



Young Scholars Foundation

Prizes

SCIENCE

**GRADE
7**

<p>1st Rank Trip to Dubai</p>  <p>+</p> <p>Gold Medal + Certificate of Excellence</p>	<p>2nd Rank ₹ 25000</p> <p>+</p> <p>Silver Medal + Certificate of Excellence</p>	<p>3rd Rank ₹ 10000</p> <p>+</p> <p>Bronze Medal + Certificate of Excellence</p>
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**4th TO 10th
Rank
Rs 1100**

+ Certificate of Excellence

**11th TO 50th
Rank
Wrist Watch**



+ Certificate of Excellence

Instructions

Time : 1 hour

Maximum Marks : 100

- Maximum Time is 1 hour & You will get additional ten minutes to fill up information about yourself on the OMR Sheet, before the start of the exam.
- Write your **Name, School Code, Class, Roll No.** and **Mobile Number** clearly on the **OMR Sheet** and do not forget to sign it.
- The Question Paper comprises four sections:
Scientific Reasoning (25 Questions), **General Science** (15 Questions), **Logical Reasoning** (5 Questions) and **Wise Wizard** (5 Questions). Each question carries two marks.
- All questions are compulsory. There is no negative marking. Use of calculator is not permitted.
- To mark your choice of answers by darkening the circles on the OMR Sheet, use **HB Pencil** or **Blue / Black ball point pen** only.

Roll No

Student Name

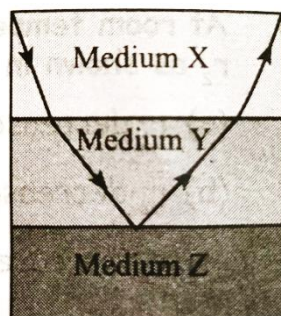
Father's Name

SECTION - A (SCIENTIFIC REASONING)

Q1. The length of the mercury thread in a thermometer immersed in pure melting ice and in pure boiling water are 8 cm and 24cm respectively. What is the temperature of a liquid if the length of mercury thread is 16 cm in the liquid?

- (a) 50 K (b) 273 K (c) 323 K (d) 373 K

Q2. A light ray travels from medium A to medium Z as shown. Which of the following is true regarding the refractive index of media?



- (a) Medium X > Medium Y > Medium Z
(b) Medium X > Medium Z > Medium Y
(c) Medium Z > Medium X > Medium Y
(d) Medium Z > Medium Y > Medium X

Q3. Three salt solutions are given as:

X: Potassium sulphate solution

Y: Sodium carbonate solution

Z: Ammonium sulphate solution

Which of the following statements is incorrect regarding these salt solutions?

- (a) X will have same effect on red litmus paper as the common salt solution.
(b) Y will have same effect on turmeric paper as the milk of magnesia
(c) Ammonium sulphate will have same effect on blue litmus paper as the lemon juice.
(d) None of these

Q4. Select the incorrect match.

- (a) Potassium hydroxide – Alkaline batteries
(b) Magnesium hydroxide – Antiperspirants
(c) Calcium hydroxide – Fungicide
(d) None of these

Q5. Match the column I with Column II and select the correct option from the given codes.

Column I

Column II

(P) Evolution of gas which turns lime water milky

(i) Heating of sodium nitrate

(Q) Decomposition reaction

(ii) Electrolysis of water

(R) Heat evolved

(iii) Heating of copper carbonate

(S) Evolution of gas which supports combustion

(iv) Water is added to quick lime

- (a) P- (i); Q- (ii),(iv); R- (iii); S –(iv)
- (b) P- (iii); Q- (i), (ii), (iii); R- (iv); S –(i), (ii)
- (c) P- (ii); Q- (i); R- (iv); S –(i)
- (d) P- (iii); Q- (i), (iii); R- (iv); S –(ii), (iii)

Q6. A body covers half of its journey with a speed of 60 m/s and the other half with a speed of 40 m/s. Then average speed during whole journey is

- (a) 0
- (b) 50 m/s
- (c) 48 m/s
- (d) 52 m/s

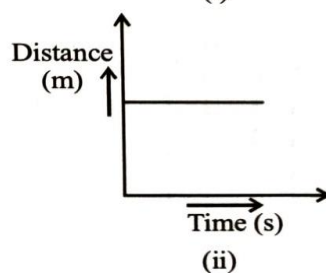
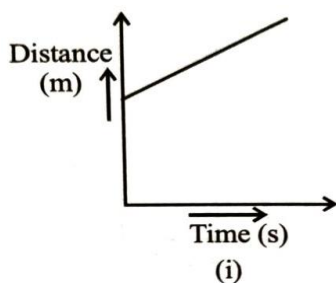
Q7. The numerical ratio of displacement to distance for a moving object is

- (a) always less than 1
- (b) always equal to 1
- (c) always more than 1
- (d) equal to or less than 1

Q8. The distance travelled by a body is directly proportional to the time taken. Its speed

- (a) increases
- (b) decreases
- (c) becomes zero
- (d) remains constant

Q9. Look at the distance-time graphs of two moving vehicles and select the correct statement



- (a) Both the vehicles are moving with same constant speed
- (b) (i) is moving with constant speed and (ii) is moving non-uniformly
- (c) (ii) is moving with constant speed and (i) is moving non-uniformly
- (d) none of the above is correct

Q10. In which mode of heat transfer does the transfer of heat occur as a wave?

- (a) Conduction
- (b) Convection
- (c) Radiation
- (d) All of these

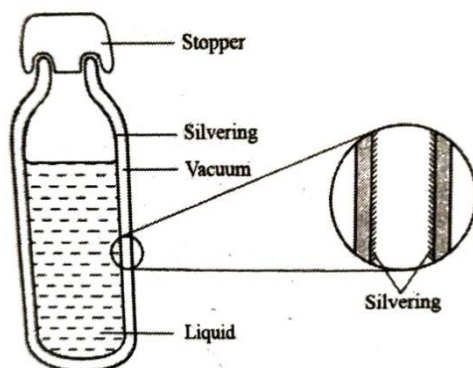
Q11. On a cold day, it is hard to open the lid of a tight container. But when you gently heat the neck you can easily open the lid. Why?

- (a) On heating glass expands and lid contracts
- (b) Lid expands more than the neck and thus slides easily
- (c) Neck becomes slippery on heating
- (d) Lids of the bottles cannot bear the heat

Q12. Cups are not made of metals. The reason is

- (a) metals are good conductors of heat
- (b) metals are bad conductors of heat
- (c) metals are expensive
- (d) None of the above

Q13. The diagram shows a vacuum flask and an enlarged view of a section through the flask wall.

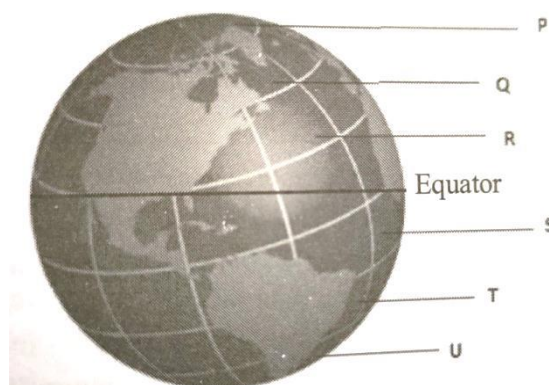


The main reason for the silvering is to reduce heat transfer by

- (a) conduction only
- (b) conduction and convection
- (c) radiation only
- (d) radiation and convection

- Q14. Marking on a bulb is 60 W, 220 V. What does it signify?
- (a) The bulb is connected across the 220 Volts, 60 Joules of energy is consumed for every second.
 - (b) The bulb is connected across 60 Joules, 220 Volts of energy is consumed
 - (c) 60 Unit of current will flow in the bulb
 - (d) 220 Unit of current will flow in the bulb
- Q15. On blowing air into balloon, the size of the balloon increases because
- (a) air exerts pressure
 - (b) warm air rises up
 - (c) air is stronger than balloon
 - (d) None of these
- Q16. Pick the odd one out of the following
- (a) Monsoon (b) Typhoon (c) Hurricane (d) Cyclone
- Q17. Bases
- (a) have slippery feel
 - (b) tastes sour
 - (c) turn blue litmus red
 - (d) All these are correct
- Q18. A natural dye extracted from lichens and most commonly used as an indicator. What is its colour in distilled water?
- (a) Blue (b) Red (c) Mauve (d) Colourless
- Q19. When ice is heated, it changes to water and water on further heating gets converted to steam. What happens when steam is condensed?
- (a) A new substance is formed
 - (b) No new substance is formed
 - (c) Gaseous phase changes to liquid phase
 - (d) Both (b) and (c) are correct
- Q20. Of the four distinct layers or sections of soil profile, organic matter is found in:
- (a) top soil (b) second layer from the top
 - (c) third layer from the top (d) the bottom layer

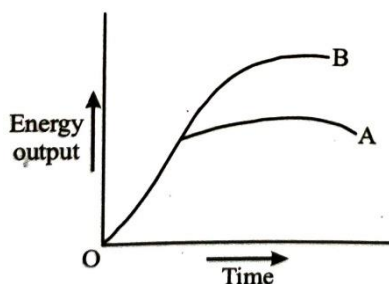
- Q21. Which of the following is an adaptation developed by the desert plants to reduce loss of water?
- They shed leaves in summer
 - They develop aerial roots
 - They have fleshy leaves
 - They have leaves modified into spines.
- Q22. What causes the air circulation from poles to the warmer latitudes?
- The air at poles is colder as compared to air at latitudes about 60 degrees.
 - The air at poles is hotter as compared to air at latitudes about 60 degrees.
 - The temperature of air is almost same at poles as at latitudes of 60 degrees
 - None of the above
- Q23. Refer to the given figure showing different temperature zones of the Earth and select the correct statement.



- Labelled parts P and U are the torrid zones.
 - Labelled parts Q and T are temperate zones.
 - Labelled parts R and S are frigid zones.
 - None of these
- Q24. The scaly skin of snakes
- protects them from drying
 - scares human beings
 - makes them beautiful
 - to inject venom into the prey
- Q25. Which of these have lungs?
- Star fish
 - Earth worm
 - rabbit
 - cockroach

SECTION - B (GENERAL SCIENCE)

- Q26. The movement of cold air from sea towards land during daytime is called
(a) air breeze (b) sea breeze (c) land breeze (d) None of these
- Q27. What do you mean by heat?
(a) Heat is a measure of temperature.
(b) Heat is a form of potential.
(c) It is form of energy which gets transferred from a hot to a cold body.
(d) None of the above.
- Q28. Normally a plane mirror forms
(a) a real image only
(b) a virtual image only
(c) Both real as well as virtual image
(d) Neither real nor virtual image
- Q29. Which of the following instruments is used to check whether electricity is flowing through a substance or not?
(a) Voltmeter (b) Ammeter (c) Tester (d) Cell
- Q30. Electric current is measured by a device called
(a) voltmeter (b) ammeter (c) electroscope (d) none of these
- Q31. A graph was plotted to show the energy out put at two types of respiration. Identify the type of respiration denoted by curves A and B.



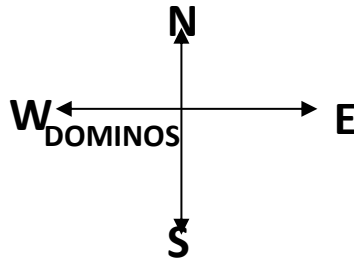
- (a) Curve 'A' anaerobic respiration and curve 'B' represents aerobic respiration
represents
- (b) Curve 'A' represents aerobic respiration and curve 'B' represents anaerobic respiration.
- (c) Both the curves represent aerobic respiration
- (d) Both the curves represent anaerobic respiration

SECTION - C (LOGICAL REASONING)

Q41. Showing the lady in the park, Vineet said, “She is the daughter of my grandfather’s only son”. How is Vineet related to that lady?

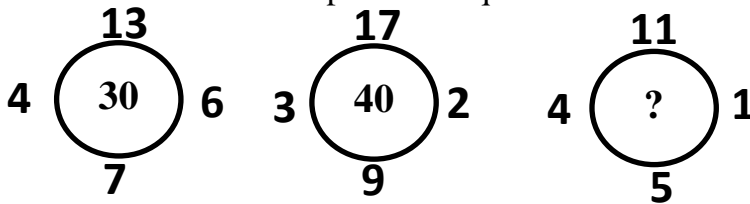
- (a) Cousin (b) Brother (c) Father (d) Uncle

Q42. Sandeep was facing the ‘DOMINOS’ at the beginning. He turned anti-clockwise to face South –East. What angle did he turn through?



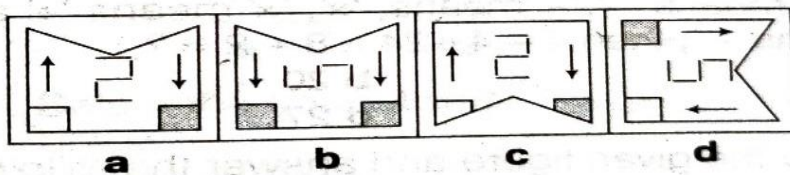
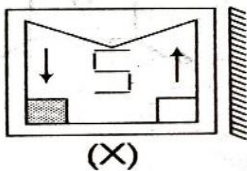
- (a) 45° (b) 90° (c) 135° (d) 80°

Q43. Find the number which replaces the question mark.



- (a) 30 (b) 35 (c) 50 (d) 55

Q44. Select a figure from the options which forms the correct mirror image to Fig. (X).

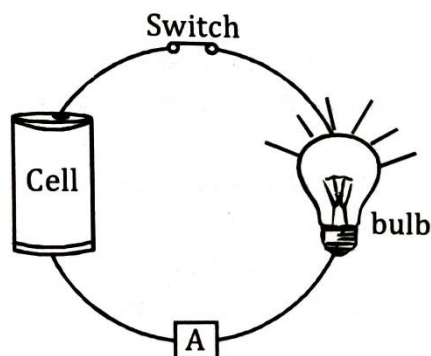


Q45. If ‘eye’ is called ‘hand’ , ‘ hand ‘ is called ‘mouth’ , ‘mouth’ is called ‘ear’ , ‘ear’ is called ‘nose’ and ‘nose’ is called ‘tongue’, with which of the following would a person hear?

- (a) Nose (b) Ear (c) Mouth (d) Eye

SECTION - D (WISE WIZARD)

- Q46. A train travels 40 km at a uniform speed of 30 km h^{-1} . Its average speed after traveling another 40 km is 45 km h^{-1} for the whole journey. Its speed in the second half of the journey is
- (a) 45 km h^{-1} (b) 90 km h^{-1} (c) 60 km h^{-1} (d) None of these
- Q47. Ritu has set up a circuit as shown. What should she put in the position A to make the bulb glow more brightly?



- (a) Bulb (b) Wire (c) Key (d) Cell
- Q48. Choose correct option on the basis of statements (i) and (ii)
- (i) When hydrogen burns in oxygen, water is formed
(ii) When water is electrolysed, hydrogen and oxygen are formed
- (a) (i) is a physical change and (ii) is a chemical change
(b) (i) is a chemical change and (ii) is a physical change
(c) Both (i) and (ii) are physical changes
(d) Both (i) and (ii) are chemical changes
- Q49. When alcohol was poured on the leaves of a plant continuously, the plant could not prepare food on its own. What happened?
- (a) Alcohol dissolved the chlorophyll
(b) Alcohol dissolved all the minerals
(c) Alcohol did not allow carbon dioxide to enter the leaves
(d) Alcohol absorbed all the food
- Q50. Which of the following is the correct sequence of human nutrition?
- (a) Ingestion → egestion → digestion → absorption → assimilation.
(b) Egestion → ingestion → absorption → assimilation.
(c) Digestion → assimilation → ingestion → absorption → egestion.
(d) Ingestion → digestion → absorption → assimilation → egestion.