



**NATIONAL LEVEL SCIENCE TALENT SEARCH EXAMINATION (UPDATED)**

**CLASS - 5**  
**Question Paper Code : 10109**

**KEY**

1. C	2. A	3. C	4. D	5. B	6. C	7. B	8. C	9. C	10. C
11. B	12. B	13. D	14. D	15. C	16. D	17. C	18. A	19. D	20. B
21. C	22. D	23. B	24. B	25. C	26. D	27. B	28. A	29. D	30. D
31. B	32. B	33. A	34. A	35. D	36. C	37. B	38. D	39. C	40. C
41. D	42. C	43. C	44. C	45. D	46. D	47. D	48. B	49. A	50. D
51. D	52. B	53. B	54. C	55. C	56. A	57. A	58. Del	59. B	60. C

**SOLUTIONS**

**MATHEMATICS**

01. (C) If  = 4 and  = 2

$$2 + 2 + 2 + 2 = 2 \times 4 = 8$$

$$4 + 4 + 4 + 4 = 2 \times 2 \times 4$$

$$16 = 4 \times 4$$

$$16 = 16$$

02. (A) Aneesh = 36 kg

$$\text{Keshav} = 36 + 8 \text{ kg} = 44 \text{ kg}$$

$$\text{vahid} = 44 \text{ kg} - 10 \text{ kg} = 34 \text{ kg}$$

$$\frac{36 \text{ kg} + 44 \text{ kg} + 34 \text{ kg}}{3} = 38 \text{ kg}$$

03. (C) Acute angle measures less than 90°.

From all four options, option (C) is acute.

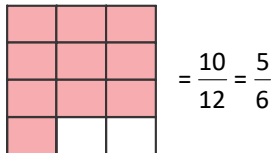
∴ Answer is option (C).

04. (D)

$$\begin{aligned} &= \frac{2012 + 2012 + 2012 + 2012 + 2012 + 2012 + 2012}{2012 + 2012 + 2012 + 2012} \\ &= \frac{7 \times 2012}{4 \times 2012} = \frac{7}{4} = 1\frac{3}{4} \end{aligned}$$

∴ Answer is option (D)

05. (B)



06. (C) There are infinitely many prime number because prime numbers never end and there is no longest prime number. The other options are incorrect : (A) not all even numbers are composite (E.g. 2 is prime), (B) not all odd numbers are prime (eg. 9, 15) and (D) a prime number cannot be written as the product of more than two natural numbers.

07. (B) The fruit seller buys 50 apples at 10 each, so his total cost is  $50 \times 10 = 500$ . He sells each apple for 12, so his total revenue is  $50 \times 12 = 600$ , resulting in a profit of  $600 - 500 = \text{Rs. } 100$

08. (C) GCF, is the greatest factor that divides two numbers, thus in the question, we will be calculating the GCF.

Tim has a bag of 36 orange-flavoured sweets and Peter has a bag of 44 grape-flavoured sweets.

For calculating, we need to calculate the factors of 36 and 44.

$$\text{Factors of } 36 = 2 \times 2 \times 3 \times 3$$

$$\text{Factors of } 44 = 2 \times 2 \times 11$$

Thus  $\text{GCF} = 2 \times 2 = 4$ , Therefore the largest possible number of sweets in each tray is 4.

09. (C) Let the number of notes of each kind be  $x$ . then  $10x + 5x + 2x = 510$

$$\Rightarrow x = \frac{510}{17} = 30$$

10. (C) The tours of the tiger & elephant enclosures will leave at same time every 60 minutes because the least common most of 15 and 20 is 60. This means the tours will both leave together once every hour, starting at 8 : 30 Am & again at 9 : 30 Am ,10 : 30 Am and ....

11. (B) 1 is the only number having exactly one factor

12. (B)  $0.14 \div 0.0007 = 200$

13. (D) If  $\square = 6$ ;  $0 = 3$  then  $6 + 3 = 9$ ;  $6 - 3 = 3$

(A)  $6 \times 3 = 18$

(B)  $6 \div 3 = 2$

(C)  $6 \times 6 = 36$

(D)  $3 \times 3 = 9$

14. (D) PQ, PR, PS, PT, QR, QS, QT, RS, RT, ST

15. (C) When both  $m$  and  $n$  are odd numbers, their product ( $mn$ ) is always odd, as the product of two odd numbers is always odd, whereas the sum, difference, and even multiples will be even

16. (D) 13:30 to 18:05 is 4 h 35 min

$$\text{Duration of time he worked} = 1 \text{ h } 50 \text{ min} + 2 \text{ h } 5 \text{ min} = 3 \text{ h } 55 \text{ min}$$

$$4 \text{ h } 35 \text{ min} - 3 \text{ h } 55 \text{ min} = 40 \text{ min}$$

His break was 40 min long

17. (C) Reena = 350 stamps, Harshit =  $350 + 75 = 425$ , Ajay =  $350 - 125 = 225$   
 $350 + 425 + 225 = 1000$

18. (A) Area of fig (A) =  $15 \text{ cm} \times 4 \text{ cm} = 60 \text{ cm}^2$   
Area of fig (B) =  $20 \text{ cm} \times 3 \text{ cm} = 60 \text{ cm}^2$

19. (D) 8 is not equivalent to 8 % because 8 is a whole number, not a fraction or decimal form

20. (B) As per the rule, 'C' can be subtracted from 'D' and 'M' only but we can not subtract 'C' from 'X' and 'L'.

∴ option (B) is wrong.

So, answer is option (B).

21. (C) Area =  $4 \text{ cm} \times 4 \text{ cm} = 16 \text{ cms}$

22. (D)  $\frac{19}{1000} = 0.019$

23. (B)  $999999 + 9999999 = 10999998$

24. (B) (18, 25) are co - primes Hence, their HCF is 1 and they are coprime

25. (C)  $\frac{2}{5} + \frac{1}{4} = \frac{8+5}{20} = \frac{13}{20}$

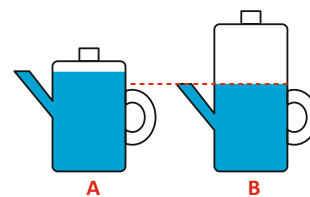
$$1 - \frac{13}{20} = \frac{20 - 13}{20} = \frac{7}{20}$$

### GENERAL SCIENCE

26. (D) Venus is called the morning and evening star.
27. (B) The process of water vapour turning back into liquid is called condensation.
28. (A) Earth = 2; Moon = 3; Sun = 1
29. (D) Ice melt and form into puddle of water due to the absorption of heat.
30. (D) Corona is the outermost layer of the sun and uranus appears to be blue in colour due to methane gas.
31. (B) X is granite. Granite is used for making statues and for building purposes.
32. (B) Tortoise and turtle are reptiles
33. (A) Given seeds have wing and hair like structures that help these seeds to disperse.
34. (A) Drying of wet floor involves evaporation of water from the wet floor.
35. (D) Seeds of plants Y is dispersed by wind and Z by animals.
36. (C) Outer planets do not have moons orbiting them while inner planets have.
37. (B) Fern make its own food and reproduces from spores.
38. (D) A solar eclipse is formed when the moon comes between the sun and the earth.
39. (C) Penguin is a bird.
40. (C) A frog has sticky tongue to catch insects.
41. (D) Measles, chicken pox and plague are communicable diseases.
42. (C) Potato reproduce from nodes or eyes.
43. (C) One role of a producer in a food chain is to provide nutrients for animals.
44. (C) P - Lever; Q - Pulley; R - Inclined plane.
45. (D) Birds, bats and butterflies have wings to fly.
46. (D) Uranus - Coldest planet  
Mars - Red planet  
Mercury - Smallest planet  
Saturn - Second largest planet
47. (D) Seed → young plant → adult plant
48. (B) Cockroach breathe through certain special structures called trachea.
49. (A) A fishing pole or a fishing rod is an example of a lever.
50. (D) Humerus is the upper arm bone.
51. (D) An inclined plane is a slope which makes work easier. When workers have to load or unload a truck they use a plank of wood as an inclined plane.
52. (B) X - hinge joint at elbow and knee and Y - ball and socket joint at shoulder and pelvis
53. (B) A screwdriver is an example of wheel and axle.
54. (C) Frogs feed on grasshopper. If frogs are suddenly increased the population of grasshopper decreases.
55. (C) Sedimentary rocks were built up over many millions of years. They are made up of layers of sediments. Sandstone is a sedimentary rock used as a building material.

### CRITICAL THINKING

56. (A) Kettle B is higher and has a larger volume and initially seems as if it can contain more water. However, the kettle can only contain water to the height of the spout before it starts pouring out. The spout at kettle B is shorter, and the total water height can be lower than in kettle A.



57. (A) If not everyone is strong, then there are some that are not strong, or similarly, someone is not strong.
58. Delete
59. (B) Completing the assignment on time is important as it is a responsibility. You can attend the party afterward.

