INTELLIGENCE (Reasoning)

MATHEMATICAL OPERATIONS

In this chapter, questions are based on four fundamental operations of Mathematics such as **Addition (+)**, **Subtraction (-)**, **Multiplication (x)** and **Division (÷)**. In these types of questions, the meaning of the operations is inter-changed. Students are required to apply the rule of **VBODMAS** after changing the meaning of operations in the given pattern. Some solved examples are given below :

Example 1. If, **(+)** means **(-)** and **(-)** means **(x)**.   Find the value of **20 + 5 -3** :

    (a)   10   (b)   5   (c)   30   (d)   60

Solution :   Given : **(+)** = **(-)** and **(-)** = **(x)**

    According to the given pattern and conditions

    20 + 5 - 3   =   25 - 5 x 3

    By implementing VBODMAS

    = 25 -15   = 10

Ans. **(a)**

Example 2. If, **(+)** means **(x)** and **(x)** means **(÷)** and **(-)** means **(+)**.Find the value of **6 + 15 x 3 – 9**.

    (a)   10   (b)   5   (c)   39   (d)   60

Solution :   Given : **(+)** = **(x)**, **(x)** = **(÷)** and **(-)** = **(+)**

    According to the given pattern and conditions

    6 + 15 x 3 - 9   =   6 x 15 ÷ 3 + 9

    By implementing VBODMAS

    = 6 x 5 +9   = 30 + 9   = 9

Ans. **(c)**

EXAM Grace Academy

Provides free Detailed Syllabus, Video Lectures, Revision Notes, Practice Papers, Sample Papers, Last Year Question Papers with solutions, Online Mock Test for Entrance Examinations for admission in Sainik Schools, RMS, JNV, CHS, RKM, RIMC and many more

2

Example 3. If, **(**2 - 3 - 5**)** = 30 and **(**4 - 2 - 8**)** = 64. Then find the value of **1 - 2 - 4**.

   (a)   10   (b)   5   (c)   9   (d)   8

Solution :   Given : **(**2 - 3 - 5**)** = **30** and **(**4 - 2 - 8**)** = **64**

   According to the result the pattern follows as under :

   (2 x 3 x 5**)** = **30** and **(**4 x 2 x 8**)** = **64**

Hence,   (**1 - 2 – 4**)   =   (**1 x 2 x 4**) = **8**

Ans. **(d)**

Example 4. If, **(**5 x 8 x 7**)** = 587 and **(**6 x 3 x 9**)** = 639. Then find the value of **4 x 2 x 6**.

   (a)   226   (b)   426   (c)   624   (d)   264

Solution :   Given : **(**5 x 8 x 7**)** = 587 and **(**6 x 3 x 9**)** = 639

   According to the pattern of results all signs of (x) have been removed :

   (5 x 8 x 7) = 587 and (6 x 3 x 9) = 639

OR   (587**)** = 587   and   **(**639**)** = 639

Hence,   (4 x 2 x 6)   = (426)   = 426

Ans. **(b)**

Example 5. If, **A** stands for **(+)**, **B** stands for **(-)**, **C** stands for **(x)**, then the find the value of **(20A5) A (5C6) B 8**.

   (a)   47   (b)   46   (c)   64   (d)   27

Solution :   Given : A = (+),   B = (-), C = (x)

   According to the given pattern and conditions :

   (20A5) A (5C6) B 8 = (20+5) + (5x6) - 8

 Hence,   25 + 30 – 8   = 47

Ans. **(a)**

EXAM Grace Academy

Provides free Detailed Syllabus, Video Lectures, Revision Notes, Practice Papers, Sample Papers, Last Year Question Papers with solutions, Online Mock Test for Entrance Examinations for admission in Sainik Schools, RMS, JNV, CHS, RKM, RIMC and many more

3

EXERCISE FOR PRACTICE

1. If 3 x 4 = 7 and 5 x 8 = 13, then 6 x 2 = ?

    (a)   8   (b)   12   (c)   9   (d)   5

2. If 4 + 6 = 24, 5 + 3 = 15, 8 + 4 = 32 then 7 + 8 = ?

    (a)   65   (b)   56   (c)   15   (d)   28

3. If 9 ÷ 3 = 6, 8 ÷ 3 = 5, 8 ÷ 4 = 4 then 15 ÷ 3 = ?

    (a)   10   (b)   18   (c)   5   (d)   12

4. If 4 - 3 = 43, 9 - 5 = 95, 6 - 3 = 63 then 8 - 7 = ?

    (a)   56   (b)   15   (c)   87   (d)   1

5. If 5 + 3 + 4 = 534, 6 + 7 + 2 = 672, 6 + 3 + 2 = 632 then 8 + 7 +3 = ?

    (a)   873   (b)   18   (c)   15   (d)   3

6. If 4 - 5 = 20, 8 - 4 = 32, 5 - 3 = 15 then 9 - 3 = ?

    (a)   15   (b)   12   (c)   27   (d)   6

7. If 3 + 2 + 4 = 423, 9 + 5 + 1 = 159, 6 + 3 + 5= 563 then 8 + 7 + 9 = ?

    (a)   24   (b)   879   (c)   978   (d)   798

8. If 4 + 4 = 64, 6+ 5 = 121, 7 + 3 = 100 then 8 + 9 = ?

    (a)   17   (b)   289   (c)   78   (d)   89

9. If 10 + 2 = 102, 90 + 5 = 905, 65 + 3 = 653 then 85 + 7 = ?

    (a)   857   (b)   92   (c)   758   (d)   578

10. If 2 - 1 - 4 = 412, 5 - 3 - 4 = 435, 6 - 3 - 8 =836 then 8 - 5 - 3 = ?

    (a)   16   (b)   358   (c)   653   (d)   0

EXAM Grace Academy

Provides free Detailed Syllabus, Video Lectures, Revision Notes, Practice Papers, Sample Papers, Last Year Question Papers with solutions, Online Mock Test for Entrance Examinations for admission in Sainik Schools, RMS, JNV, CHS, RKM, RIMC and many more

4

11.   If, **A = plus**, **B = minus**, **C = divided by and D = multiplied by** then 18A15C5D2B5= ?

    (a)   19   (b)   18   (c)   17   (d)   15

12.   If (**+**) means **divided by** (**–**) means **multiplied by** (**x**) means **minus** and (**÷**) means **plus** which of the following will be the value of the expression **15 ÷ 3 – 6 + 3 x 1** = ?

    (a)   21   (b)   17   (c)   20   (d)   19

13.   If 4 + 2 +3 = 234, 5 + 2 + 8 + 285 and 6 + 3 + 9 = 396 then 8 + 9 + 2 + ?

    (a)   928   (b)   19   (c)   892   (d)   298

14.   If 18 x 3 = 61, 3 x 9 = 13 and 9 x 6 = 32 then 15 x 9 = ?

    (a)   35   (b)   53   (c)   55   (d)   135

15.   If **Z** means **minus**, **Y** means **plus**, **X** means **divided by** and **W** means **multiplied by** then **20Z2W6X2Y5 = ?**

    (a)   69   (b)   70   (c)   20   (d)   19

ANSWER KEY

Q No	Ans	Q No	Ans	Q No	Ans	Q No	Ans	Q No	Ans
1	(a)	2	(b)	3	(d)	4	(c)	5	(a)
6	(c)	7	(c)	8	(b)	9	(a)	10	(b)
11	(a)	12	(c)	13	(a)	14	(b)	15	(d)