INSTITUTE OF MATHEMATICS EDUCATION

MATHS APTITUDE TEST – 2023 (Primary Level)

Std. : V and VI **Question Paper** Date : 12.08.2023

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 : What should be the digit in the place of * in the number 7*99*7 if the difference between place values is 29970?
A) 2 **B) 9** **C) 3** **D) 6**

Q.2 : Evaluate
$11 \times \left(\frac{1}{11\times12} + \frac{1}{12\times13} + \frac{1}{13\times14} + \ldots + \frac{1}{29\times30} \right)$
A) $\frac{2}{3}$ **B)** $\frac{19}{11}$ **C)** $\frac{11}{30}$ **D)** $\frac{19}{30}$

Q.3 : What is the sum of the smallest and largest prime numbers between 300 and 400?
A) 700 **B) 698** **C) 704** **D) 705**

Q.4 : What should be added to 43769 so that the number is divisible by 55.
A) 15 **B) 11** **C) 10** **D) 12**

Q.5 : G.C.D. of two numbers of two digits is 4 and L.C.M. of these two numbers is 308, then what can be the difference between these two numbers?
A) 28 **B) 16** **C) 44** **D) 30**

Q.6 : Which of the following is the smallest fraction $\frac{17}{48}, \frac{17}{51}, \frac{17}{50}, \frac{17}{49}, \frac{17}{40}$?
A) $\frac{17}{40}$ **B)** $\frac{17}{51}$ **C)** $\frac{17}{48}$ **D)** $\frac{17}{50}$

Q.7 : If 1001 × 101 = 101101, then 10.01 ×1.01 = ?
A) 101.101 **B) 10.1101**
C) 10.0111 **D) 10.1010**

Q.8 : 200 meter + 1,50,000 milimeter + 20 decameter = how many kilometer?
A) 2.15 **B) 20.15** **C) 0.55** **D) 2.035**

Q.9 : Write Roman Numeral MDCXLIX in International Number.
A) 1449 **B) 1669** **C) 1649** **D) 1469**

Q.10 : If minute hand is on 6 and hour hand is between 1 and 2, then how many minutes are left for quarter past 2?
A) 10 **B) 30** **C) 15** **D) 45**

Q.11 : If 3m + 13 = 40 and 3n = 27 and m × n = 81% x. Find x.
A) 100 **B) 270** **C) 130** **D) 810**

Q.12 : If today is Monday, then after 61 days, it will be
A) Wednesday **B) Saturday**
C) Tuesday **D) Thursday**

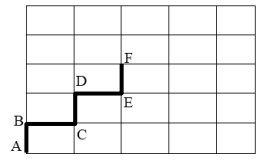
Q.13 : Simplify : 8 ÷ 4 × (6 + 2) + 32 – 2
A) 36 **B) 46** **C) 56** **D) 26**

Q.14 : 31 tables cost ₹ 58,900. Then find the cost of 19 tables.
A) ₹ 38500 **B) ₹ 37100**
C) ₹ 36100 **D) ₹ 40,000**

Q.15 : The perimeter of square and a rectangle is 40 cm. each; then the maximum difference between area of square and rectangle is (in sq. cm) (Assume that sides are integers).
A) 100 **B) 81** **C) 91** **D) 64**

Q.16 : If CP is $\frac{1}{4}$ times that of SP, then which of the following is true?
A) Profit = CP **B)Profit is 3 times SP**
C) Profit is 3 times CP **D) Profit = SP**

Q.17 : A square of side 5 units is divided into 25 equal squares as shown in adjacent figure. The length of path ABCDEF is what percentage of perimeter of original square?
A) 10% **B) 20%**
C) 50% **D) 25%**



Q.18 : What is the difference between 5th and 8th even number before 113?
A) 2 **B) 3** **C) 6** **D) 4**

Q.19 : A fifty digit number is formed in following manner 90129012 … 901290. It is then divided by 3. How many times the digit '0' appears in the quotient?
A) 12 **B) 25** **C) 23** **D) 24**

Q.20 : If m, n, p are odd integers, then witch of the following must be an odd integer?
A) m × n × (p – 1) **B) m + n + p + 1**
C) (m + 1) × n **D) (m – 2) × n × p**

Q.21 : How many three digit numbers are divisible by 7?
A) 127 **B) 128** **C) 129** **D) 126**

Q.22 : Find L.C.M. of 70 and 182
A) 910 **B) 840** **C) 70×182** **D) 460**

Q.23 : If $1-\frac{7}{11} = \frac{28}{A}$, then find A.
A) 22 **B) 44** **C) 33** **D) 77**

Q.24 : Convert $\frac{131}{18}$ into non-terminating recurring decimal fraction.
A) $7.\overline{27}$ **B)** $7.\overline{207}$ **C)** $7.2\overline{7}$ **D)** $7.\overline{278}$

Q.25 : 46 hectogram ÷ 0.23 = … kg?
A) 20 **B) 0.2** **C) 2** **D) None**

Q.26 : DXIII ÷ ? = LVII
A) IX **B) DXI** **C) VIII** **D) XIII**

Q.27 : 3 hrs. 14 min + 44 min + 2 hrs. 26 min = how many hours ?
A) 5.2 **B) 6.6** **C) 6.4** **D) 5.4**

Q.28 : There are 5 friends A, B, C, D, E. We find that A is shorter than B but taller than E. Also C is the tallest. D is shorter than B but taller than A. If they stand in order of heights, then who is in the middle?
A) A **B) D** **C) B** **D) E**

Q.29 : It was Monday on 5th Jan. 2019. Then how many Saturdays were in the same month?
A) 3 **B) 4** **C) 5** **D) Can't decide**

Q.30 : Simplify : $\frac{2}{5}+\frac{3}{4}\times\frac{4}{5}\div\frac{6}{5}$
A) $\frac{6}{5}$ **B)** $\frac{2}{5}$ **C)** $\frac{9}{10}$ **D)** $\frac{5}{3}$

Q.31 : Ticket fare of 2a persons is ₹ bx. Then find the fare for 20 persons.
A) $\frac{10bx}{a}$ **B) 10ab** **C)** $\frac{10a}{x}$ **D)** $\frac{10ax}{b}$

Q.32 : Length and breadth of a rectangular garden are 65 m and 25 m respectively. How much wire will be needed for 3 rounds of fencing around it?
A) 270 m **B) 300 m** **C) 400 m** **D) 540 m**

Q.33 : Cost price of 4 pens equals sell price of 3 pens. What is a profit / loss percentage ?
A) 33.33 % loss **B) 33.33 % profit**
C) 40% profit **D) No loss no profit**

Q.34 : If 35% of X = 1050, then find X.
A) 3000 **B) 1500** **C) 300** **D) 150**

Q.35 : Find 17th odd number after 139.
A) 173 **B) 157** **C) 173** **D) 175**

Q.36 : How many natural numbers are there divisible by 2 but not divisible by 8 and less than 40?
A) 12 **B) 14** **C) 15** **D) 13**

Q.37 : GCD and LCM of two numbers are 45 and 540 respectively. Find how many such pairs are possible?
A) 3 **B) 1** **C) 5** **D) 2**

Q.38 : Put correct sign in the box (<, >, =) $\frac{11}{17}\square\frac{3}{7}$
A) > **B) <** **C) =** **D) cannot say**

Q.39 : What is the value of the following expression?
$1\times1000+4\times100+5\times10+\frac{7}{100}+\frac{2}{10000}=$
A) 1450.0702 **B) 145.72**
C) 1450.702 **D) 1450.72**

Q.40 : 4.5 hundreds ÷ 0.6 tens = _____thousands.
A) 7.5 **B) 0.0075** **C) 0.075** **D) 0.75**

Q.41 : 3 hr. 31 min. – 48 min. + 39 min. = ?
A) 3 hr. 56 min **B) 3 hr. 10 min**
C) 4 hr. 38 min **D) 3 hr. 22 min.**

Q.42 : Perimeter of a rectangle is 43 cm and its one side is 5 cm. Then find its area in sq. cm.
A) 81 **B) 82** **C) 82.5** **D) 80.5**

Q.43 : Five dozen apples were purchased for ₹ 600 and sold at loss of 10%. Find sell price of one apple
A) ₹ 11 **B) ₹ 10** **C) ₹ 12** **D) ₹ 9**

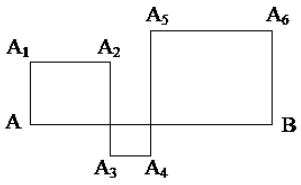
Q.44 : Sunil scored 57 out of 60 marks and Anil scored 161 out of 180 marks in exam. Who did better?
A) Anil **B) Sunil**
C) Both same **D) Can't compare**

Q.45 : How many possible pairs of distinct positive integers are there whose L.C.M. is 24 ?
A) 8 **B) 10** **C) 9** **D) 6**

Q.46 : In a large school auditorium, students are made to sit to watch programmes. If a teacher makes a row of 16 students each, then 12 students are left. If she makes a row of 24, 25 and 30 students each, then 20, 21 and 26 students are left respectively. Find the minimum number of students present in the school.
A) 1216 **B) 1784** **C) 1196** **D) 2396**

Q.47 : A swimming pool is of length 60 m, The two swimmers 'A' and 'B' enter a 240 m race at the same time from one end of the pool. The speeds of A and B are 3 m/s and 4 m/s respectively. How many times will they meet travelling in opposite direction before B completes the race?
A) 6 **B) 4** **C) 3** **D) can't determine**

Q.48 : AB is a line segment of length 23 cm. Squares are drawn on AB as shown. The length of the line segment $AA_1A_2A_3A_4A_5A_6B$ in cm is



A) 23 **B) 46** **C) 69** **D) 112**

Q.49 : Cost price of 12 oranges is equal to the selling price of 9 oranges. The shopkeeper gives certain discount on the marked price. The discount on 10 oranges is equal to profit on 5 oranges. What is the percentage point difference between the profit percentage and discount percentage?
A) 20 **B) 22.22** **C) 16.66** **D) 15**

Q.50 : A number is divided by 100 to get a remainder which is thrice of a quotient. If the number is divisible by 11, then how many such numbers are possible that are less than 1,00,000.
A) 88 **B) 3** **C) 4** **D) 87**

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