



QUESTION PAPER

TERM EXAM 3

CLASS	SECTION	EXAM CODE
9	A	3246601
9	B	3246611
9	C	3246621
9	D	3246631

SCHOOL

HIM Academy Public School

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1. There are 40 questions in the paper. All are compulsory.
 2. Tick or circle the option which is your answer.
 3. Show your working on a separate sheet of paper wherever you need to.
 4. Please check your answers carefully before submitting the test. Once submitted, the answers CANNOT be changed.

Q: 1 Two statements are given below- one labeled Assertion (A) and the other labeled Reason (R).

Assertion (A): Alloys are a homogeneous mixture of metals.

Reason (R): Physical methods cannot be used to separate individual components of an alloy.

Which of the following is correct?

- 1** Both A and R are true, and R is the correct explanation of A.
- 2** Both A and R are true, but R is not the correct explanation of A.
- 3** A is true, but R is false.
- 4** A is false, but R is true.

Q: 2 Dissolving 16 g of a substance X in 100 mL of water forms a saturated solution at 25 °C.

The following solutions of substance X in water were prepared at 25 °C:

Solution P - 9 g of X in 75 mL water

Solution Q - 4 g of X in 20 mL water

Solution R - 11 g of X in 50 mL water

Solution S - 7 g of X in 60 mL water

Which of the following is true about the concentrations of the solutions P, Q, R and S?

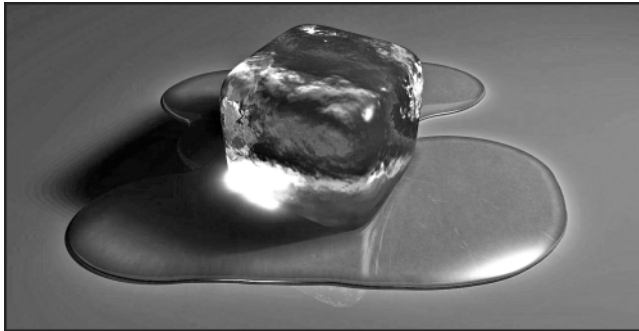
- 1** Concentration of solution S is higher than that of solution Q.
- 2** Concentration of solution R is lower than that of solution P.
- 3** Concentration of solution Q is equal to that of solution R.
- 4** Concentration of solution P is the highest.

Q: 3 What is one property of a suspension that is different from that of a solution or a colloid?

- 1** If left to rest, the particles of a suspension will settle out.
- 2** The particles of a suspension reflect light.
- 3** A suspension is always clear
- 4** A suspension is always saturated.



Q: 4 As shown here, an ice cube melts and forms water.



This change is claimed to be a physical change. Which of the following is the BEST reason to support this claim?

- 1** Heat is required during melting of the ice to form water.
- 2** The mass of ice and the water formed by its melting is the same.
- 3** The physical properties of ice and the water formed by its melting are the same.
- 4** The chemical composition of ice and the water formed by its melting is the same.

Q: 5 Which of these fields is likely to need the MOST irrigation?

- 1** a field that receives heavy rainfall
- 2** a field that is near a river and receives medium rainfall
- 3** a field that is in a dry region and receives very little rainfall
- 4** (All of them need an equal amount of irrigation.)

Q: 6 Which of these microorganisms is/are responsible for spreading diseases in poultry fowls?

- 1** only bacteria and fungi
- 2** only bacteria and virus
- 3** only parasites and virus
- 4** all - fungi, bacteria, virus and parasites

Q: 7 Which of the following are called pests by farmers?

P. rats

Q. insects

R. birds

- 1** only Q
- 2** only P and Q
- 3** only Q and R
- 4** all - P, Q and R

Q: 8 Kamallesh is a farmer who rears cattle. He prefers the local breeds over the foreign breeds. What could be the likely reason for that?

- 1** Local breeds have longer lactation periods than foreign breeds.
- 2** Local breeds can stay alive without water but foreign breeds cannot.
- 3** Local breeds show more resistance to common diseases than foreign breeds.
- 4** Local breeds don't need nutrients to remain healthy but foreign breeds need them.

Q: 9 Which of these is NOT a reason for the use of crop rotation?

- 1** to maintain/ improve soil fertility
- 2** to improve the yield by developing better varieties of crops
- 3** to control pests that can become established in the soil over time
- 4** to control weeds similar to the crop which may contaminate the final produce

Q: 10 An element X forms the following compounds with hydrogen and oxygen.

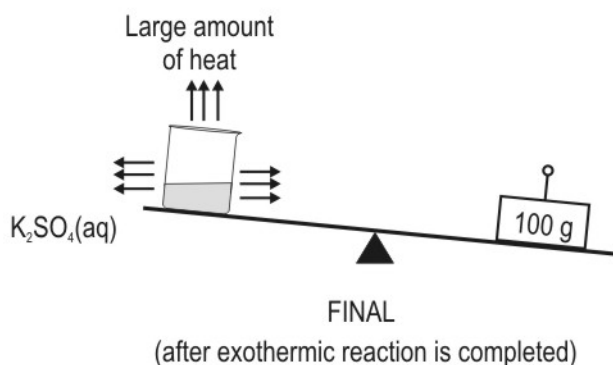
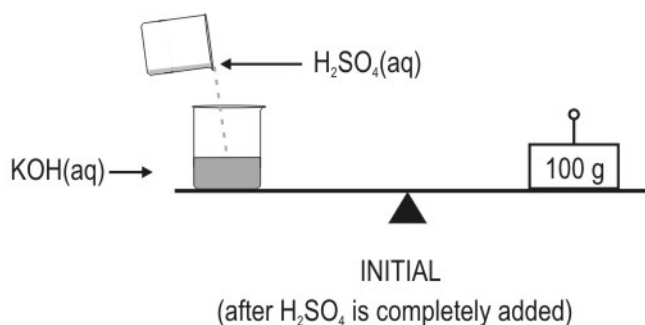
Compound with hydrogen: XH_3

Compound with oxygen: XO_2

Which of the following is likely to be its valency in these compounds?

- 1** 1 and 4
- 2** 3 and 6
- 3** 3 and 4
- 4** 2 and 5

Q: 11 Look at the representation given here.



Mass is conserved in chemical reactions. In this case, the solution in the beaker has lost mass because _____.

- 1** potassium sulphate is lighter than air
- 2** some of the water molecules have turned into gas
- 3** materials have less mass at high temperatures
- 4** the mass of the products is less than that of the reactants

Q: 12 Which of the following statements is an example of the law of definite proportions?

- 1** All samples of water contain hydrogen and oxygen in the mass ratio of 1:8.
- 2** A reaction between 2 g of hydrogen and 16 g of oxygen will always produce 18 g of water.
- 3** The ratio of the masses of oxygen that can react with 2 g of hydrogen to produce water and hydrogen peroxide (H_2O_2) is 1:2.
- 4** (All of them represent the law of definite proportions.)

Q: 13 There are two elements X and Y that form a compound XY_2 . Which of the rows in the following table can be correct about the valencies of the elements in the compound?

Options	Valency of X	Valency of Y
P	1	2
Q	2	1
R	1	1
S	3	6

- 1** P **2** Q **3** R **4** S

Q: 14 Which of the following chemical formulae represents two molecules of oxygen?

- 1** 2O **2** O_2
- 3** $2O_2$ **4** O

Q: 15 If 'n' is the number of the electronic shell, then, which of the following represents the maximum number of electrons that can be present in that shell?

- 1** n^2 **2** 2n
- 3** $2n^2$ **4** $n + 2$

Q: 16 Can electrons be directly arranged/filled in the second shell or L-shell without filling the first shell or K-shell?

- 1** never **2** sometimes
- 3** always **4** depends on the element

Q: 17 An element has atomic number 8 and atomic mass 16.

Based on this, which of the following can be said?

- 1** The neutral atom of the element will have 6 electrons.
- 2** An ion of the element carrying two negative charges will have 6 electrons.
- 3** An ion of the element carrying two negative charges will have 8 electrons.
- 4** An ion of the element carrying two negative charges will have 10 electrons.



Q: 18 Which of the following statements is/are TRUE according to Niels Bohr's atomic model?

- P) Electrons revolve around the atomic nucleus in concentric orbits.
- Q) The energy of an electron is constant when it is in a particular orbit.
- R) An electron can jump from an inner orbit to an outer orbit by emitting energy.

- 1 only P
- 2 only R
- 3 only P and Q
- 4 all - P, Q and R

Q: 19 P. An object is pulled causing it to move from one place to another.

Q. An object is pushed causing it to move from one place to another.

In which of the above cases is work being done?

- 1 only P
- 2 only Q
- 3 both P and Q
- 4 none of them

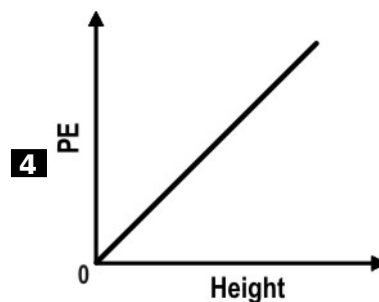
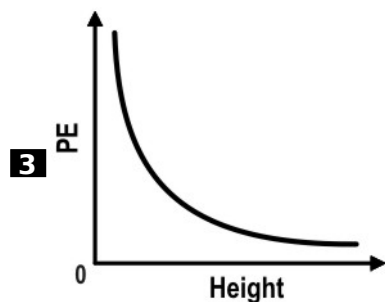
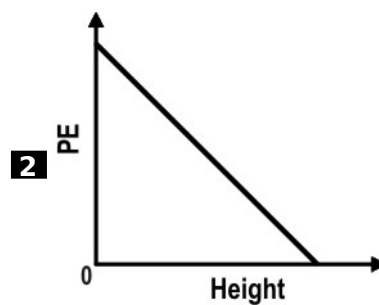
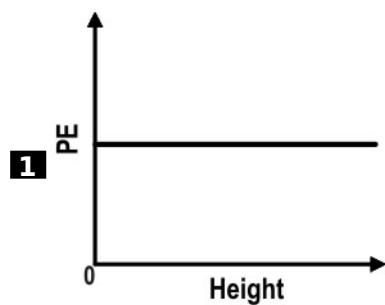
Q: 20 In which of the following is kinetic energy converted to potential energy?

- 1 a stone released from a stretched rubber band
- 2 a sliding box stopping due to friction
- 3 a coconut falling from a tree
- 4 a ball rolling up a slide

Q: 21 The potential energy of a body is given by the equation:

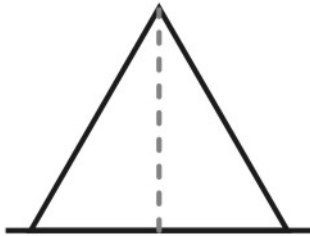
PE = mass of the body × acceleration due to gravity × height at which the body is placed

A ball is dropped from a height of 5 metres. Which of these graphs correctly shows the ball's potential energy at different heights?

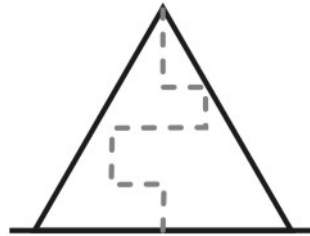




Q: 22 Ram and Shyam each of weight 300 N start climbing the same hill at the same time. The path covered by them is shown below.



Path taken by Ram



Path taken by Shyam

If both of them take the same time to reach the hilltop, which of them has used more power against gravity?

- 1** Ram, as he does less work.
- 2** Shyam, as he does more work.
- 3** Ram and Shyam have used the same power as they do the same amount of work.
- 4** (Given data is not sufficient to answer the question.)

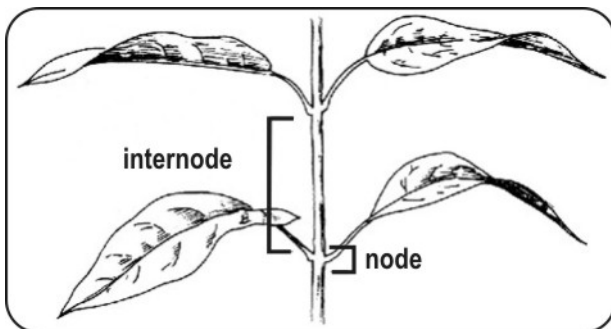
Q: 23 Sidhu throws a golf ball (50 g) vertically upwards giving it 10 J of kinetic energy.

If there is no air resistance, how high would the ball go up to before it starts moving downwards?

(Take g as 10 m/s^2)

- 1** 5 m
- 2** 10 m
- 3** 15 m
- 4** 20 m

Q: 24 The diagram below shows two parts of a plant.



Which meristematic tissue is responsible for the elongation of the internode?

- 1** apical
- 2** lateral
- 3** ground
- 4** intercalary



Q: 25 Which of the following correctly describes the epithelial tissue in animals?

- 1** Tissue that carries messages from the brain to the organ and vice versa.
- 2** Tissue that regulates the exchange of materials between the lumen and the organ wall.
- 3** Tissue that changes the overall shape of the organ lumen, helping to move the contents around in the organ.
- 4** Tissue that provides a framework to hold other tissues together, and permit diffusion of nutrients to those tissues.

Q: 26 Which of these correctly gives the difference between striated muscular tissue and unstriated muscular tissue?

Options	Striated muscle	Unstriated muscle
P	cells are cylindrical, multinucleate with non-pointed ends	cells are long, uninucleate with pointed ends
Q	cells are long, uninucleate with pointed ends	cells are cylindrical, multinucleate with non-pointed ends
R	cells are cylindrical, uninucleate with non-pointed ends	cells are long, multinucleate with pointed ends
S	cells are long, multinucleate with pointed ends	cells are cylindrical, uninucleate with non-pointed ends

- 1** P **2** Q **3** R **4** S

Q: 27 Two statements are given - one labelled Assertion (A) and the other labelled Reason (R).

Assertion (A): Aquatic plants have large air cavities present in parenchyma that help them stay afloat.

Reason (R): Apical meristem is responsible for increasing the girth of the stem and root of a plant.

Which of the following is correct?

- 1** Both A and R are true, but R is not the correct explanation of the assertion.
- 2** Both A and R are true, and R is the correct explanation of the assertion.
- 3** A is true, but R is false.
- 4** A is false, but R is true.

Q: 28 Which parts of a plant are made up of mostly sclerenchyma tissues?

- 1** the wood and the bark of the plant
- 2** the leaf and the petiole of the plant
- 3** the flower and the fruit of the plant
- 4** (Sclerenchyma tissues are not found in plants.)

Q: 29 The tissue that is responsible for the increase in girth of the stem or root is the _____.

- 1** apical meristem
- 2** lateral meristem
- 3** primary meristem
- 4** intercalary meristem

Q: 30 Which type of tissue contains cells that are specialized to receive and transmit electrical impulses?

- 1** connective
- 2** muscular
- 3** epithelial
- 4** nervous

Q: 31 Two statements are given - one labelled Assertion (A) and the other labelled Reason (R). Read the statements carefully and choose the option that correctly describes statements A and R.

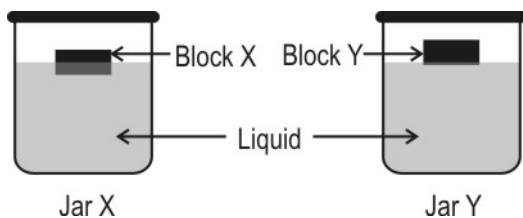
Assertion (A): Dry green grams are hard compared to the soaked green grams.

Reason (R): Most hard parts of the plants have dead sclerenchyma cells.

Which of the following is correct?

- 1** Both A and R are true, and R is the correct explanation of A.
- 2** Both A and R are true, but R is not the correct explanation of A.
- 3** A is false, but R is true.
- 4** A is true, but R is false.

Q: 32 Vibha took two jars with the same amount of a liquid at room temperature. She took two solid blocks and put them in the jars. Here is what she observed.

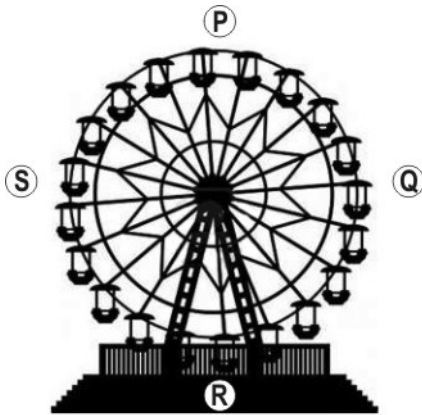


What can she say based on this observation?

- 1** The liquid in jar Y is hotter than that in jar X.
- 2** The two blocks are made of different materials.
- 3** The two blocks will float at the same level in all other liquids.
- 4** The blocks will sink deeper in the liquid in a jar with less liquid.



Q: 33 Shown below is a Ferris wheel which rotates in a clockwise direction.



At which position marked, will a person sitting in a car on a moving Ferris wheel, experience a feeling of free fall?

- 1** P **2** Q **3** R **4** S

Q: 34 Shaheed is carrying two pillows full of tightly packed cotton. One of them has a heavy metal ball inside. He drops them over the edge of the building.

Which one will reach the ground earlier?

- 1** The one without the metal ball, because it is lighter.
2 The one with the metal ball, because it is heavier.
3 Both will hit the ground around the same time.
4 We cannot say anything till we know the weight of the pillows.

Q: 35 On the Earth, the magnitude of the mass of an object is roughly _____ the magnitude of its weight.

- 1** 1/2 **2** 1/10 **3** 2 times **4** 10 times

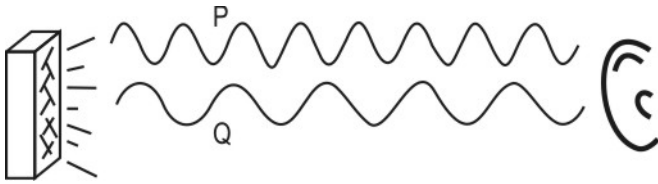
Q: 36 The density of water is 1 g/cc. Ice floats on water with 90% of its volume inside the water.

What will be the mass of a cube of ice of side 3 cm?

- 1** 27 g **2** 30 g
3 24.3 g **4** (the data is insufficient)

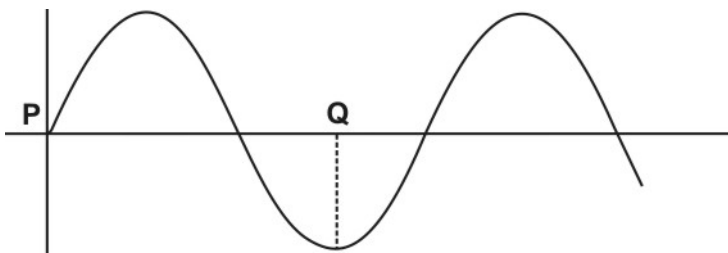


Q: 37 In the figure given, compared to sound wave P, sound wave Q is _____



- 1** louder
- 2** softer (less sound)
- 3** of a higher pitch
- 4** of a lower pitch

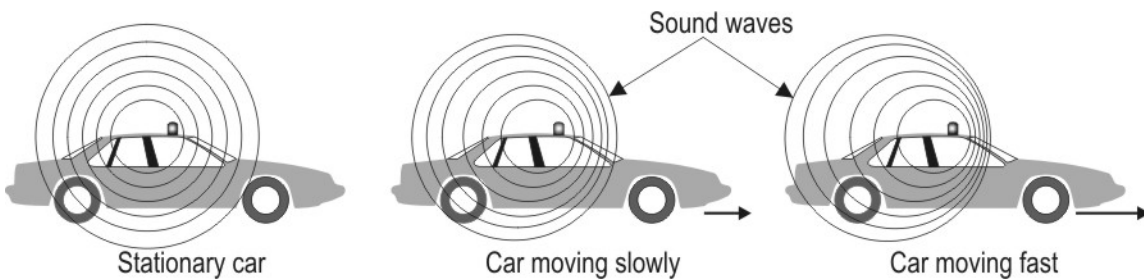
Q: 38 The diagram below shows two points, P and Q, on a wave train.



How many wavelengths separate point P and point Q?

- 1** 0.75
- 2** 1.0
- 3** 1.5
- 4** 2.5

Q: 39 The diagrammatic representation of the sound wave given out by a siren of a security vehicle is shown below when the vehicle is STATIONARY, MOVING SLOWLY and MOVING FAST.



As the vehicle APPROACHES an observer, in which of these ways will the sound heard change?

- 1** Its pitch will increase.
- 2** Its volume will decrease.
- 3** Its frequency will decrease.
- 4** (There will be no change in the sound heard.)

Q: 40 A band of musicians are playing different musical instruments, which produce sounds of different frequencies. The highest pitched instrument a human could hear would have a frequency of _____.

- 1** 25 Hz
- 2** 250 Hz
- 3** 2500 Hz
- 4** 25000 Hz

This page has no questions and is left blank intentionally.