

**Brihanmumbai Ganit Adhyapak Mandal, Pune Jilha Ganit Adhyapak Mandal and  
Ganit Adhyayan Adhyapan Vikasan Sanstha, Nashik**

GANIT PRABHUTWA EXAMINATION (Level 1) Std. VIII

Date: 18-12-2022

Time: 3 Hours

Total Marks: 100

N.B. Proper procedure and explanation necessary for Q. 2 to Q. 6.

Q.1 A) Rewrite the statements using appropriate option given below each question. (10)

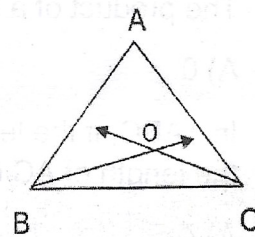
- 1) The G.C.D. of any two consecutive even numbers is \_\_\_\_\_ .  
A) 0                      B) 1                      C) 2                      D) 3
- 2) The product of a non-zero number and its reciprocal is \_\_\_\_\_ .  
A) 0                      B) 1                      C) 2                      D) 3
- 3) In  $\triangle ABC$ , if the length of AB is 4.3 cm and length of BC is 8.8 cm, the length of AC can be \_\_\_\_\_ cm.  
A) 4.5                      B) 4.2                      C) 13.1                      D) 6.0
- 4) The smallest odd prime number is \_\_\_\_\_ .  
A) 0                      B) 1                      C) 2                      D) 3
- 5) If the sides containing right angle of a right-angled triangle are 7 cm and 24 cm, then its hypotenuse is \_\_\_\_\_ .  
A) 40 cm                      B) 35 cm                      C) 30 cm                      D) 25 cm
- 6) If the sum of interior angles of a regular polygon is  $1440^\circ$ , then the number of sides of the polygon is \_\_\_\_\_ .  
A) 10                      B) 12                      C) 15                      D) 20
- 7) 10% of 12% of 4500 is \_\_\_\_\_ .  
A) 45                      B) 56                      C) 58                      D) 54
- 8) If 60A68 is a number divisible by 11, then the digit in place of A is \_\_\_\_\_ .  
A) 0                      B) 1                      C) 2                      D) 3
- 9) If a square is inscribed in a circle of radius 7 cm, area of the square is \_\_\_\_\_ sq. cm.  
A) 14                      B) 196                      C) 98                      D) 616
- 10)  $\square ABCD$  is a rectangle. If the lengths of its diagonals are  $(5x + 3)$  and  $(3x + 7)$ , then the length of each diagonal is \_\_\_\_\_ .  
A) 10                      B) 11                      C) 12                      D) 13

Q.1 B] Write only answers of the following questions. (10)

- 1) Factorize:  $27a^3 - 8b^3$ .
- 2) The length, breadth and height of a box are 12 cm, 9 cm and 8 cm respectively. Find the maximum length of a stick that can be placed in that box.
- 3) Solve:  $(2x - 1) = (x + 1) \div 3$
- 4) Simplify :  $(11m^2 - 9m) + (3m^2 + 4m) - (2m^2 - 5m)$ .
- 5) Simplify :  $5^{-4} \times (125)^2$

Q.2 Solve the following questions. (15)

- 1) In the given figure, if  $m\angle A = 80^\circ$ , ray CO and ray BO are angle bisectors, find and write  $m\angle BOC$ .
- 2) Find the interest on Rs.16000 for two years at the rate 6% per annum by compound interest. Find the amount too.
- 3) Draw a circle with radius  $\sqrt{10}$  cm and center O.
- 4) Divide  $(x^4 - x^3 + 5) \div (x - 1)$  and write the quotient and remainder.
- 5) The average age of a family of 4 members is 22.5 years. The son is two years older than his sister. Father is four years older than his wife. What is the average age of the mother and her son?



Q.3 Solve the following questions. (15)

- 1) If  $3x - 4 = \frac{3}{x}$ , then find the value of  $x^3 - \frac{1}{x^3}$
- 2) Construct a rectangle having diagonal 6 cm and angle between the diagonals  $120^\circ$ .
- 3) The diameter of a wheel is 90 cm. How many revolutions will it make while covering the distance of 1413 meters? ( $\pi = 3.14$ )
- 4) Solve :  $\frac{9}{7}$  of  $\frac{28}{21} \times \frac{35}{16} \div \frac{3}{10} + \frac{1}{5} - \frac{1}{2}$
- 5) Convert  $0.\overline{09}$  in the rational form.

Q. 4 Solve the following questions. (20)

- 1) G.C.D. of two numbers is 23 and their product is 19044. Find and write those numbers.
- 2) Ratio of 'A's salary to 'B's salary is 4 : 5 and the ratio of 'B's salary to 'C's salary is 2 : 3. If 'A's salary is Rs. 24000, then find and write 'C's salary.
- 3) 600 compass boxes were bought for Rs. 18000. Of them,  $\frac{2}{3}$  were sold at a profit of 20%. 100 boxes, a little damaged, had to be sold at 10% loss. For how many rupees should the remaining boxes be sold so as to gain 10% on the whole?
- 4) The difference between the circumference and diameter of a circle is 45 cm. Find and write the area of the circle. ( $\pi = \frac{22}{7}$ )
- 5) Simplify :  $216 \div [2.7 - 3 \{ 5 - (4 + 7) \}] \times 2.3$

Q.5 Solve the following questions. (20)

- 1) Construct an equilateral  $\triangle DEF$  of side 5cm. Construct all its altitudes.
- 2) The speed of a 175 meters long train is 40 km/hr. How much time it requires to cross, a 225 meters long platform?
- 3) Simplify :  $\{5^{n+3} - 6 \times 5^{n+1}\} \div \{9 \times 5^n - 5^n \times 2^2\}$
- 4) The price of sugar is increased by 20%. By what percent should the consumption of sugar be reduced so that expenditure on the sugar will remain the same?
- 5) The difference between the compound interest and the simple interest in 2 years on a certain principal is Rs.25. Find and write the principal if the rate of interest is 5 p.c.p.a.

Q. 6 Solve the following questions. (10)

- 1) If  $a = 101$  and  $b = 100$ , then find the value of  $(a^6 - b^6) \div (a^4 + b^4 + a^2b^2)$
- 2)  $\square PQRS$  is a kite. Its diagonals intersect at point M.  $m\angle QPS = 60^\circ$ .  
 $PQ \neq QR$ .  $PQ = 20$  cm and  $RM = 24$  cm.  
Find and write the perimeter of the kite.

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