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NATIONAL LEVEL SCIENCE TALENT SEARCH EXAMINATION

CLASS - 4
Question Paper Code : 1O119

KEY

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

SOLUTIONS

MATHEMATICS

01. (B) $\dfrac{3}{5} + \dfrac{3}{10} = \dfrac{6+3}{10} = \dfrac{9}{10}$

02. (A) Product: 7632 → digits used: 7, 6, 3, 2

Remaining digits for factors: 1, 4, 5, 8, 9

Factors : 159 × 48 = 7632 (uses all digits 1 – 9 exactly once)

3-digit number 159 → middle digit Y = 5

03. (C) B rounds to 830 → smallest B = 825

C rounds to 1200 → smallest C = 1150

Smallest B + C = 825 + 1150 = 1975

04. (A) Hundred times of a centimetre is a metre. And if we do thousand times of a metre, we get a kilometre. Hence, metre is the answer.
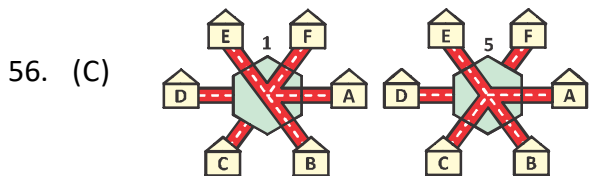
05. (A) Square side = 28 ÷ 4 = 7 cm

One rectangle perimeter

= 16 → sides 7 × 1

Other rectangle = 7 × 6 → perimeter

= 2(7 + 6) = 26 cm

06. (D) Given: 1, 2, each term = sum of all previous terms.

1st term = 1

2nd term = 2

3rd term = 1 + 2 = 3

4th term = 1 + 2 + 3 = 6

5th term = 1 + 2 + 3 + 6 = 12

6th term = 1 + 2 + 3 + 6 + 12 = 24

7th term = 1 + 2 + 3 + 6 + 12 + 24 = 48

50 is not in the sequence

07. (D) He walks 10 m → this is of the journey (remaining by bus)

Total distance = 10 × 4 = 40 m

08. (B) Weight of empty beaker = 50 g

weight of water in the beaker = 250 g

weight of water = 250 g – 50 g = 200 g

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

Duration of time he workd = 1 h 50 min + 2 h 5 min = 3 h 55 min

4 h 35 min – 3 h 55 min = 40 min

His break was 40 min long

10. (D) 40444 + 44044 + 44404 + 44440

= 1 7 3 3 3 2
  TL L TTh Th H T

11. (D) 2 + 4 + 6 + 8 + 10 + 12 + 14 + 16 + 18 + 20 + 22 + 24 + 26 + 28 + 30 + 32 + 34 + 36 + 38 + 40

= 20 × 21 = 420

12. (A) Total squares = 18

shaded squares = 6

fraction of the shaded rectangle

$= \dfrac{6}{18} = \dfrac{1}{3}$

13. (C) This means that (☐ + ◯) + (◯ + △) + (△ + ☐) = 30 + 28 + 22

and so (☐ + ◯ + △) + (☐ + ◯ + △) = 80

Therefore, ☐ + ◯ + △ = 80 ÷ 2 = 40

14. (A) Boys = 25, Girls = 19 → difference = 6

Every week : Boys + 2, Girls +3 → difference gets smaller by 1 each week

So, to close the difference of 6, it will take 6 weeks

15. (D) Total weight = 36 kg

Apples + Bananas = 36 kg, Bananas = 3 × Apples → Apples = 9 kg

Boxes adding to 9 kg → 7 kg + 2 kg → Boxes 1 and 4

16. (D) 2022 + 3 = 2020 + 5

2025 = 2025

17. (B) 1 shirt → $2\dfrac{1}{3}m = \dfrac{7}{3}m$

? → 35 m

$35 \div \dfrac{7}{3} = \overset{5}{\cancel{35}} \times \dfrac{3}{\cancel{7}} = 15$ shirts

18. (C) Bharat counts by 4's: 8, 12, 16, …, 100 → 24 numbers

Charan counts by 5's : 10, 15, 20, …, 100 → 19 numbers

Common numbers: 20, 40, 60, 80, 100 → 5 numbers

Total different numbers

= 24 + 19 – 5 = 38

19. (C) Manu = even → 48 or 52

Janu = multiple of 5 → 45

Chetan → ≠ heaviest → ≠ 53

Amit → ≠ lightest → ≠ 45 → Amit = 53

20. (C) Shaded + unshaded

= whole → always 1

21. (C) H has 2 pairs of parallel lines (vertical and horizontal).

22. (B) A number multiplied by 1 is itself, which is not bigger than the number.

23. (D) The segment from 5 to 6 is divided into

8 equal parts $\Rightarrow$ each part = $\dfrac{1}{8}$

A is 3 part after 5 $\Rightarrow$ A = 5 + $\dfrac{3}{8}$ = $5\dfrac{3}{8}$

B is 2 parts after 6

$\Rightarrow$ B = 6 + $\dfrac{2}{8}$ = 6 + $\dfrac{1}{4}$ = $6\dfrac{1}{4}$

24. (A) Starting with Kushi, calculate the number of

stamps the other have

Kushi : 170 stamps

Juhi : 170 + 37 = 207 stamps

Let Rishi's share of stamps be 1 unit

Then, 3 units $\rightarrow$ 207 − 18

= 189 stamps

1 unit $\rightarrow$ 189 ÷ 3

= 63 stamps

Rishi has 63 stamps

25. (D) order: B < C < A (=E) < D

GENERAL SCIENCE

26. (B) Mangroves grow in Marshy areas.

27. (D) All items in option (D) are levers, which is the same type of simple machines.

28. (A) The amphibian shown in the picture is a frog. The young one of a frog is tadpole that breathes through gills.

29. (A) Three, Four

30. (A) The eggs of frogs are called spawn.

31. (D) Cross the road at zebra crossing, always walk on the footpath, play in the play ground. It is safe to play with toys in a good condition.

32. (A) The imaginary line that divides the earth into two halves is called equator.

33. (B) Monkey, lizard and squirrels are tree dwelling or arboreal animals.

34. (A) A-3, B-4, C-2, D-1

35. (C) Dry leaves and vegetable waste matter can be allowed to get decomposed in a pit to form compost.

36. (A) Covering your mouth stops germs from spreading in the air and keeps others safe from germs.

37. (C) Fruits and vegetables are rich in vitamins and minerals that boost immunity and protect against diseases.

38. (C) In Sugarcane plant, the stem is modified to store food. The root is modified to store food in radish. The seeds of pea plant are modified to store food and cauliflower is the edible modified flower of the plant.

39. (D) Castor oil, Tulsi and Dhatura gives us medicines.

40. (A) Tilling is the process of loosening of the soil.

41. (C) Sheep, cow and rabbit are herbivores while bear is an omnivore.

42. (A) Kerosene is insoluble in water.

43. (D) Quartz is used for making optical lenses. Quartz is a delicate mineral and is used for making glass, lenses and other electrical equipment.

44. (A) When describing the colour, size, shape, or smell of an object, we are describing the properties of matter.

45. (A) Mammals suckle their yound ones.

46. (B) The first help given to the victim of an accident.

47. (B) Heterotrophs depends on other organisms for their food.

48. (B) The chameleon exhibits camouflage.

49. (C) The moon, the earth, the sun.

50. (D) Energy obtained from sun, wind and water are renewable.

51. (C) Constellations are imaginary patterns formed by connecting stars in the sky.

52. (A) Protein-rich foods like pulses, milk, and eggs help repair tissues and support growth.

53. (C) Cactus is a desert plant. The leaves are modified into throns and stem is green, thick and fleshy. It makes food and stores water for the plant.

54. (A) All of these given parts are edible parts of the plant.

55. (C) Winter crops are called Rabi crops.

CRITICAL THINKING

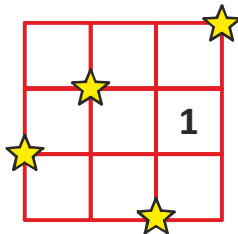56. (C)

57. (B) Dog goes 7 steps up, cat 3 steps down → 1 cycle.

Dog at step 56 → number of cycles

= 56 ÷ 7 = 8

Cat moves 3 × 8 = 24 steps down from 100 → 100 − 24 = 76

58. (C)

59. (D)

60. (A) Day after tomorrow is Wednesday, and day before yesterday was Saturday (a weekend), so today is Monday.