Sample Paper
Class 9 CBSE 2020-21

General Instructions

(i) The question paper comprises four sections A, B, C, and D. There are 36 questions in the question paper. All questions are compulsory.

(ii) (Section–A - question no. 1 to 20 - all questions and parts thereof are of one mark each. These questions contain multiple-choice questions (MCQs), very short answer questions, and assertion - reason type questions. Answers to these should be given in one word or one sentence.

(iii) Section–B - question no. 21 to 26 are short answer type questions, carrying 2 marks each. Answers to these questions should be in the range of 30 to 50 words.

(iv) Section–C - question no. 27 to 33 are short answer type questions, carrying 3 marks each. Answers to these questions should be in the range of 50 to 80 words.

(v) Section–D – question no. - 34 to 36 are long answer type questions carrying 5 marks each. Answers to these questions should be in the range of 80 to 120 words.

(vi) There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.

(vii) Wherever necessary, neat, and properly labelled diagrams should be drawn.

Get More Learning Materials Here : CLICK HERE www.studentbro.in

Section-A

1. Valency of an element X is 3. Write the chemical formula of its oxide.

   OR

   Based on which factor a solution is said to be diluted, concentrated or saturated?
2. What is a cation? Give one example.
3. A particle P has 18 electrons, 20 neutrons and 19 protons. This particle must be:
   A. a molecule
   B. a binary compound
   C. an anion
   D. a cation
4. What type of motion is represented by the tip of a 'seconds' hand' of a watch? Is it uniform or accelerated?
5. Can a body have constant speed and still be accelerating?
6. Why is it advised to tie the luggage with a rope on the roof of buses? Explain using Newton's First law of motion.

   OR

   Why is it difficult to balance our body when we accidentally step on the banana peel of banana?
7. What is the weight of a 1 kilogram mass on the earth? ($g = 9.8\ m/s^2$)?
   A. 1 N
   B. 3 N
   C. 9.8 N
   D. 4.9 N
8. Why is the weight of a body zero at the centre of the earth?
9. The potential energy of a freely falling object decreases progressively. Does this violate the law of conservation of energy? Why?

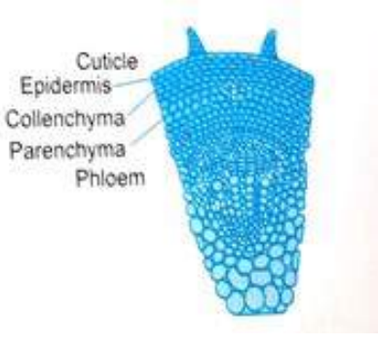
   OR

   Is it possible that a force is acting on a body but still work done is zero? Explain giving one example.
10. The atmosphere of the earth is heated by radiations which are mainly
    a. Radiated by the sun
    b. Re-radiated by land
    c. Re-radiated by water
    d. Re-radiated by land and water
11. Define epidemic.
12. What is middle lamella?

Get More Learning Materials Here : CLICK HERE www.studentbro.in

13. What is the stratosphere?
14. DIRECTION: In the following questions, a statement of assertion (A) is followed by a statement of the reason (R).
    Assertion: The Relative Molecular Mass of Chlorine is 35.5 a.m.u.
    Reason: The natural abundance of Chlorine isotopes are not equal.
    A. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of the assertion
    B. Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A)
    C. Assertion (A) is true but reason (R) is false.
    D. Assertion (A) is false but reason (R) is true.
15. Assertion(A): Lysosomes are known as suicide bags of a cell.
    Reason(R): They are a kind of waste disposal system for cells.
    A. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of the assertion
    B. Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A)
    C. Assertion (A) is true but reason (R) is false.
    D. Assertion (A) is false but reason (R) is true.
16. Assertion: The wings of a bird push air upwards and the air must be pushing the bird downwards.
    Reason: For every action there is an equal and opposite reaction.
    A. Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of the assertion
    B. Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A)
    C. Assertion (A) is true but reason (R) is false.
    D. Assertion (A) is false but reason (R) is true.
17. Answer question numbers (a) to (d) based on your understanding of the following paragraph and related studied concepts
    The cells when cut from meristematic tissue take up a specific role and lose the ability to divide. As a result, they form a permanent tissue. This process of taking up a permanent shape, size and a function is called differentiation. Differentiation leads to the development of various types of permanent tissues.
    (a) (i) Identify the meristematic tissue in the diagram.

Get More Learning Materials Here : CLICK HERE www.studentbro.in



(ii) Identify one of the complex permanent tissues in the diagram.

(b) According to you, which layer will be made of parenchyma and collenchyma, respectively.

(c) Between the above mentioned two tissues, which one will have less intercellular space and why?

(d) In a leaf epidermis there are special cells which are interpresent then and give their role.

18. Read the following and answer any **four** questions from (i) to (v)

How many grams are there in the following?

(i). 2 moles of the hydrogen molecule, H2

(ii). 3 moles of chlorine molecule, Cl2

(iii). 5 moles of the sulphur molecule, S8

(iv). 4 moles of the phosphorus molecule, P4

(v). 2 moles of the water molecule, H_2O

19. Read the following and answer any **four** questions from (a) to (e)

(a) What is the name of the clear liquid formed when a solid dissolves in a liquid?

(b) Which of the two will scatter light: soap solution or sugar solution? Why?

(c) How will you differentiate between a suspension and a colloid?

(d) What is meant by the concentration of a solution?

(e) What will happen if a saturated solution is : (i) heated, and (ii) cooled?

20. Read the following and answer questions from 20(a) to 20(e)

Centripetal force is a requirement for circular motion. No work is done on a body by centripetal force in a circular path.

(a) What is the formula for work done by a force F.

(b) If a body undergoes uniform circular motion, then which of the following remains constant?

A. Velocity

B. Speed

Get More Learning Materials Here : CLICK HERE www.studentbro.in

C. Direction of motion of the body
D. All of the above

(c) The work done by a centripetal force
A. increases by decreasing the radius of the circle
B. decreases by increasing the radius of the circle
C. increases by increasing the mass of the body
D. is always zero

(d) The moon revolves around the earth because the earth exerts a radial force on the moon. Does the earth perform work on the moon?
A. No
B. Yes, sometimes
C. Yes, always
D. Cannot be decided

(e) What is the direction of centripetal force?

Section-B

21. **a.** What are different types of air pollutants? Give examples.
b. What are the harmful effects of lead pollution?

OR

Define:
a. Nucleoid
b. Protoplasm

22. Define pathogen. Name the various categories of organisms that cause disease.

23. Classify the following as physical or chemical properties:
(a) The composition of a sample of steel is 98% iron, 1.5% carbon and 0.5% other elements.
(b) Zinc dissolves in hydrochloric acid with the evolution of hydrogen gas.
(c) Metallic sodium is soft enough to be cut with a knife.
(d) Most metal oxides form alkalis on interacting with water.

OR

0.5 g of salt is dissolved in 25 g of water. Calculate the percentage amount of salt in the solution.

24. In what way is Rutherford's atomic model different from that of Thomson's atomic model?

Get More Learning Materials Here : CLICK HERE www.studentbro.in

25. It is required to increase the velocity of a scooter of mass 80 kg from 5 to 25 m s^{-1} in 2 seconds. Calculate the force required.
26. A body of mass 500 g is at rest on a frictionless surface. Calculate the distance travelled by it in 10 second when acted upon by a force of 10^{-2} N.

Section-C

27. Explain the terms:
    a. Zone of saturations
    b. Water table
    c. Water level
    The vertical distance from surface to water table is known as water level

    OR

    Draw the structure of Mitochondria.
28. Enumerate the causes and levels of disease.
29. a. What is the Haversian canal system?
    b. With which animal tissue is this system associated?
    c. Draw a neat diagram to exhibit the haversian canal system and tell about its significance.
30. A block of mass 5 Kg is lying on a frictionless table. A force of 20 N is applied on it for 10 seconds. Calculate its final kinetic energy.
31. The ratio of the radii of the hydrogen atom and its nucleus is $\sim 10^5$. Assuming the atom and the nucleus to be spherical, what will be the ratio of their sizes?
32. What would you observe when
    (a) a saturated solution of potassium chloride prepared at 60°C is allowed to cool at room temperature?
    (b) an aqueous sugar solution is heated to dryness?
    (c) a mixture of iron filings and sulphur powder is heated strongly?
33. (a) A boy threw a rubber ball vertically upwards. What type of work positive or negative, is done:
    (i) By the force applied by the boy?
    (ii) By the gravitational force of earth?
    (b) A ball of mass 200 g falls from a height of 5 metres. What is its kinetic energy when it just reaches the ground? (g = 9.8 m/s^2)

Section-D

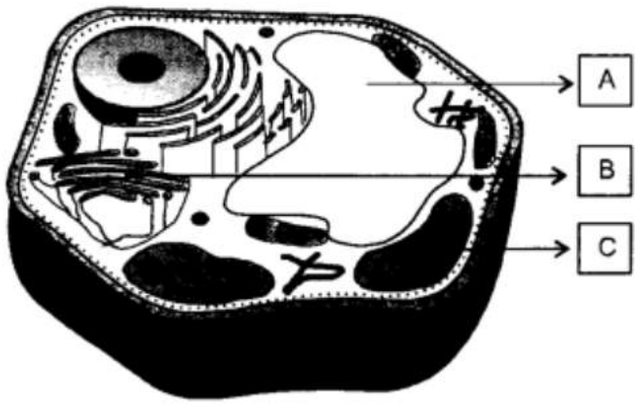
Get More Learning Materials Here : CLICK HERE www.studentbro.in

34. During an experiment the students were asked to prepare a 10% (Mass/Mass) solution of sugar in water. Ramesh dissolved 10 g of sugar in 100 g of water while Sarika prepared it by dissolving 10 g of sugar in water to make 100 g of the solution.
    (a) Are the two solutions of the same concentration?
    (b) Compare the mass % of the two solutions.

OR

Three students A, B and C prepared mixtures using chalk powder, common salt and milk respectively in water. Whose mixture:
    (i) would not leave residue on filter paper after filtration?
    (ii) would show the tyndall effect?
    (iii) would give a transparent/clear solution?
    (iv) would settle down at the bottom when left undisturbed?
    (v) could be filtered by filter paper?

35. Answer **Any 4** from the following
    (a) In the given diagram, identify the parts marked B and C.



    (b) What are the substances that organelle A stores ?
    (c) Mention one function of organelles B and C.
    (d) What are cisterns ?

36. (a) Two asteroids in space are in close proximity to each other. Each has a mass of 6.69×10^{15} kg. If they are 100,000m apart, what is the gravitational acceleration that they experience? $G=6.67\times10^{-11}$ m^3 $kg^{-1}\cdot s^{-1}$
    (b) If 'g' is the acceleration due to gravity on earth, what is the acceleration due to gravity on another planet having mass and radius twice that of earth?
    (c) Under what conditions a body becomes weightless?

***

Get More Learning Materials Here : CLICK HERE www.studentbro.in

HINTS & SOLUTIONS

Section-A

1. Solution: Valency of X is 3 and valency of oxygen is 2 hence the formula is X_2O_3.

   OR

   Solution: A solution is said to be diluted, concentrated or saturated on the basis of the amount of solute dissolved in the solution at the given temperature.
2. Solution: A cation is an atom or group of atoms carrying positive charge on them. For example :Na^+, NH_4^+ etc.
3. Solution: D

   The loss of an electron in the above data proves that it is a cation.
4. Solution: Accelerated motion is represented by the tip of 'seconds' hand' of watch.
5. Solution: Yes, a body can have a constant speed and still be accelerating. Acceleration can be either due to change in speed or due to direction of motion or both.

   Consider an example of uniform circular motion. In a uniform circular motion, the body moves with a constant speed but we still say that it is accelerating due to the change in direction.
6. Solution: Luggage is in contact with the roof of the bus. When the bus is moving the luggage is also in the state of motion and had a tendency to remain in motion due to law of inertia. When the driver apply the brakes, the bus stops suddenly but the luggage is in motion and thus fall from the roof. It is therefore advised to tie the luggage.

   OR

   We are able to walk due to force of friction. Friction is a contact force and arises when two objects are in direct contact with each other. While walking our feet exerts force on the ground pushing it backwards and the ground exerts equal and opposite reaction to our feet helping us to move forward. When we step on banana peel, the friction force between the feet and the peel decreases and we are not able to move forward and slip.
7. Answer: C

   Solution: Mass, m = 1 kg

Get More Learning Materials Here : CLICK HERE www.studentbro.in

Acceleration due to gravity, g = 9.8 m/s^2
We know that the weight of a body is given as:
Weight, w = mg
= 1 × 9.8 = 9.8 N

8. Solution: The weight of the body is the force with which it is attracted towards the centre of the earth.
W = m × g
Weight of the body changes from place to place, as the value of g changes from place to place.
Acceleration due to gravity g is zero at the centre of earth, as at the centre of earth we are surrounded by equal masses in all the direction, hence equivalent gravitational force acting on us due to earth is zero and thus making acceleration due to gravity to zero.
So, W = m × g = 0
Hence, weight at the centre of earth is zero.

9. Solution: According to law of conservation of energy, Energy can neither be created nor be destroyed. It can only be transformed from one form to another. Total energy before and after transformation remains same.
So, if the potential energy of a freely falling object decreases progressively then it is transformed into an equal amount of kinetic energy and the sum of both energies remains constant all the time.

OR

Yes, the given condition is possible in certain conditions:-
When Displacement is 0 or the initial point and final point are the same.
For e.g. When a car is moving on a road, there will be a frictional force applied by the road on the. Using Newton's third law we can say that, for every action, there is an equal and opposite reaction. Thus the force applied by the road on the car will be equal and opposite to the force applied by the car on the road. Since there is no displacement of the road, there will be no work done on the road.

10. Solution: (d) The atmosphere of the earth is heated by radiations which are mainly re-radiated by land and water.
11. Solution: Epidemic is the rapid and extensive spread of diseases that affect many individuals simultaneously in a particular area
12. Solution: A common wall between two adjacent plant cells is known as middle lamella.

Get More Learning Materials Here : CLICK HERE www.studentbro.in

13. Solution: Stratosphere is the ozone rich zone. It is very important because it absorbs harmful ultraviolet (UV) rays. It is above the troposphere.
14. Solution: A
15. Solution: (b) Lysosomes contain powerful digestive enzymes capable of breaking down all the organic materials. Hence, during cellular disturbance, they digest the damaged cell organelles.
16. Answer: D
    Solution: The wings of a bird push air downwards and as explained by Newton's third law of motion, the air pushes the bird upwards and it flies. Therefore, assertion is false and reason is true.
17. Sol. (a)
    (i) Cambium
    (ii) Phloem
    (b) Parenchyma- Epidermis
    Collenchyma- Hypodermis and endodermis
    (c) Collenchyma will have lesser intercellular space as its cells are irregularly thickened at the corners.
    (d) In a leaf epidermis, the guard cells are interspersed which protect the stomatal pore and regulate its opening and closing for gaseous exchange.
18. (i). Solution:
    2 moles of hydrogen molecule
    Molecular mass of H_2 = 2 g
    Mass = number of moles x molecular mass = 2 x 2 = 4 g
    (ii). Solution:
    3 moles of Chlorine molecule
    Molecular mass of Cl_2 = 70.9 g
    Mass = no of moles x molecular mass = 3 x 70.9 = 212.7 g
    (iii). Solution:
    5 moles of sulphur molecule S_8
    Molecular mass of sulphur molecule = 32 x 8 = 256
    Mass = no of moles x molecular mass = 5 x 256 = 1280 g
    (iv). Solution:
    4 moles of P_4 molecule
    Molecular mass of P_4 molecule = 31 x 4 = 124 g
    Mass = no of moles x molecular mass = 4 x 124 = 496 g

Get More Learning Materials Here : CLICK HERE www.studentbro.in

(v). Solution:

2 molecules of H_2O molecule

The molecular mass of H_2O molecule = 18 g

Mass = no of moles x molecular mass = 2 x 18 = 36 g

19. (a) Solution: The solution is the name of the clear liquid formed when a solid dissolves in a liquid.

(b) Solution: A soap solution will scatter light passing through it as it is a colloid.

(c) Solution: it is due to the small size of their solute particles that a colloid easily pass through the pores of a filter paper whereas it is because of the bigger size of the solute particles of a suspension that they cannot pass through the pores of a filter paper and are retained on the filter paper in the form of a residue. Only the solvent of a suspension passes through the filter paper.

(d) Solution: The concentration of a solution is the amount of solute present in a given quantity of the solution.

(e) Solution:

(i) When the saturated solution is heated, it will become unsaturated

(ii) When the saturated solution is cooled, some of the dissolved solutes will separate and crystallize.

20. (a) Solution: The work done by a force F on an object is the product of the force and the displacement of the object due to the force, in the direction of the force.

$$W = Fd$$

(b) Answer: B

Solution: During uniform circular motion the speed of the body remains constant

(c) Answer: D

Solution: Centripetal force is always perpendicular to the displacement of the body, on which it acts and therefore work done by centripetal force is always zero.

(d) Answer: A

Solution: The radial force acts as the centripetal force for motion of the moon and therefore, the work done by earth is zero.

(e) Solution: Centripetal force always acts towards the centre of circular path.

Get More Learning Materials Here : CLICK HERE www.studentbro.in

Section-B

21. Solution:

a.

1. Gaseous pollutants: Sulphur dioxide and nitrogen peroxide.
2. Particulate pollutants: Carbon particles and dust.

b. Lead pollution causes brain damage, convulsions, abortions etc.

OR

Solution:

a. Nuclear material of prokaryotes is nucleoid not bounded by nuclear envelope. It does now have nucleus and is referred as nucleoid

b. All the living contents of the cell inside the cell membrane constitute protoplasm. It includes cytoplasm and nucleus.

22. Solution: Disease causing microorganisms are called pathogens. Bacteria, fungi, viruses, protozoans and helminths are the various categories of organisms that cause diseases.

23. Solution:

Physical properties—(a) and (c)

Chemical properties—(b) and (d)

OR

Solution:

Mass of salt present = 0.5 g

Mass of water present in solution = 25 g

$\therefore$ Percentage amount of the salt = $\frac{0.5}{0.5+25} \times 100 = 1.96\%$

24. Solution:

Rutherford proposed a model in which electrons revolve around the nucleus in well-defined orbits. There is a positively charged center in an atom called the nucleus. He also proposed that the size of the nucleus is very small as compared to the size of the atom and nearly all the mass of an atom is centered in the nucleus. Whereas Thomson proposed the model of an atom to be similar to a Christmas pudding. The electrons are studded like currants in a positively charged sphere like Christmas pudding and the mass of the atom was supposed to be uniformly distributed.

Get More Learning Materials Here : CLICK HERE www.studentbro.in

25. Solution: We know from Newton's Second law of motion that the rate of change of momentum is equal to the force applied. Therefore, in this case

$$F = \frac{m(v-u)}{t} = \frac{80(25-5)}{2} = 800\ N$$

26. Solution: First we need to determine the acceleration of the body. From Newton's Second law

$$F = ma$$

$$a = \frac{F}{m} = \frac{10^{-2}}{500 \times 10^{-3}} = 0.02\ m/s^2$$

Using the second equation of motion

$$S = ut + \frac{1}{2}at^2$$

$$S = 0 + \frac{1}{2} \times 0.02 \times (10)^2 = 1\ m$$

Section-C

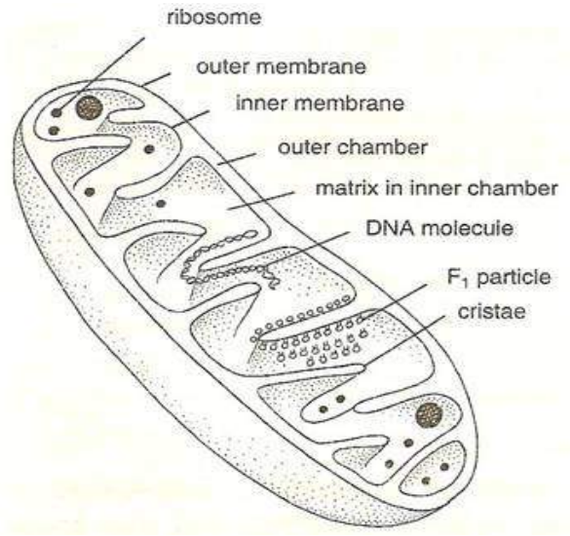
27. Solution:

a. Water percolates into the ground through the pores of the rocks as groundwater. When rocks are saturated with water at a certain level, this area or surface of rock is called the zone of saturation.

b. The upper level of the zone of saturation is called the water table. The vertical distance from surface to water table is known as water level

OR

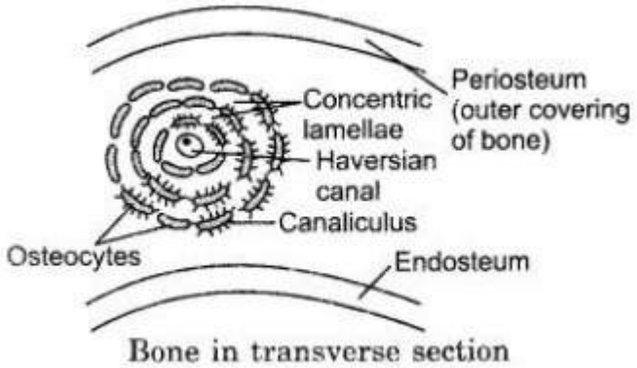
Solution:



Get More Learning Materials Here : CLICK HERE www.studentbro.in

28. Solution: Causes of diseases are the agents and factors which produce the diseases. The factors which make an individual prone to catch the disease are known are contributing causes. There are causes and levels of causes which are as follows:
    1. First level of cause is also referred to as the immediate cause or the primary cause of the disease. For infectious disease, the immediate cause is a pathogen i.e. virus, bacteria, fungi, worm and so on.
    2. Contributing causes or second level of cause makes a person prone to catch the disease. All persons are not equally susceptible to a disease. Some contract the disease while others do not which may be due to poor health or undernourishment or it may be generally related. The second level of causes are connected with a particular person.
    3. Third level of causes increases the proneness to disease. A repeated supply of unclean water will make people catch water borne disease. Poor public health services will become the third level of cause. Lack of proper nourishment is a result of poverty.
29. Solution:
    a. A haversian canal system comprises nutrients filled canals around which bone cells or osteocytes occur concentric rings or lamellae. These canals have 1-2 blood capillaries, nerve fibres and connective tissue.
    b. The Haversian canal system is associated with bone, a type of connective tissue.

    The bony endoskeleton forms the supporting framework of the body which provides protection to vital organs like the brain, heart, lungs etc. Bones form various types of joints which take part in body movements including locomotion. Bone is a reservoir of calcium, phosphorus and other minerals. Blood cells are formed in red bone marrow of the bones.



Bone in transverse section

Get More Learning Materials Here : CLICK HERE www.studentbro.in

30. Solution: To calculate the kinetic energy, we need to determine the final velocity of the block. For that we first need to determine the acceleration of the block.
From second law of motion

$$F = ma$$
$$a = \frac{F}{m} = \frac{20}{5} = 4\ m/s^2$$

Now using the first equation of motion

$$v = u + at$$

$$v = 0 + 4 \times 10 = 40\ m/s$$

Therefore, the kinetic energy can be calculated as

$$KE = \frac{1}{2}mv^2 = \frac{1}{2} \times 5 \times 50^2 = 4000\ J$$

31. Solution: (i) Volume of the sphere = $4\Pi r^3/3$
Let R be the radius of the atom and r be that of the nucleus.

$$\Rightarrow \quad R = 10^5 r$$

$$\text{Volume of the atom} = \frac{4}{3}\pi R^3 = \frac{4}{3}\pi(10^5 r)^3 \qquad (\because R = 10^5 r)$$

$$= \frac{4}{3}\pi r^3 \times 10^{15}$$

$$\text{Volume of the nucleus} = \frac{4}{3}\pi r^3$$

$$\text{Ratio of the size of atom to that of nucleus} = \frac{\frac{4}{3} \times 10^{15} \times \pi r^3}{\frac{4}{3}\pi r^3} = 10^{15}$$

32. Solution:
(a) Solid potassium chloride will separate out.
(b) Initially the water will evaporate and then the sugar will get charred.
(c) Iron sulphide will be formed.

Get More Learning Materials Here : CLICK HERE www.studentbro.in

33. Solution:

(a) Work done by the two forces in the given condition is :

i) Work done by the force applied by the boy is positive due to reason that the displacement of the ball is in the direction of the force applied.

ii) Work done by the gravitational force of earth is negative. This is because the displacement of the ball is opposite to the direction of the gravitational force.

(b) Mass of the ball, m = 200g = 0.2 kg
Height from which ball is dropped, h = 5 m
Initial velocity of the ball, (u) = 0 m/s
Acceleration due to gravity, (g) = 9.8 m/s^2
Therefore, final velocity (v) of the ball is:

$$v^2 = u^2 + 2aS$$
$$\Rightarrow v^2 = 0 + 2(9.8)5$$
$$v^2 = 98\, m^2/s^2$$

Kinetic energy is given as

$$KE = \frac{1}{2}mv^2$$
$$KE = \frac{1}{2} \times 0.2 \times 98 = 9.8\, J$$

Section-D

34. Solution:

(a) No.

$$\text{Mass per cent} = \frac{\text{Mass of solute}}{\text{Mass of solute} + \text{Mass of solvent}} \times 100$$

(*b*) **Solution made by Ramesh:**

$$\text{Mass per cent} = \left(\frac{10}{10+100}\right)100$$
$$= \frac{10}{110} \times 100$$
$$= \mathbf{9.09\%}$$

Solution made by Sarika:

$$\text{Mass per cent} = \frac{10}{100} \times 100 = \mathbf{10\%}$$

Get More Learning Materials Here : CLICK HERE www.studentbro.in

OR

Solution:

(i) Mixture of common salt and water and the mixture of milk and water.

(ii) Mixtures of chalk powder with water and milk with water.

(iii) Mixture of common salt and water.

(iv) Mixture of chalk powder and water.

(v) Mixture of chalk powder and water.

35. Solution: (a) B —Golgi apparatus.

C — Chloroplast.

(b) A (Central Vacuole). It stores salts, sugar, amino acids, organic acids, some proteins and waste products. Recently lysosomal enzymes have also been detected in it.

(c) Function. :

(i) B — Secretion and excretion.

(ii) C — Photosynthesis.

(d) Cisterns are membrane bound curved flat stacks of Golgi bodies that bear tubules and vesicles on their periphery.

36. Solution:

(a) According to Universal Law of Gravitation,

$$F = \frac{Gm_1m_2}{r^2}$$

$$F = \frac{6.67 \times 10^{-11} \times 6.69 \times 10^{15} \times 6.69 \times 10^{15}}{(10^5)^2} = 2.99 \times 10^{11}$$

Now from newton's second law of motion we have

$$F = ma$$

$$2.99 \times 10^{11} = (6.69 \times 10^{15})a$$

$$a = 4.47 \times 10^{-5} m/s^2$$

(b) Acceleration due to gravity on earth is described using the expression,

$$g = \frac{GM_e}{R_e^2}$$

Where the M is the mass and R is the distance of the object from the mass. The subscript 'e' refers to earth.

The mass and radius is double of earth

$$g = \frac{G(2M_e)}{(2R_e)^2} = \frac{GM_e}{2R_e} = \frac{g}{2}$$

Get More Learning Materials Here : CLICK HERE www.studentbro.in

(c) Weight of a body is nothing but the force with which it is attracted towards the centre of earth.
Force = Mass × Acceleration
W = m × g
Since, we have Force = Weight = W and acceleration is acceleration due to gravity or g.
A body becomes weightless when g becomes zero and this happens when acceleration due to gravity becomes zero and thus body becomes weightless.

Get More Learning Materials Here : CLICK HERE www.studentbro.in