MOTION

Nurturing potential through education

NATIONAL LEVEL SCIENCE TALENT SEARCH EXAMINATION

CLASS - VI

ANSWER KEY

1.	(C)	**2.**	(D)	**3.**	(D)	**4.**	(B)	**5.**	(D)	**6.**	(C)	**7.**	(C)
8.	(C)	**9.**	(C)	**10.**	(C)	**11.**	(D)	**12.**	(C)	**13.**	(B)	**14.**	(B)
15.	(D)	**16.**	(B)	**17.**	(D)	**18.**	(C)	**19.**	(A)	**20.**	(D)	**21.**	(C)
22.	(C)	**23.**	(D)	**24.**	(A)	**25.**	(B)	**26.**	(A)	**27.**	(A)	**28.**	(B)
29.	(C)	**30.**	(C)	**31.**	(A)	**32.**	(B)	**33.**	(C)	**34.**	(A)	**35.**	(B)
36.	(C)	**37.**	(A)	**38.**	(D)	**39.**	(D)	**40.**	(D)	**41.**	(C)	**42.**	(C)
43.	(D)	**44.**	(A)	**45.**	(B)	**46.**	(C)	**47.**	(B)	**48.**	(B)	**49.**	(B)
50.	(B)	**51.**	(C)	**52.**	(A)	**53.**	(D)	**54.**	(B)	**55.**	(C)	**56.**	(C)
57.	(C)	**58.**	(C)	**59.**	(D)	**60.**	(C)	**61.**	(C)	**62.**	(A)	**63.**	(A)
64.	(C)	**65.**	(A)	**66.**	(A)	**67.**	(C)	**68.**	(D)	**69.**	(A)	**70.**	(C)
71.	(B)	**72.**	(A)	**73.**	(D)	**74.**	(C)	**75.**	(B)	**76.**	(C)	**77.**	(C)
78.	(D)	**79.**	(D)	**80.**	(D)	**81.**	(C)	**82.**	(A)	**83.**	(D)	**84.**	(B)
85.	(C)	**86.**	(B)	**87.**	(A)	**88.**	(B)	**89.**	(B)	**90.**	(D)	**91.**	(C)
92.	(B)	**93.**	(B)	**94.**	(C)	**95.**	(D)	**96.**	(C)	**97.**	(B)	**98.**	(D)
99.	(B)	**100.**	(A)										

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SOLUTIONS

1. c = 5 – 3 = 2
b = 5
a = 3

4. $\frac{1}{4}, \frac{3}{16}, \frac{5}{36}, \frac{7}{64}, \frac{9}{100}, \frac{11}{144}$

5. 12x – 6 = –18
12x = – 12
x = – 1 [No]

6. 0.125, P, 0.375, Q, 0.625

$P = \frac{1}{4}, \quad Q = \frac{2}{4}$

$P + Q = \frac{1}{4} + \frac{1}{2} = \frac{3}{4}$

7. HCF is the factor of LCM
104 is not factor of 3718

12. 64 = 2 × 32 64 = 4 × 16
64 = 8 × 8 64 = 64 × 1
∴ A + B = 34 or 20 or 16 or 65
A + B = Cannot 35

13. C = 3.75
A = 1.5
C – A = 2.25

15. $3 \times 2 \times 2 \times 5 \times 5 \times 3 \times 2 \times 3 = 2^x \times 5^y \times 3^z$
x = 3, y = 2, z = 3
$(3)^2 + (2)^5 + (3)^3 = 68$

20. 6994 + (6994 + 1) + (6994 + 2) + (6994 + 3) + (6994 + 4) + (6994 + 5)

$\frac{41964 + 15}{7} = \frac{41979}{7} = 5997$

25. x : y = 2 : 3
y : z = 5 : 8
x + y + 2 = 98

$\frac{x}{y} = \frac{2}{3} \Rightarrow 3x = 2y$

$\frac{y}{z} = \frac{5}{8} \Rightarrow 8y = 5z$

x = 20, y = 30
z = 48

26. (A) L only closed will be able to light up bulb 1.

27. (A) 5.8 cm – 1 cm = 4.8 cm

28. (B) Periscope has 2 reflection

29. (C) Object J & K are magnets,
So, they repel each other and push the toy car.

30. (C) No. of eraser = $\frac{12}{2}$ = 6

31. (A) In this bulb (1) will not light up.
As the both terminals are not connected to wire.

32. (B) Tracing paper → Translucent object
Sand paper → Opaque object

33. (C) Opposite poles attract each other
Both 1 and 3 only

34. (A) 2 Cells & 1 bulb in series will last longer period of time.

35. (B) 25.0 cm

36. (C) Solar cell convert light energy to electrical energy.

37. (A) Magnet will attract more iron fillings at poles and less at body.

38. (D) Child on swing only shows oscillatory motion.

39. (D) A magnet can act at a distance and the magnetic attraction can pass through air, water and oil.

40. (D) Shadow can be changed by moving object and source of light.

41. (C) Electromagnet- a magnet that is made from electricity.

42. (C) At as noon, the shadow is smallest.

43. (D) Magnets are used in compass, loudspeakers and television also.

44. (A) Orange will reflect some light and absorb some.

45. (B) 2 Bulbs connected in series will glow less brightly.

46. (C) Measuring tape.

47. (B) P & Q will be able to see light of candle flame.

48. (B) Steel is used for magnetic shielding.

49. (B) Relative speed = 15 – (–15) = 30 km/hr

$S = \frac{D}{2} \Rightarrow t = \frac{D}{S} = \frac{60}{30}$ = 2hr

50. (B) 2 Bulb will light up.

51. (C) Chemical change

54. (B) Both are dissolved in water and not attracted by magnet so both substance are difficult to separate when they mixed together.

55. (C) Water level after a pear was dropped = 600 ml
Volume of water is = 4 time of pear
Volume of pear = 4nx = 600

$x = \frac{600}{4}$ = 120ml

Volume of water = 600 – 120 = 480 ml

63. (A) Water (Rain) is liquid state of matter.

67. (C) Much number of kg's required to breakdown the playwood. Stronger the plywood.

68. (D) $C_{(wax)} + O_2 \longrightarrow CO_2(g) + H_2O(g)$ + heat