INSTITUTE OF MATHEMATICS EDUCATION
MATHS APTITUDE TEST – 2023 (Primary Level)

Std. : V and VI **Question Paper** Date : 02.09.2023
Time : 2 Hours Total Marks : 100

Instructions : 1) Use separate answer sheet to mark answers. 2) First read question carefully, get the answer and darken the circle of respective correct alternative on answer sheet. 3) **No change is allowed, so think twice and then darken the appropriate circle.** 4) Note that half circle darkened or more than one circle darkened, cross or tick on the circle, will not be given marks. 5) If questions are not attempted, marks will not be given. 6) **You can use separate paper for rough work.**

Q.1 : How man zeros are there in 3 billions ?
A) 10 B) 8 C) 7 D) 9

Q.2 : 6 divides a × b but it does not divide a and neither does it divide b. If values of a and b are less than 5; then how many such pairs can be obtained? (a, b ∈ N)
A) 0 B) 1 C) 2 D) 3

Q.3 : Three numbers are co-prime to each other and their product is 154. What are the numbers?
A) 2, 7, 11 B) 2, 6, 7 C) 2, 9, 11 D) none

Q.4 : How many natural numbers are there divisible by 4 and 5 both and less than 405?
A) 15 B) 20 C) 17 D) 18

Q.5 : If x is a multiple of y and y is also multiple of z, then L.C.M. of x, y and z is
A) x only B) z only
C) y only D) x or y or z or any other

Q.6 : Which of the following is equal to $\frac{133}{494}$?
A) $\frac{19}{13}$ B) $\frac{7}{26}$ C) $\frac{19}{26}$ D) $\frac{7}{13}$

Q.7 : Write the place value of circled digit in the number 76.030④7.
A) 0.04 B) 0.004 C) 0.0004 D) 4000

Q.8 : Convert 475 milligrams into hectograms
A) 0.0475 B) 0.475 C) 4.750 D) 0.00475

Q.9 : How will you write MMCCCLIX in International Number System?
A) 2259 B) 2349 C) 2359 D) 2369

Q.10 : 'A' covered certain distance in 2.40 hours. That means he traveled for _____ minutes.
A) 144 B) 160 C) 140 D) 124

Q.11 : Find a number such that if 6 is added to 4 times the number, it is equal to 10 less than 5 times the number.
A) 10 B) 16 C) 12 D) 14

Q.12 : If there is Wednesday on 3rd May, then what will be the date on 2nd Thursday of July of the same year?
A) 10th July B) 14th July
C) 12th July D) 13th July

Q.13 : Simplify : $8 \div 8 \times 8 + \left(\frac{8}{8}\right) - 4 \times 2$
A) 8 B) 1 C) 16 D) 9

Q.14 : Cost of 3 dozen balls is ₹ 1260. Then how many balls can be purchased in ₹ 3150?
A) 90 B) 60 C) 75 D) 50

Q.15 : Length and perimeter of a rectangle are 6 cm and 19 cm. respectively. Then find the area of the rectangle in sq. cm.
A) 27 B) 22 C) 21 D) 10.5

Q.16 : Find the selling price of an article which was bought for ₹ 1200 and sold with $12\frac{1}{2}\%$ loss.
A) ₹ 1150 B) ₹ 1010 C) ₹ 1100 D) ₹ 1050

Q.17 : Find $8\frac{3}{4}\%$ of $1600 - \frac{1}{4}$ th of 360 = ?
A) 40 B) 50 C) 25 D) 100

Q.18 : In the number 36021 if the middle digit '0' is removed, then by how much the place value of digit 3 will change ?
A) 30000 B) 27000 C) 2700 D) 3000

Q.19 : A 35 digit number with all 1 is divided by 11 and the remainder is 1. Find how many zeroes are there in the quotient?
A) 16 B) 18 C) 14 D) 17

Q.20 : How many pairs of co-prime numbers can be formed from the following numbers ?
21, 22, 23, 24, 25
A) 8 B) 9 C) 6 D) 7

Q.21 : How many natural numbers less than 200 have only three factors?
A) 3 B) 2 C) 6 D) 4

Q.22 : If G.C.D. of two numbers is 'a' and two numbers are 7a and 8a respectively, then what is the product of uncommon factors?
A) 7 B) 8 C) 56 D) 1

Q.23 : By how much the smallest fraction of the following is smaller than the greatest one?
$\frac{3}{17}, \frac{4}{51}, \frac{5}{34}$
A) $\frac{5}{51}$ B) $\frac{5}{17}$ C) $\frac{5}{34}$ D) $\frac{7}{17}$

Q.24 : 9696.96 ÷ 96 = ?
A) 10.1010 B) 100.1001
C) 1010.1 D) 101.01

Q.25 : Divide (0.3 decameter + 10 millimeter) by 43 and write quotient in centimeter.
A) 4.3 B) 7 C) 3.4 D) 17

Q.26 : $\dfrac{X \times V - I}{VII} = ?$

    A) VIII   B) VI   C) IX   D) VII

Q.27 : 4.75 hours is equal to how many seconds ?

    A) 17100   B) 28500   C) 18900   D) 18000

Q.28 : A train departs at 3x minutes past 8 in the night and reaches the destination at 9x minutes past 9 in the morning of the next day. If total duration of journey is 13 hours and 30 minutes, then find value of x.

    A) 2   B) 3   C) 5   D) 4

Q.29 : What will be the date on 150th day of leap year?

    A) 31st May   B) 30th May

    C) 29th June   D) 29th May

Q.30 : Simplify $\left\{(45 + 90 \div 3 \times 6) \times 2\right\} \div \left(\dfrac{1}{2}\right)$

    A) 450   B) 225   C) 900   D) 375

Q.31 : Cost of 'a' table fans is ₹ 2b. Then what is the cost of 'c' dozen table fans?

    A) ₹ $\dfrac{12ab}{c}$ B) ₹ $\dfrac{24bc}{a}$ C) ₹ $\dfrac{12a}{bc}$ D) ₹ $\dfrac{24a}{bc}$

Q.32 : Let a × b sq. cm., b × c sq. cm and c × a sq. cm be the areas of three rectangles. If a > b and a < c, then which of the following is the smallest perimeter ?

    A) 2(a + b) cm   B) 2(b + c) cm

    C) 2 (a + c) cm   D) can't say

Q.33 : Cost price of mangoes of type 'A' is ₹ 1500 for a box of one dozen and of type 'B' ₹ 6000 for a box of 5 dozen and all mangoes from both the boxes are to be sold at ₹ 1800 per dozen. Find profit / loss percent ?

    A) 44% profit   B) 44% loss

    C) 24% profit   D) 24% loss

Q.34 : If $7.001 - (2.109 + 4.891) = x\%$ of 1, then find x.

    A) 10   B) 0.1   C) 0.01   D) 1

Q.35 : If Sum of first 2037 odd numbers is divided by 2, then what will be remainder?

    A) 0   B) 2   C) 1   D) 3

Q.36 : What should be subtracted from 17248, so that number is divisible by 15 ?

    A) 18   B) 8   C) 3   D) 13

Q.37 : The G.C.D. and L.C.M. of two numbers are 14 and 882. If one of the uncommon factor is 7 then find the larger number.

    A) 98   B) 112   C) 116   D) 126

Q.38 : Simplify, $20\dfrac{1}{9} - 36\dfrac{1}{8} + 50\dfrac{1}{72}$

    A) $34\dfrac{1}{8}$ B) $34\dfrac{1}{9}$ C) $34\dfrac{1}{72}$ (D) 34

Q.39 : $0.1\overline{35}$ is the recurring decimal form of which fraction?

    A) $\dfrac{1}{135}$ B) $\dfrac{1}{13}$ C) $\dfrac{5}{37}$ D) $\dfrac{5}{33}$

Q.40 : If 1 ounce = 30 grams, then $5\dfrac{1}{4}$ kg. = how many ounces?

    A) 175   B) 125   C) 250   D) 375

Q.41 : $3.\overline{3}$ hrs + $4.1\overline{6}$ hrs − 2.75 hrs = _____ min

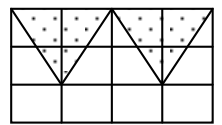   A) 285   B) 247   C) 445   D) 200

Q.42 : Two right isosceles triangles of same size are joined together base to base to form quadrilateral. It length of their equal sides is 3 cm. Find area of figure so formed in sq. cm.

    A) $9\sqrt{2}$ B) 9

    C) $6\sqrt{2}$ D) can't determine

Q.43 : Find selling price of an article in rupees if there was a loss of 16.66%, when purchased price was ₹ 2400.

    A) 2200   B) 2000   C) 2240   D) 2420

Q.44 : A rectangle is divided in 12 squares of equal area 1 sq. unit each. What part of the area of rectangle is shaded?
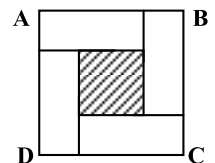

    A) $\dfrac{1}{4}$ B) $\dfrac{1}{6}$ C) $\dfrac{1}{3}$ D) $\dfrac{1}{5}$

Q.45 : What is the greatest number which divides 200, 308, 362 leaving the same remainder 11 ?

    A) 27   B) 7   C) 13   D) 37

Q.46 : In the given figure □ABCD is a square with area 576 sq. cm. Area of shaded square is 144 sq. cm. and it is surrounded by 4 identical rectangles of equal area. Then find perimeter of each rectangle in cm.

    A) 24   B) 48   C) 36   D) can't decide

Q.47 : Milk of grade A contains 24% butterfat and milk of grade B contains 18% butterfat. Find the ratio in which grade A and grade B milk are to be mixed to get a mixture of 42 lit milk containing 20% butterfat.

    A) 2 : 1   B) 3 : 4   C) 1 : 2   D) 4 : 3

Q.48 : A number when divided by 357 leaves 39 as remainder. Find the remainder when number is divided by 17.

    A) 12   B) 7   C) 13   D) 5

Q.49 : Pinky was born on 29th February 2016 which happened to be a Monday. If she lives till 2099, then how many birthdays would she celebrate on a Monday?

    A) 1   B) 2   C) 4   D) 3

Q.50 : A candidate who got 20% of total marks failed by 10 marks. Another candidate got 60% of total marks and gets 22 marks more than the passing marks. Find the passing marks.

    A) 22   B) 30   C) 26   D) 35

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