

SECTION - A

Select and write one most appropriate option out of the four options given for each of the questions 1 – 20

Q. No	Questions	Marks
1	<p>The property of flow is unique to fluids. _____ is the correct statement.</p> <p>(a) Only gases behave like fluids</p> <p>(b) Gases and solids behave like fluids</p> <p>(c) Gases and liquids behave like fluids</p> <p>(d) Only liquids are fluids</p>	1
2	<p>Which of the following has highest kinetic energy?</p> <p>(a) Particles of ice at 0 °C</p> <p>(b) Particles of water at 0 °C</p> <p>(c) Particles of water at 100 °C</p> <p>(d) Particles of steam at 100 °C</p>	1

3	Air shows the property of a) N_2 b) O_2 c) Both (a) and (b) d) None of these.	1
4	Noble gases are a) Monoatomic b) Diatomic c) Triatomic d) Both I and II	1
5	The isotope deuterium of hydrogen has a) No neutrons and one proton b) One neutrons and two protons c) One electron and two neutron d) One proton and one neutron	1
6	What property of an element determines its chemical behaviour? (a) Valency of an element (b) Size of an element (c) Molar mass of the element (d) None of the above	1
7	Two atoms are said to be isotopes if ----- (a) They have same atomic number but different mass number (b) They have same number of electrons but different number of neutrons (c) They have the same number of neutrons but different numbers of electrons. (d) Both a and b.	1
8	Which plastids are colourless a) Chromoplast b) Chloroplast c) Leucoplast d) None of the above	1
9	The phenomenon where Cytoplasm shrinks in a hypertonic medium is called a) Frontolysis b) Plasmolysis c) Acidosis d) None of the above	1

10	<p>The node of ranvier are found in</p> <p>a) Nerve cell b) Heart cell c) Liver cell d) All of the above</p>	1
11	<p>----- is not found in xylem tissue</p> <p>a) Sieve tubes b) Xylem parenchyma c) Tracheids d) Vessels</p>	1
12	<p>To solve the food problem of the country, which among the following is necessary.</p> <p>a) Increased production and storage of food grains. b) Easy access of people to the food grains. c) People should have money to purchase the grains. d) All of the above.</p>	1
13	<p>Slope of velocity-time graph gives</p> <p>a) distance b) displacement c) acceleration d) speed</p>	1
14	<p>Inertia of a body in linear motion is increased by</p> <p>a) velocity b) acceleration c) mass d) momentum</p>	1
15	<p>Weight of the body is measured by</p> <p>a) spring balance b) beam balance c) digital balance d) none of these</p>	1
16	<p>SI unit of density is</p> <p>a) kgm^3 b) kgm^{-3} c) kgm d) kgm^2</p>	1

Q. no 17 to 20 are Assertion - Reasoning based questions.

These consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

- (a) Both A and R are true and R is the correct explanation of A
- (b) Both A and R are true and R is not the correct explanation of A
- (c) A is true but R is false
- (d) A is False but R is true

17	Assertion: Light is not considered as matter. Reason: Light does not occupy space, has no mass or volume.	1
18	Assertion: A cell swells up when present in a hypertonic solution. Reason: More water molecules enter the cell than they leave.	1
19	Assertion: The supportive tissue is generally made up of dead cells. Reason: Dead cells are always present in liver.	1
20	Assertion (A): The value of "g" is greater at the poles than at the equator. Reason (R): Radius is more at the equator than at the poles.	1

SECTION – B

Q. no. 21 to 26 are very short answer questions.

21	<p>Give difference between isotopes and isobars</p> <p>OR</p> <p>State the difference between sodium atom and sodium ion.</p>	2
22	Why do plant cells possess large sized vacuoles?	2
23	What are the function of aerenchyma in hydrophytes?	2
24	What do you understand by GM Crops? Give two examples.	2
25	<p>What is inertia of motion? Explain with an example.</p> <p>OR</p> <p>What is inertia? How is mass the measure of inertia.</p>	2
26	Why is animal husbandry essential?	2

SECTION - C

Q.no. 27 to 33 are short answer questions.

27	<p>Give the chemical formulae for the following compounds</p> <p>(a) Hydrogen chloride</p> <p>(b) Potassium sulphate</p> <p>(c) Magnesium sulphide</p> <p>(d) Calcium carbonate</p> <p>(e) Sodium nitrate</p> <p>(f) Aluminium oxide</p>	3
28	Explain giving examples the various factors on which rate of evaporation depend.	3
29	<p>How will absence of any one of the cell organelles affect the cells working? Explain by giving suitable examples.</p> <p>Or</p> <p>Write two statements to show that lysosomes are called as suicidal bags of the cell.</p>	3

30	The mass of the Earth is 6×10^{24} kg and that of the moon is 7.4×10^{22} kg. If the distance between the earth and the moon is 3.84×10^5 km, calculate the force exerted by the Earth on the Moon.	3
31	What is Archimedes 'principle? Give two applications for the same.	3

32	Give three differences between acceleration due to gravity (g) and universal gravitational constant (G). OR a) Explain density and relative density. b) Density of glycerin is 1260 kg/m^3 . Calculate its relative density.	3
33	Name any two methods of Irrigation and briefly describe them.	3

SECTION - D

Q.no. 34 to 36 are Long answer questions.

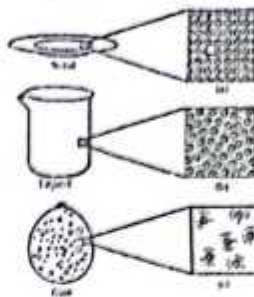
34	<i>Compare J.J. Thomson's, Rutherford's and Bohr's models of an atom in tabular form.</i> OR Give reasons for the following: (a) Colloidal solution shows Tyndall effect. (b) Rusting of iron is considered as chemical change (c) Gold and silver are used to make jewellery. (d) Valency of beryllium is 2 while that of helium is 0, though both have 2 electrons their last shell. (e) Air is considered as an impure substance while carbon dioxide is considered pure.	5
35	Define manures. What are its different kinds? State two limitations of using them for agricultural. Or Describe the types of connective tissues along with their function. Draw flowchart for the same	5

36	How can you define floatation? Explain principle of floatation. OR What is graphical representation of motion? Explain distance-time graph and velocity-time graph for a body in uniform motion.	5
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SECTION - E

Q.no. 37 to 39 are case - based/data -based questions with 2 to 3 short sub - parts.

Gases are highly compressible as compared to solids and liquids. The liquefied petroleum gas (LPG) cylinder that we get in our home for cooking or the oxygen supplied to hospitals in cylinders is compressed gas. Compressed natural gas (CNG) is used as fuel these days in vehicles. The liquid takes up the shape of the container in which they are kept. Liquids flow and change shape, so they are not rigid but can be called fluid. Solids and liquids can diffuse into liquids. The aquatic animals can breathe underwater. The rate of diffusion of liquids is greater than solid.



1. Why compressed natural gas (CNG) is used as fuel these days in vehicles?
2. Liquids have no fixed _____ but have a fixed _____.
3. The aquatic animals can breathe underwater due to
 1. the presence of dissolved carbon dioxide in water
 2. the presence of dissolved oxygen in the water
 3. the presence of dissolved Nitrogen in the water
 4. all of these
4. The rate of diffusion of liquids is greater than solid due to
 1. liquid particles move freely
 2. liquid have greater space between each other
 3. both (a) and (b)
 4. none of these

In India there has been a four times increase in the production of food from 1952 to 2010. This increase in production been achieved through the practices involved in farming, we can divide it into three stages. The first is choice for planting. The second is nurturing of crops. The third is protection of growing and harvested crops from loss. Based upon above information,

- a) What is crop protection management?
- b) What is crop variety improvement?