



NATIONAL LEVEL SCIENCE TALENT SEARCH EXAMINATION

CLASS - 4

Question Paper Code : 1P114

KEY

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

SOLUTIONS

MATHEMATICS

01. (D)

$$\begin{array}{r} 5 \overline{) 2025} \\ 5 \overline{) 405} \\ 9 \overline{) 81} \\ 9 \end{array}$$

$$2025 = 5 \times 5 \times 9 \times 9$$

$$= A \times A \times B \times B$$

Therefore, A = 5 and B = 9

02. (B) Try with 24 coins (a number that's easy to divide by both 4 and 3).

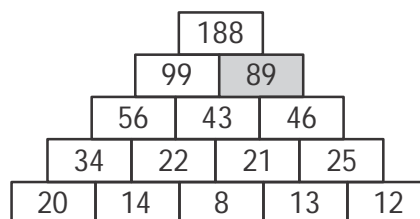
One fourth of 24 = 6 heads

Now turn 2 tails into heads ? you add 2 more heads

Total heads = 6 + 2 = 8 heads

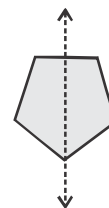
One third of 24 = 8 heads





03. (C)



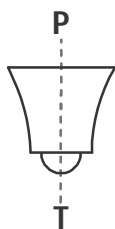
04. (A) Time = 01:12 \rightarrow digits 0,1,2.
Next time with digits 0,1,2 \rightarrow 01:20 (8 minutes later).
05. (A) Container & jug problem
Jug = 6 L, container = 36 L.
After every 2 fillings, 2 L is spilled \rightarrow net per 2 fillings = $12 - 2 = 10$ L.
To fill 36 L: $10 + 10 + 10 = 30$ L after 6 fillings \rightarrow remaining 6 L \rightarrow 1 more filling.
Total fillings = $6 + 1 = 7$
06. (B) 3-digit numbers with all odd digits:
Digits available: 1, 3, 5, 7, 9 \rightarrow 5 choices for each place
Total numbers = $5 \times 5 \times 5 = 125$
07. (D) Q to S = $(R + 300) - (R - 150) = 450$ m
08. (D) 1 day = 24 hours
 $= 24 \times 60 \times 60 = 86400$ sec
09. (B) 1 rice bag = 5 kg
1 sugar box = 3.5 kg
Option C : $5 + 3.5 + 3.5 = 12$ kg
Option D : $3.5 + 3.5 + 5 = 12$ kg
Option A : $5 + 3.5 = 8.5$ kg
Option B : $5 + 5 = 10$ kg
10. (C) Step 1: Determine the actual time
Clock A shows 7:05, and is 12 minutes fast. The actual time is
 $7:05 - 12 \text{ minutes} = 6:53$.
Step 2: Determine the time shown on Clock B
Clock B shows 6:40.
Step 3: Calculate how slow Clock B is
Clock B is slow by the difference between the actual time and the time shown on Clock B:
 $6:53 - 6:40 = 13$ minutes
11. (C) Value of '3' in 2,39,766 is 30,000
Value of '6' in 45,655 is 600
 $\therefore \frac{P}{Q} = \frac{30,000}{600} = 50$

12. (D) $54 + 73 = 96 + 21$
 $127 \neq 117$
13. (D) The figure in option (D) is symmetrical as shown.



14. (D) delete
15. (C) $5600 \div 700 = 8$
 $56000 \div 7000 = 8$
 $56 \div 7 = 8$
 $5600 \div 7 = 800$
 $56000 \div 700 = 80$
16. (D) (A) $99999 + 1000 + 100 + 10 + 1$
 $= 101110 \rightarrow (6 \text{ digits})$
(B) $99999 + 9999 + 999 + 99 + 9$
 $= 111105 \rightarrow (6 \text{ digits})$
(C) $10000 + 1000 + 100 + 10 + 1$
 $= 11111 \rightarrow (5 \text{ digits})$
(D) $90000 + 9000 + 900 + 90 + 9$
 $= 99999 \rightarrow (5 \text{ digits, largest})$
17. (B)  +  + 45896 = 96023 + 
 = $96023 - 45896 = 50127$
18. (D) $1111 \times 1 = 1111$
 $1234 + 1 = 1235$
19. (A) Total balloons = $2375 + 3113 = 5488$
Balloons per bag = $5488 \div 8 = 686$
20. (D) Common factors of 12 and 42 are 1, 2, 3 and 6
 $1 + 2 + 3 + 6 = 12$
21. (D) $5\frac{2}{3} = \frac{17 \times 6}{3 \times 6} = \frac{102}{18}$

22. (A)



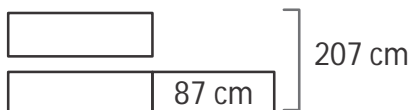
23. (A) $22 \times 3 \text{ cm} = 66 \text{ cm}$

24. (A) $10:45 + 1 \text{ hr} = 11:45$

+20 min stop = 12:05

+1 hr 40 min = 1:45 p.m.

25. (D)



$207 \text{ cm} + 87 \text{ cm} = 294 \text{ cm}$

$294 \text{ cm} \div 2 = 147 \text{ cm} = 1 \text{ m } 47 \text{ cm}$

BIOLOGY

26. (C) Pitcher plant and venus fly trap insects.

27. (B) A pulley is a simple machine that has a grooved wheel and a rope running between the groove of the wheel. It is used to lift heavier objects easily. In the given picture, the man is pulling a bucket full of water from the well with the help of a pulley.

28. (D) A bat is a nocturnal flying mammal (active at night, and the only mammal that can truly fly).

29. (A) P-(ii); Q-(iv); R-(i); S-(iii)

30. (C) Sugar occupies the empty spaces in between the molecules of water.

31. (B) Humus-rich soil is dark black in colour. This soil is rich in nutrients and humus, which gives it dark black colour. Clay soil is dark red in colour. Although clay soil is dark but it is lighter than humus-rich soil, Sandy soil is light brown in colour.

32. (A) Salt is a substance which gets dissolved and is called the solute.

33. (C) The frog is an amphibian. It can live on land and in water. On land it hops and in water it swims.

34. (D) The given characteristics are found in arboreal animals.

35. (B) Molars are specially designed for crushing and chewing plant foods into easily swallowable and digestible pieces. They also help to maintain the proper positioning of the jaws. They enable them to slice and grind their food efficiently.

36. (C) Electrical energy is converted to light and sound energy.

37. (B) Terraces break slopes into flat areas, reducing the speed of water runoff and saving soil.

38. (B) The Moon reflects sunlight, making it visible from Earth at night.

39. (A) Fresh fruits and vegetables are rich in vitamins, minerals, and fiber, which help boost immunity and keep the body healthy.

40. (A) Solar cookers use clean energy from the sun, which prevents smoke and pollution from wood, coal, or gas.

41. (D) The given picture shows a pupa, that is encased in a cocoon.

42. (A) Quartz is a delicate mineral used for making glasses and lenses.

43. (C) Gases are the easiest to compress.

44. (C) Bat, whale and deer are mammals. Mammals give birth to live young ones.

45. (D) In case of sprain a glass of warm milk with a little turmeric mixed in it. Wrapping an elastic bandage around the leg and rubbing the leg with ice-cubes can help you heal faster.

46. (B) Venus rotates the slowest. It takes 243 days for one rotation.

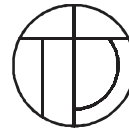
47. (B) Pitcher plant is an insectivorous plant that grows only in soils which do not contain sufficient nitrogen. These plants trap insects by various methods, kill them and digest them to obtain nitrogen compounds for their growth.

48. (D) The correct combination is: Caterpillar - butterfly, nymph - cockroach, tadpole-frog Maggot- housefly.
p-III,q-IV,r-I, s-II.
49. (A) A leaf insect blend with its surroundings to protect itself from its enemies.
50. (B) Planet Earth has been called the "Blue Planet" due to the abundant water on its surface. Here on Earth, we take liquid water for granted; after all, our bodies are mostly made of water. However, liquid water is a rare commodity in our solar system.
51. (B) Paper is biodegradable, non toxic, useful and can be recycled.
52. (B) Mangrove roots trap soil and slow down water, protecting the shore from being washed away.
53. (A) Not fishing during breeding allows fish to reproduce, ensuring there are enough fish in the future.
54. (A) Six legs offer balance and adaptability for moving on land, jumping, or holding onto plants.
55. (D) Green plants make their food using carbon dioxide and water in the presence of light. This process is known as photosynthesis.

CRITICAL THINKING

56. (B) The distance between the 11th and 29th cabins is 18 cabins. That means half of the wheel has 18 cabins, so the full wheel has $18 \times 2 = 36$ cabins.
57. (A) Point X moves left and spring Y compresses.
- Explanation : 1. When the shears are closed, the blades will move towards each other.
2. As the blades move together, Point X will move to the left.
3. The spring will be compressed as the blades close.

58. (A) Number
59. (C) The final unfolded paper has four holes arranged symmetrically in a square pattern.
- When the paper is folded, the cut creates a hole in that specific position.
- Unfolding the paper reveals a mirror image of the hole across each fold line.
- Option (C) involves two perpendicular fold lines, which would result in four symmetrically placed holes when a single cut is made through all layers.



60. (C)