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Prizes

SCIENCE

GRADE
8

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4th TO 10th
Rank
Rs 1100

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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

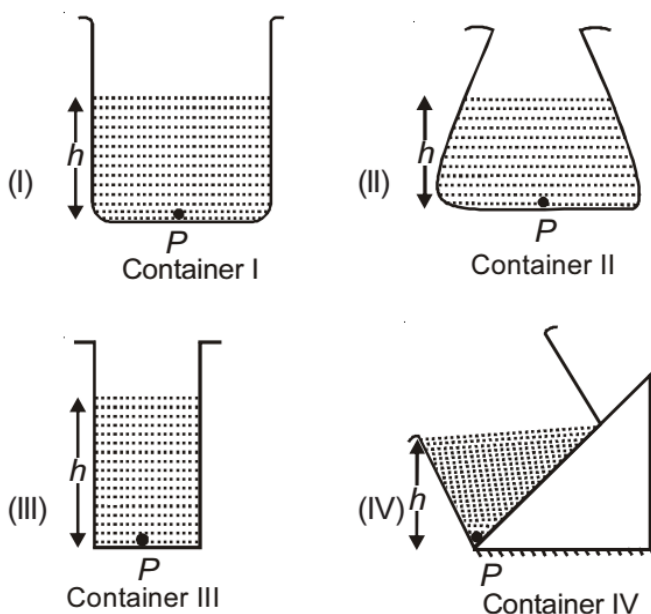
Father's Name

SECTION - A (SCIENTIFIC REASONING)

Q 1. Choose the incorrect statement.

- (a) The outermost layer of the earth is called crust
- (b) The semi-molten rocks that are rich in iron and magnesium are known as magma
- (c) The inner core behaves like a solid as pressure at centre is very low
- (d) The outer core contains iron and nickel

Q 2. Choose the correct option, [h is height upto which water is filled in the container and P is a point at the bottom of container]

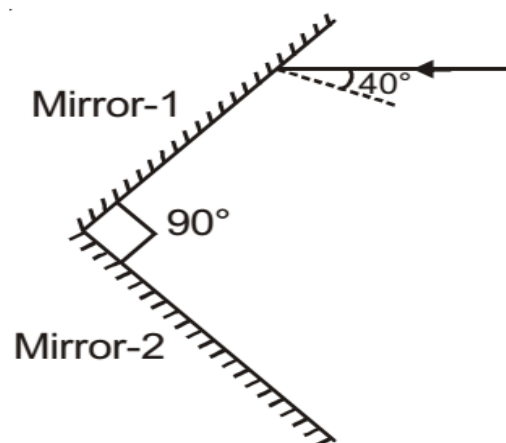


- (a) The pressure at a point P is maximum in container IV
- (b) The pressure at a point P is maximum in container III.
- (c) The pressure at a point P is same in all the containers
- (d) The pressure at a point P is same only in containers (I), (II) and (III)

Q 3. Railway tracks are laid on cemented or wooden sleeper. This is done to

- (a) Decrease the surface area and hence increase the pressure exerted on the ground
- (b) Reduce the force applied by the train on the ground
- (c) Reduce the friction acting in between the track and the ground
- (d) Increase the surface area and hence decrease the pressure exerted on the ground

- Q 4. Choose the incorrect statement.
- (a) Friction is caused by the irregularities present on the two surfaces in contact
 - (b) Friction can be reduced by polishing the surface
 - (c) When a person walks on a floor, the friction opposes the motion
 - (d) Ball bearings reduce friction
- Q 5. Arrange the following in increasing order of their magnitude.
- (a) Rolling friction < Sliding friction < Limiting friction
 - (b) Sliding friction < Limiting friction < Rolling friction
 - (c) Limiting friction < Sliding friction < Rolling friction
 - (d) Sliding friction < Rolling friction < Limiting friction
- Q 6. In jal tarang, the bowl which has more water has _____ length of air column, and therefore produces a sound of _____ pitch.
- (a) Longer, higher
 - (b) Shorter, lower
 - (c) Longer, lower
 - (d) Shorter, higher
- Q 7. A ball is thrown vertically upward with speed 50 m/s. It will reach the highest point after time interval of [Take $g = 10 \text{ m/s}^2$]
- (a) 10 s
 - (b) 5 s
 - (c) 20 s
 - (d) 15 s
- Q 8. An object's velocity changes from 10 m/s to 30 m/s in 5 seconds. Its acceleration is
- (a) 1 m/s^2
 - (b) 2 m/s^2
 - (c) 3 m/s^2
 - (d) 4 m/s^2
- Q 9. A ray of light is incident at an angle of incidence of 40° with mirror-1. The angle which the reflected ray from mirror-2 makes with the normal of mirror-2 is



- (a) 40°
- (b) 80°
- (c) 50°
- (d) 20°

Q 10. Choose the incorrect statement.

- (a) Like charges repel and unlike charges attract each other
- (b) An electroscope may be used to detect whether a body is charged or not
- (c) The occurrence of an earthquake is predictable
- (d) Lightning conductors protect the buildings from the effects of lightning

Q 11. The defect of vision in which a person can see far off objects clearly but cannot see the nearby objects clearly is

- (a) Myopia
- (b) Hypermetropia
- (c) Presbyopia
- (d) Cataract

Q 12. The frequency of sound wave is 200 Hz and its wavelength is 150 cm. What is the distance travelled by sound wave in time taken to produce 150 waves?

- (a) 150 m
- (b) 225 m
- (c) 450 m
- (d) 900 m

Q 13. Consider the given statements.

Statement 1: Size and colour of the substance are its physical properties. Statement 2 : A physical change is generally reversible.

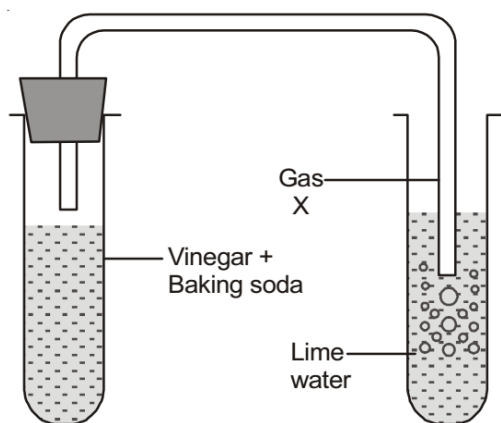
Now, choose the correct option.

- (a) Statement 1 is correct
- (b) Statement 2 is correct
- (c) Both the statements are correct
- (d) Both the statements are incorrect

Q 14. Which of the following is not considered as a common property of metals?

- (a) Lustre
- (b) Sonority
- (c) Softness
- (d) Malleability

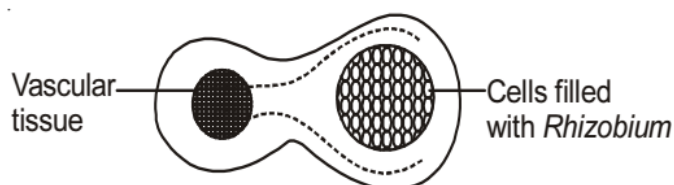
Q 15. Consider the given set up.



Gas X and the colour of the resulting solution respectively are

- (a) Hydrogen and blue
- (b) Carbon dioxide and milky
- (c) Hydrogen and milky
- (d) Carbon dioxide and pink

- Q 16. On burning a magnesium ribbon a white powdery mass is formed. This powder is chemically
- (a) Magnesium metal (b) Magnesium oxide
(c) Magnesium chloride (d) Magnesium sulphide
- Q 17. Acid rain does not contain
- (a) Sulphuric acid (b) Nitric acid
(c) Sulphurous acid (d) Acetic acid
- Q 18. Consider the given statements.
- I. The substance which undergoes combustion to produce oxygen is called fuel.
II. A good fuel has high ignition temperature.
- Now, choose the correct option.
- (a) Only statement I is correct (b) Only statement II is correct
(c) Both the statements are correct (d) Both the statements are incorrect
- Q 19. Which of the following substances does not burn with a flame?
- (a) Kerosene (b) Wax (c) Charcoal (d) Camphor
- Q 20. Which of the following fuels is the most efficient fuel?
- (a) Cow dung cake (b) Wood
(c) Petrol (d) CNG
- Q 21. Which of the following is not a product of coal processing?
- (a) Coke (b) Coal tar (c) Charcoal (d) Coal gas
- Q 22. The example of thermosetting plastic is
- (a) PVC (b) Polythene (c) Polyester (d) Melamine
- Q 23. The zone of a candle flame which has highest temperature is
- (a) Luminous zone (b) Non-luminous zone
(c) Innermost zone (d) Dark zone 5-33
- Q 24.



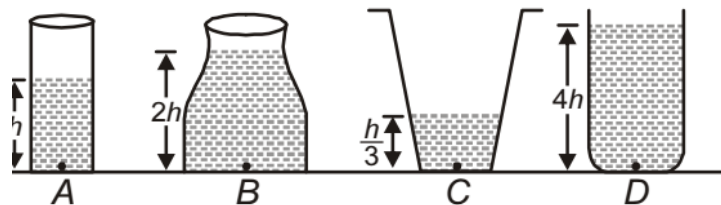
The above given diagram represents a section of

- (a) Stem (b) Root nodule (c) Flower (d) Leaf

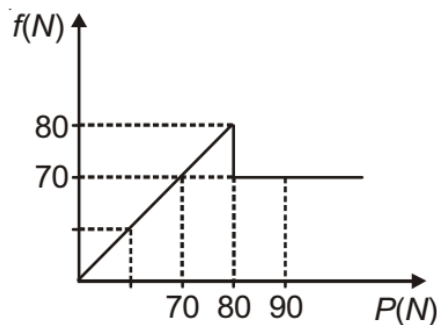
- Q 25. Flora and fauna of Pachmarhi Biosphere Reserve are similar to those of the 'A' and to those belonging to the 'B'. Here, A and B respectively are
- Lower Himalayan peaks and upper western ghats
 - Sundarbans and Simlipal
 - Upper Himalayan peaks and Simlipal
 - Upper Himalayan peaks and lower western ghats

SECTION - B (GENERAL SCIENCE)

- Q 26. Four different liquids of densities $\rho, \frac{\rho}{2}, 3\rho$ and $\frac{\rho}{4}$ are filled in containers A, B, C and D respectively as shown below. The pressure exerted due to the liquids at bottom of container will be



- Maximum in container B
 - Minimum in container D
 - Same in all containers
 - Different in all the containers
- Q 27. The figure given below shows a graph of the frictional force(f) as a function of pull(P). The value of the limiting friction is



- 70 N
 - 80 N
 - 75 N
 - Zero
- Q 28. If the intensity of sound is reduced by 50%, then the ratio of initial and final amplitudes will be
- 1 : 2
 - 4 : 1
 - 2 : 1
 - $\sqrt{2} : 1$
- Q 29. An object moves on a circular path of radius R with constant speed of u. The displacement of the object after it covers 3.5 of the circle is
- R
 - 2 R
 - $\sqrt{2}R$
 - Zero

Q 30. When a glass rod is rubbed with silk cloth, the glass rod becomes _____ charge while silk cloth becomes _____ charge respectively.

- (a) Negatively, positively (b) Positively, negatively
(c) Positively, positively (d) Negatively, negatively

Q31. Consider the following processes

- (i) Burning of coal
(ii) Melting of wax
(iii) Digestion of food

Now, choose the correct option

- (a) Both (i) & (ii) are chemical changes (b) Both (ii) & (iii) are chemical changes
(c) Both (i) & (iii) are chemical changes (d) Both (i) & (iii) are physical changes

Q32 Which of the following is a wool like fibres?

- (a) Acrilan (b) PET (c) Rayon (d) Terylene

Q33 A polymer A is formed by the polymerisation of B. A is used for non-stick coating of utensils. A and B respectively are

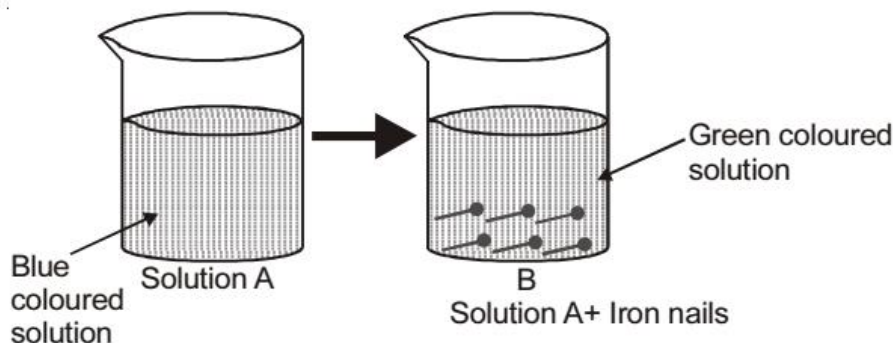
- (a) Teflon and tetrafluoroethene (b) Polythene and ethene
(c) Synthetic rubber and neoprene (d) Polypropene and propene

Q34 Lime water is chemically

- (a) Acetic acid (b) Ammonium hydroxide
(c) Calcium hydroxide (d) Sodium hydroxide

Q 35. On adding iron nails in solution A, solution gradually turns green.

The blue and green coloured solution respectively are



- (a) Iron sulphate and copper sulphate (b) Zinc sulphate and copper sulphate
(c) Copper sulphate and iron sulphate (d) Copper sulphate and zinc sulphate

- Q36 Which one of the following is not correct about hormones?
- (a) They are also known as chemical messengers
 (b) They are secreted in large quantity by the endocrine glands
 (c) They are poured directly into the blood stream
 (d) They regulate the body growth and coordinate the activities of the body
- Q37 The substances which are used as coolants in refrigerators, air conditioners, etc. are also responsible for the
- (a) Acid rain (b) Forest fires (c) Ozone depletion (d) Smog
- Q38 Branch of agriculture that deals with growing vegetables, fruits, flowers, etc. for commercial use is called
- (a) Apiculture (b) Microbiology (c) Pisciculture (d) Horticulture
- Q 39. Match the columns given below and select the correct option.
- | Column I | Column II |
|--------------------------------|----------------------------------|
| a. Nucleus | (i) Cytoplasmic framework |
| b. Vacuole | (ii) Site of aerobic respiration |
| c. Endoplasmic reticulum | (iii) Inheritance of characters |
| d. Mitochondria | (iv) Osmoregulation |
| (a) a(iii), b(iv), c(i), d(ii) | (b) a(iii), b(iv), c(ii), d(i) |
| (c) a(iv), b(iii), c(ii), d(i) | (d) a(ii), b(i), c(iv), d(iii) |
- Q40 **Statement I** : The best time for the removal of weeds is in their pre-reproductive phase.
Statement II : Sprinkler system is the best technique for watering fruit plants, gardens and trees.
- (a) Only statement-I is correct
 (b) Only statement-II is correct
 (c) Both the statements are correct
 (d) Both the statements are incorrect

SECTION - C (LOGICAL REASONING)

- Q41 In the following questions choose a correct option to complete the given series.
- 0, 2, 6, 12, 20, ?
- (a) 37 (b) 30 (c) 36 (d) 32

Q42 In the following questions choose a correct option to complete the given series.

35, 47, 71, 107, 155, ?

- (a) 215 (b) 251 (c) 211. (d) 249

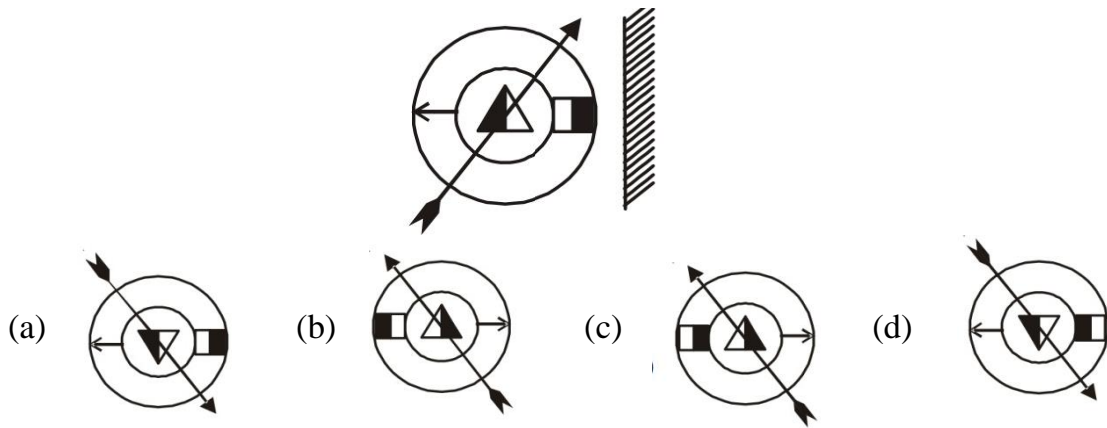
Q43 If $5 \times 4 = 9$, $5 + 4 = 20$ and $5 \div 4 = 1$, then value of $36 \times 18 + 2 \div 5$ is

- (a) 62 (b) 65 (c) 66 (d) 67

Q44. The water image of word TIMETABLE is

- (a) LIMEITAMIT (b) TIMETABLE
 (c) ELBATEMIT (d) LIMEITAMIT

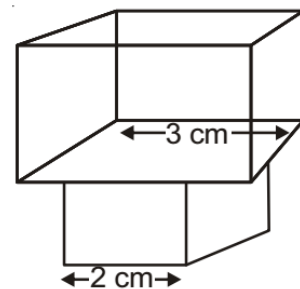
Q 45. The mirror image of the following figure is



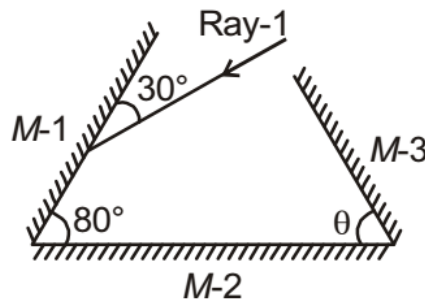
SECTION - D (WISE WIZARD)

Q 46. Two cubical blocks of masses 4 kg and 6 kg and sides of length 2 cm and 3 cm respectively are placed on table as shown in the figure. The pressure experienced by the table due to the system of blocks is [Take $g = 10 \text{ m/s}^2$]

- (a) $25 \times 10^4 \text{ Pa}$ (b) $34 \times 10^3 \text{ Pa}$
 (c) $15 \times 10^5 \text{ Pa}$ (d) $18 \times 10^6 \text{ Pa}$



Q 47. Two plane mirrors, M-1 and M-2, are inclined at an angle 80° with each other. A ray of light makes an angle 30° with the mirror M-1 as shown in figure. At what angle (θ) a third mirror (M-3) be placed such that reflected ray from M-2 retraces its path after striking M-3.



- (a) 30° (b) 60° (c) 20° (d) 45°

Q 48. Consider the following statements

Statement (a) : Charcoal does not produce flame.

Statement (b) : Maximum oxygen is available to non-luminous zone of a flame

Statement (c) : The innermost zone of a flame is luminous zone.

Now choose the correct option

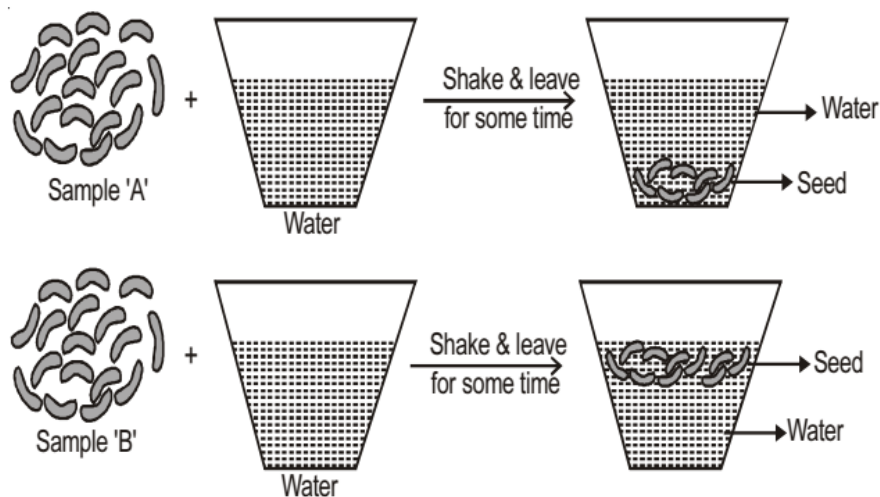
- (a) Both the statements (b) & (c) are correct
 (b) Both the statements (a) & (c) are incorrect
 (c) Both the statements (a) & (b) are correct
 (d) Only statement (c) is correct

Q 49. Complete the boxes by choosing the correct option regarding P,Q,R and S.

National Park	State	Famous For
P	West Bengal	Royal Bengal Tiger
Bandipur National Park	Q	Elephant
Gir National Park	Gujarat	R
Kanchenjunga National Park	S	Snow Leopard

	(P)	(Q)	(R)	(S)
(a)	Sundarbans National Park	Assam	Tiger	Gangtok
(b)	Manas National Park	Gujarat	Leopard	Assam
(c)	Kanha National Park	Rajasthan	Tiger	Uttarakhand
(d)	Sundarbans National Park	Karnataka	Asiatic Lion	Sikkim

Q 50. Anuj is a farmer. He wants to sow good quality seeds of wheat in his field. So, he performed a method of selection of seeds with two different seed samples 'A' and 'B' as shown in the given figure. Choose the correct option from the following that will help Anuj in selecting the good quality seeds.



	Healthy Seeds	Damaged Seeds	Reason
(a)	Sample B	Sample A	Healthy seeds are dirt free and lighter
(b)	Sample A	Sample B	Damaged seeds are hollow and thus lighter
(c)	Sample B	Sample A	Damaged seeds are hollow and lighter
(d)	Sample A	Sample B	Healthy seeds are dirt free and lighter

Space for rough work
