answer.

1 mark deducted for an incorrect answer.

Raju Copied some answer for from Reema.

He scored 20 marks but he got 10 correct answers.

For correct answers, his score

$$\Rightarrow \Rightarrow 10 \times 3 = 30.$$

But he scored 20 marks.

$$\Rightarrow 30 - 20 = 10 \text{ marks were deducted.}$$

He attempted 10 incorrect answer.

A student should not use unfair means in the exam.

It is a bad habit. He should work hard.

14 Soli - Given, In quiz

Rs 300 are awarded for every correct answer

Rs 75 is put as the penalty for every incorrect answer.

Madhuri scored 15 question, but 6 questions were correct answers.

Money earned for correct answer

$$= 6 \times 300 = \text{Rs } 1800$$

She scored incorrect - $15 - 6 = 9$

$$\text{Penalty} = \text{Rs } 75 \times 9 = \text{Rs } 675$$

Correct Amount she got

$$= 1800 - 675$$

$$= \text{Rs } 1125$$

\therefore She got Rs 1125,,

150801:- Given, A water tank has steps inside.

(a) A monkey is sitting on the first step.
The water level at the ninth step.

(a) Monkey jumps 3 steps down and 2 steps up so,

In total the monkey jumped 1 step down.

Therefore, Now, the monkey is at second step and
water level is at the ninth step

Now, for the monkey reach reach water level in

$$= 9 - 2 = 7 \text{ Jumps.}$$

(b) He jumps 4 steps up and 2 steps down

So, totally he climbs 2 steps up in 6 jumps.

Similarly we can divide 9 steps as follows.

$$\Rightarrow 9 = 2 + 2 + 2 + 3$$

After reaching the third step, as he jumps up 3 more steps.

He will reach the top step and till then there will be no more steps to climb.

That is, after 3 more jumps he will reach the top step.

Problem:- Given,

By selling a pen gain is Rs 2.

By selling a pencils, he loses 50 paise and
an eraser, he losses 15 paises.

On one day, he gain = Rs 10.

on that day he sold 10 pens and pencils and erasers
in the ratio of 7:10.

on ten pens, he gain = $10 \times 2 = \text{Rs } 20$.

loss on pencils and erasers

$$= \text{Rs } 20 - \text{Rs } 10 = \text{Rs } 10 = 1000 \text{ paise}$$

Ratio in pencil and eraser = 7:10

Let number of pencils = $7x$,

number of Erasers = $10x$

$$7x \times 50 + 10x \times 15 = 1000$$

$$\Rightarrow 350x + 150x = 1000$$

$$\Rightarrow 500x = 1000$$

$$\Rightarrow x = 1000/500 = 2$$

∴ Number of pencils = $7 \times 2 = 14$

Number of erasers = $10 \times 2 = 20$,

Ex 10.1 - Given, 3 marks are given for every correct answer.

and -2 marks are given for every incorrect answer.

and no marks for not attempting any question.

i) Sachin scored 20 marks. He got 12 correct answers.

Let x be the correct answers, y be

y be the incorrect answers.

Then, $3 \times (\text{Correct Answers}) + (-2) \times (\text{Incorrect Answers}) = \text{Total Score}$

$$3 \times 12$$

$$3 \times 12 + (-2) \times y = 20$$

$$36 - 2y = 20$$

$$2y = 36 - 20$$

$$2y = 16$$

$$y = 16/2 = 8$$

Hence, Sachin attempted incorrectly = 8 Questions

ii) Mohini scores (-5) marks in this competition, she got

7 correct answers

Then, $(+3) \times (\text{Correct Answers}) + (-2) \times (\text{Incorrect Answers}) = \text{Total Score}$

$$(3) \times x + (-2) \times y = 20 \times (-5)$$

$$\Rightarrow 3 \times (7) + (-2) \times y = -5$$

Let x be the correct answers, y be incorrect answers.

$$\Rightarrow 3 \times (7) + (-2) \times y = -5$$

$$\Rightarrow 21 - 2y = -5$$

$$\Rightarrow 2y = 21 + 5 = 26 \Rightarrow y = \frac{26}{2} = 13$$

\therefore 8 Mohini Attempted Incorrect = 13 Questions,

18 Sol: Given,

Rate of elevator = 6m/min

and it was started 10m above the ground level

Depth below ground level = 350m.

Total depth = 350 + 10 = 360

Time taken = $\frac{360}{6}$ minutes = 60 minutes = 1 hour.,

19 Sol: Given, Profit of selling one new book = 20.

Loss of selling one second hand old book = 10.

In particular month he earns neither profit or loss

Profit of selling 25 new books

$$= 25 \times 20 = 500$$

Now, we have

$$\text{profit} = \text{loss}$$

loss of each second hand old book = 10

Let Required old books = x

Then,

$$x \times 10 = 500$$

$$x = \frac{500}{10} = 50.$$

\therefore Required second hand old books = 50 //

MULTIPLE CHOICE QUESTIONS

20. If x is sol: c, -5036

Explanation: Given, x is successor of -9897
 y is predecessor of -4859

$$x = \text{successor of } -9897 = -9897 + 1 = -9896$$

$$y = \text{predecessor of } -4859 = -4859 - 1 = -4860$$

$$\begin{aligned}\therefore x - y &= -9896 - (-4860) = -9896 + 4860 \\ &= -5036\end{aligned}$$

21. Sol: (b), $x > y$.

Explanation: Given, $x = (-3) - (-8) - (+4)$

$$= -3 + 8 - 4 = 8 - 7 = 1$$

$$y = (-10) - (-3) + (-4)$$

$$= -10 + 3 - 4$$

$$= -14 + 3 = -11$$

$\therefore x > y$

22. Sol: (d) None of these

Explanation: Given, $x = (-2) + (-2) + \dots$ 20 times, $y = (+3) + (+3) - \dots$ 40 times

$$x = (-2) + (-2) + \dots \dots \dots 20 \text{ times}$$

$$= (-2) \times 20$$

$$= -40$$

$$Y = (+3) + (+3) + \dots \text{ 40 times}$$

$$= (+3) \times 40$$

$$= 120$$

$$\therefore X + Y = -40 + 120 = 80 //$$

23 Sol:- (d) None of these

Explanation:- Given $P = (-8) + (-3) + (+7)$

$$Q = (-9) + (+3) + (+3) + (+2) + (-9)$$

$$R = (-6) + (-8) + (+3) + (+2) + (-9)$$

$$P = (-8) + (-3) + (+7) = -11 + 7 = -4$$

$$Q = (-9) + (+3) + (+3) + (+2) + (-9) = -18 + 8 = -10$$

$$R = (-6) + (-8) + (+3) + (+2) + (-9) = -23 + 5 = -18$$

$$\therefore P + Q + R + 27 = -4 - 10 - 18 + 27 = -32 + 27 = -5 //$$

24 Sol:- (b) -24

Explanation:- Given $4P = -32$

$$P = -32/4 = -8$$

$$-2Q = 16$$

$$Q = 16/-2 = -8$$

$$\text{Then, } (+10) + P + (-18) + Q = +10 - 8 - 18 - 8$$

$$= 10 - 34$$

$$= -24 //$$

25 Sol: (C) B, C, A.

Explanation: - Given $A = (+7) + (-10) = -3$

$$B = (-3) + (-8) = -11$$

$$C = (+9) + (-13) = 9 - 13 = -4$$

Ascending order: -11, -4, -3,,

26 Sol: (C) -21

Explanation: Given, $x = (-9) - (-3) = -9 + 3 = -6$

$$y = (+7) - (-4) = 7 + 4 = 11$$

$$z = (+6) + (-2) = 6 - 2 = 4$$

Then, $x - y - z = -6 - 11 - 4 = -11 - 10 = -21$

$$\therefore x - y - z = -21,,$$

27 Sol: (a) -11

Explanation: - Given,

$$x = (-8) + (-9) = -17$$

$$y = (+10) + (-2) = 10 - 2 = 8$$

$$z = (+11) + (-13) = 11 - 13 = -2$$

$$x + y + z = -17 + 8 - 2 = -19 + 8 = -11$$

$$\therefore x + y + z = -11,,$$

28. (i), (ii), (iii)

Explanation:- Given

(i), Sum of three negative integers is -ve

for example $-1, -2, -3$ are three negative numbers

$$\text{Then } \Rightarrow (-1) + (-2) + (-3) = -1 - 2 - 3 = -6$$

\therefore Sum of three negative integers is -ve.

(ii), Sum of four negative integers is -ve

for example $-1, -2, -3, -4$ are four negative numbers

$$\text{Then } \Rightarrow (-1) + (-2) + (-3) + (-4)$$

$$\Rightarrow -1 - 2 - 3 - 4 = -10$$

\therefore Sum of four negative integers are -ve

(iii), Sum of two positive integers is +ve.

for example $+1, +2$ are two positive numbers

$$\text{Then } \Rightarrow (+1) + (+2) = 1 + 2 = 3$$

\therefore Sum of two positive integers are +ve.

29 Sol:- (i), (ii)

Explanation Absolute Value of -11 is

$$= |-11| = 11$$

30 Sol:- (d) Distributive law

Explanation: Given $2 \times 13 + 8 \times 13 = (2+8) \times 13$

$$13 \times 2 + 13 \times 8 = 13 \times (2+8)$$

Distributive property is $\boxed{a \times b + a \times c = a \times (b+c)}$

There be. It is distributive property.

31 Sol:- (c) $\frac{-1}{8}$

Explanation:- Multiplicative Inverse of -8

$$= \frac{-1}{8}$$

32 Sol:- (d) $0 \div 7 = 0$

Explanation: (a) $7 \div 0 = 100$

33 Sol:- (a) 0.

Explanation:- Absolute Value of '0' is

$$= |0| = 0$$

34 Sol (a) 2894500

Explanation:- $28945 \times 99 - (-28945)$

$$\begin{aligned} \Rightarrow 28945 \times 99 + 28945 &= 2865,555 + 28945 \\ &= 2894500 \end{aligned}$$

35 Soli - (b) 1

Explanation:- Given absolute value of '-1' is

$$= |-1| = 1$$

Matrix Match Type

36 Soli - (a) A-S, B-r, C-q, D-p

Explanation:- Given

| | <u>Column-1</u> | <u>Column-II</u> |
|--|-----------------|------------------|
|--|-----------------|------------------|

| | | |
|----|-----------------|---------|
| A. | $(-19) - (-13)$ | (P) +16 |
|----|-----------------|---------|

| | | |
|----|-----------------|---------|
| B. | $(+19) - (+13)$ | (q) +32 |
|----|-----------------|---------|

| | | |
|----|-----------------|--------|
| C. | $(+19) - (-13)$ | (r) +6 |
|----|-----------------|--------|

| | | |
|----|----------------|---------|
| D. | $(+19) - (+3)$ | (s) -6. |
|----|----------------|---------|

A Soli: $(-19) - (-13) = -19 + 13 = -6$ (s)

B Soli: $(+19) - (+13) = 19 - 13 = +6$ (r)

C Soli: $(+19) - (-13) = 19 + 13 = +32$ (q)

D Soli: $(+19) - (+3) = 19 - 3 = +16$ (p)

37 Soli:- Given matrix

| | <u>Column-1</u> | <u>Column-2</u> |
|--|-----------------|-----------------|
|--|-----------------|-----------------|

| | | |
|----|---------------------|--------|
| A. | $(-7) \times (-12)$ | (P) 70 |
|----|---------------------|--------|

| | | |
|----|---------------------|---------|
| B. | $(+7) \times (-12)$ | (q) -96 |
|----|---------------------|---------|

| | | |
|----|---------------------|---------|
| C. | $(+7) \times (+10)$ | (r) -84 |
|----|---------------------|---------|

| | | |
|----|---------------------|---------|
| D. | $(-8) \times (+12)$ | (s) +84 |
|----|---------------------|---------|

A Soli: $(-7) \times (-12) = +84$ (s)

B sol $(+7) \times (-12) = -84$ (r)

C sol $(+7) \times (+10) = 70$ (p)

D sol $(-8) \times (+12) = -84 - 96$ (q)

Ans - (C) A-s, B-r, C-p, D-q.

38 sol (a) A-s, B-r, C-p, D-s.

Explanation: Given Matrix Column-I Column-II

A. $(-2)(-3)(6)(+1)$ (P) 2.5

B. $(-100) \div 25$ (Q) 4

C. 0.025×100 (R) -4

D. $86 + (-28) + 12 + (-34)$ (S) 36

A sol $(-2)(-3)(6)(+1) = (6)(6) = 36$ (S)

B sol $(-100) \div 25 = -4$ (r)

C sol $0.025 \times 100 = 0.25$ (P)

D sol $86 + (-28) + 12 + (-34) = 98 - 62 = 36$ (S)

39 sol (b) A-s, B-p, C-q, D-r

Explanation: Given Matrix Column-I Column-II

A. $(-22) + 21 + (-22) + 21 + \dots + 40$ terms (P) -120

B. $(-1) \times (-2) \times (-3) \times (-4) \times (-5)$ (Q) 7

C. $(-98) \div (-14)$ (R) 18

D. $24 - 4 \div 2 \times 3$ (S) -20

A Sol: $(-22) + 21 + (-22) + 21 \dots$ 40 terms

$\Rightarrow (-1) + (-1) + \dots$ 20 terms

$= -1 \times 20 = -20$ (S)

B Sol: $(-1) \times (-2) \times (-3) \times (-4) \times (-5) = 24 \times (-5)$

$= -120$ (P)

C Sol: $(-98) \div (-14) = 7$ (Q)

D Sol: $24 - 4 \div 2 \times 3 = 24 - 2 \times 3 = 24 - 6 = 18$ (R)

40 Sol: (a) A-r, B-s, C-p, D-q.

Explanation: Given Matrix, Column-1 Column-II

A. $(-5) - (-48) \div (-16) + (-2) \times 6$ (P) -7

B. $48 - [18 - \{16 - (5 + 4 - 1)\}]$ (Q) 15

C. $(-3) \times (-4) \div (-2) + (-1)$ (R) -20

D. $15 - (-3) \{4 - 7 - 3\} \div [3(5)]$ (S) 44

A Sol: $(-5) - (-48) \div (-16) + (-2) \times 6$

$\Rightarrow -5 + 48 \div (-16) - 12$

$\Rightarrow -5 - 3 - 12 = -20$ (R)

B Sol: $48 - [18 - \{16 - (5 + 4 - 1)\}]$

$\Rightarrow 48 - [18 - \{16 - (5 + 3)\}]$

$\Rightarrow 48 - [18 - \{16 - 2\}] = 48 - [18 - 14]$

$$= 48 - 4 = 44 \text{ (S)}$$

C Sol: $(-3) \times (-4) \div (-2) + (-1)$

$$\Rightarrow (-3) \times 2 + (-1)$$

$$\Rightarrow -6 - 1 = -7 \text{ (P)}$$

d Sol: $15 - (-3) \cdot \{4 - 4 - 3\} \div [3(5)]$

$$\Rightarrow 15 + 3 \{4 - 4\} \div 15$$

$$\Rightarrow 15 + 3(0) \div 15 \Rightarrow 15 + 0 \div 15$$

$$\Rightarrow 15 + 0 = 15 \text{ (Q) ,,}$$

4 Sol: (b) A-S, B-P, C-Q, D-R

Explanation: Given Matrix Column-1

Column-2

$$A. (-1728) \div 12$$

$$P, 125$$

$$B. (-15625) \div (-125)$$

$$Q, -1562500$$

$$C. 15625 \times (-2) + (-15625) \times 98 \text{ (R) } 1894600$$

$$D. 18946 \times 99 + (18946) \text{ (S) } -144.$$

A Sol: $(-1728) \div 12 = -144 \text{ (S)}$

B Sol: $(-15625) \div (-125) = 125 \text{ (P)}$

C Sol: $15625 \times (-2) + (-15625) \times 98 = -31250 - 1531250$
 $= -1562500 \text{ (Q)}$

D Sol: $18946 \times 99 + 18946 = 1875654 + 18946$
 $= 1894600 \text{ (R)}$

42 Sol: C) A-S, B-r, C-P, D-q

Explanation: - Given Matrix Match Column-I Column-II

A. $-12 + 24 \div (5 - 3)$

(P) -5

B. $222 - \left[\frac{1}{3} \{ 42 + (56 - 879) \} + 108 \right]$ (Q) 887000

C. $-20 + (-10) \div (-2) \times 3$

(r) 87

D. $1569 \times 887 - 569 \times 887$

(S) 0

A Sol: $-12 + 24 \div (5 - 3) = -12 + 24 \div 2$
 $= -12 + 12 = 0$ (S)

B Sol: $222 - \left[\frac{1}{3} \{ 42 + (56 - 879) \} + 108 \right]$
 $\Rightarrow 222 - \left[\frac{1}{3} \{ 42 + (56 - 17) \} + 108 \right]$
 $\Rightarrow 222 - \left[\frac{1}{3} \{ 42 + 39 \} + 108 \right]$
 $\Rightarrow 222 - \left[\frac{1}{3} (81) + 108 \right] \Rightarrow 222 - [27 + 108]$
 $\Rightarrow 222 - 135 \Rightarrow 87$ (r)

C Sol: $-20 + (-10) \div (-2) \times 3 \Rightarrow -20 + 15 \times 3$
 $\Rightarrow -20 + 15 = -5$ (P)

D Sol: $1569 \times 887 - 569 \times 887$
 $\Rightarrow 1,391,703 - 504,703$
 $\Rightarrow 887,000 //$

43 sol: (a) A-r, B-p, C-q, D-g

Explanation Given Matrix Column-I Column-II

A. Successor of -576. (P) +1

B. Predecessor of 0. (Q) 0

C. $[(-1) \times (-1) \times \dots 20 \text{ terms}] * [(-1) + 1 + (-1) + 1 + \dots (40 \text{ terms})]$ (R) -575

D. $(-1)^1 + (-1)^2 + \dots + (-1)^{2018}$ (S) 1.

sol 1 P Successor of -576 = $-576 + 1 = -575$ (R)

B sol 1 Predecessor of 0 = $0 - 1 = -1$ (P)

C sol 1 $[(-1) \times (-1) \times \dots 20 \text{ terms}] * [(-1) + 1 + (-1) + 1 + \dots 40 \text{ terms}]$

$$\Rightarrow (-1) \times 20 * [0 + 0 \dots 40 \text{ terms}] = 0$$

$$\Rightarrow +20 \times 0$$

$$\Rightarrow 0 \quad [Q]$$

D sol 2 $(-1)^1 + (-1)^2 + \dots + (-1)^{2018}$

$$\Rightarrow -1 + 1 + -1 + 1 + \dots + (-1)^{2018}$$

$$\Rightarrow 0 + 0 \dots + (-1)^{2009}$$

$$\Rightarrow 0 \quad [Q]$$

44 Sol: (a) A - r, B - s, C - q, D - p.

Explanation: Given Matrix

| | <u>Column-1</u> | <u>Column-II</u> |
|-----------------------------------------------------------------------------|-----------------|------------------|
| A. $(-2)+1+(-2)+1 \dots$ (20 terms) | | (P) 12 |
| B. $[(1)+(-1)+(-1)+ \dots]$ (10 terms) $+ [(-2)+(-2)+ \dots]$ (10 terms) | | (Q) -2 |
| C. $-25 \div 5 \times 1 + 3$ | | (R) -10 |
| D. $16 + 10 \div 5 - 2 \times 3$ | | (S) -30 |

A Sol: $(-2)+1+(-2)+1 \dots$ 20 terms

$\Rightarrow (-1)+(-1)+ \dots$ 10 terms

$\Rightarrow -1 \times 10 = -10$ (R)

B Sol: $[(-1)+(-1)+ \dots]$ (10 terms) + $[(-2)+(-2)+ \dots]$ (10 terms)

$\Rightarrow (-1) \times 10 + (-2) \times 10$

$\Rightarrow -10 + (-20) \Rightarrow -10 - 20 = -30$ (S)

C Sol: $-25 \div 5 \times 1 + 3 \Rightarrow -5 - 5 \times 1 + 3$

$\Rightarrow -5 + 3 = -2$ (Q)

D Sol: $16 + 10 \div 5 - 2 \times 3 \Rightarrow 16 + 2 - 6 \Rightarrow 16 - 4 = 12$ (P)

45 Sol: (a) A - q, B - p, C - s, D - r.

Explanation: Given Matrix Match

| | <u>Column-1</u> | <u>Column-II</u> |
|-----------------------------------------------------------|-----------------|------------------|
| A. product of 8 negative integers and 2 positive integers | | (P) negative |

B, product of 2017 Negative integers (q) positive
and 19 positive integers

C, $16 + 8 \div 4 - 2 \times 3$

(r) +15

D. $25 - 5 \times 6 \div 3$

(s) 12

A Sol 2 product of 8 negative integers and 2 positive integers.

Negative integers multiplied by even times is positive

positive integers multiplied by even times is positive

Therefore, (Negative) \times 8 times \times (positive) 2 times

\Rightarrow positive \times positive

\Rightarrow positive. (q)

B Sol 2 product of 2017 negative integers and 19 positive integers

Negative integers multiplied by odd times is negative

positive integers multiplied by odd times is positive

Therefore \Rightarrow (Negative) 2017 \times (positive) 19

\Rightarrow Negative \times positive

\Rightarrow Negative. (p)

C Sol 2 $16 + 8 \div 4 - 2 \times 3 \Rightarrow 16 + 2 - 6 \Rightarrow 18 - 6 = 12$ (s)

D Sol 2 $25 - 5 \times 6 \div 3 \Rightarrow 25 - 5 \times 2 \Rightarrow 25 - 10$

$\Rightarrow 15$ (r)

Integer Type

46 sol: Given, $x = (-23) + 22 + (-23) + 22 + \dots$ (40 terms)

$$y = 11 + (-10) + 11 + (-10) + \dots$$
 (20 terms)

$$x = \underbrace{(-23) + 22 + (-23) + 22} \dots 40 \text{ terms}$$

$$\Rightarrow (-1) + (-1) + \dots 20 \text{ terms}$$

$$\Rightarrow -1 \times 20 = -20.$$

$$y = \underbrace{11 + (-10) + 11 + (-10) + \dots} 20 \text{ terms}$$

$$= 1 + 1 + \dots 10 \text{ terms}$$

$$\Rightarrow 1 \times 10 = 10$$

$$\therefore y - x = 10 - (-20) = 10 + 20 = 30$$

$$(y - x) \div 10 = 30 \div 10 = 3 //$$

47 sol: Given $3 - (5 - 6 \div 3)$

$$\Rightarrow 3 - (5 - 2) \Rightarrow 3 - (3) = 0.$$

48 sol: Given, $(-2) + (-8) \div (-4)$

$$\Rightarrow -2 + 2 = 0$$

49 sol: $39 \div 3 - [23 - \{29 - (17 - 9 - 3)\}]$

$$\Rightarrow 13 - [23 - \{29 - (17 - 6)\}]$$

$$\Rightarrow 13 - [23 - \{29 - 11\}]$$

$$\Rightarrow 13 - [23 - \{8\}]$$

$$\Rightarrow 13 - \{23 - 8\} \Rightarrow 13 - 15$$

$$\Rightarrow -2 //$$

50 Sol: Given, $\{36 \div (-9)\} \div \{(-24) \div 6\}$

$$\Rightarrow \{-4\} \div \{-4\}$$

$$\Rightarrow 1$$

51 Sol: Given, $[-5 - (-48) \div (-16) + (-2) \times 6] \div (-20)$

$$\Rightarrow [-5 + 48 \div (-16) - 12] \div (-20)$$

$$\Rightarrow [-5 - 3 - 12] \div (-20)$$

$$\Rightarrow [-20] \div (-20)$$

$$\Rightarrow 1$$

52 Sol: $||-18| + 18| \div ||16| - |-7||$

$$\Rightarrow |18 + 18| \div |16 - 7|$$

$$\therefore |-18| = 18$$

$$|-a| = a$$

$$\Rightarrow 36 \div 9$$

$$\Rightarrow 4$$

53 Sol: $\{24 - 4 \div 2 \times 3\} \div 9$

$$\Rightarrow \{24 - 2 \times 3\} \div 9$$

$$\Rightarrow \{24 - 63 \div 9$$

$$\Rightarrow 18 \div 9 \Rightarrow 2 //$$

54 Soli - Given, $0 \div (-100)$

$$\Rightarrow 0 //$$

55 Soli - Given, $(-1) \div (-1)$

$$\Rightarrow 1 //$$