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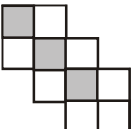
**NATIONAL LEVEL SCIENCE TALENT SEARCH EXAMINATION**

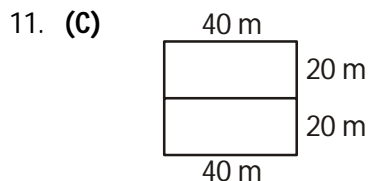
**Solutions for sampel questions**

**Class : 6**

**Mathematics**

7. (B) The given figure is a pyramid which has 8 edges.

9. (A)   $= \frac{3}{10} = 0.3$



The rectangular plots shown form a square of side 40 m.

$\therefore$  Cost of fencing =  $4 \times 40 \times ₹ 4$   
 $= ₹ 640$

17. (D) All the given statements are true.

19. (A) If  $a = b$  then  $a - b = 0$  and  $b - a = 0$ .  
So  $a - b = b - a$ .

Hence commutative law holds good when  $a = b$ .

**Physics**

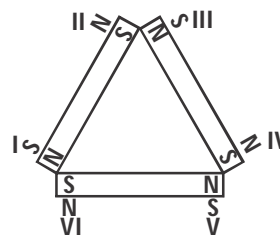
26. (A) Electrical insulators are plastic, wood, paper, clay, rubber, etc.

Electrical conductors are metals like mercury, tungsten, carbon(graphite), steel, iron, copper, gold, nickel, silver etc.

33. (B) Bulbs **M** and **N** are parallel to one another so the current is shared between both the bulbs. All the current passes through bulb **L**. Thus, bulb **L** is brighter than Bulb **M** or Bulb **N**.

39. (A) The hands of a clock are fixed at a point and show movement without a change in their position. Similarly, the opening and closing of flowers.

40. (A) I - VI must be different poles of magnet, so must II - III, IV - V, since they attract each other. That implies I - III - V and II - IV - VI are groups with the same poles of magnet. As such, only II - IV will repel each other.



49. (C) Between the glass bulb and the metal casing of an electric bulb, sealing wax is filled which acts as an insulator and prevents contact between the two terminals.

**Chemistry**

55. (D) When water freezes to ice and water vapour condenses to form water, heat is released. Both are exothermic processes.

59. (D) Rod X is glass. When a glass rod is placed in boiling water, it does not become hot because it is a bad conductor of both heat and electricity. Rod Y is metal. Metals when touched become cool because they transmit heat away from our body. Thus metals are good conductors of heat.

61. (C) The density of iron is more than that of sponge.

66. **(B)** The most prominent gases in the atmosphere in terms of volume are nitrogen and oxygen. Nitrogen forms four-fifth (78 - 80%) and oxygen forms one-fifth (20 - 21%) by volume in the air.
70. **(D)** Solubility of a substance in water depends on temperature. With increase in temperature, solubility of a substance also increases. Water at 60° C has more heat, so sugar dissolves faster and most easily.

**Biology**

73. **(C)** Terrestrial ecosystem includes those organisms which live on land. It is classified into three types - Forest ecosystem, Grassland ecosystem and Desert ecosystem.
74. **(C)** Given figure is of fibrous root. Many small roots arise from the point where the stem touches the ground.
77. **(A)** Animals in the given figure are herbivores.
81. **(A)** If waste is managed properly by recycling and composting. Water, air and land pollution can be reduced and natural resources can be conserved.
84. **(C)** The given correlation shows fibre and its sources. Silk is obtained from silkworm cocoon and wool from the fleece of sheep.