

	(c) Assertion is true but reason is false. (d) Assertion is false but reason is true	
Q.7	Assertion: Intercropping is the practice of growing more than one crop on the same field in a definite row pattern, at the same time. Reason: It helps in increasing the productivity per unit area.	1
Q.8	Assertion: A cell swells up when present in hypertonic solution. Reason: More water molecules leave the solution than enter.	1


Very Short Answer Questions (2 x 2= 4 marks)

Q.9	Draw a neat schematic diagram of Meristematic Tissue.	2
Q.10	Name the following: a) Fundamental unit of hereditary DNA - nucleus b) Fundamental unit of Nervous System Heart Neuron	2

Short Answer Questions (2 x 3= 6 marks)

Q.11	Which tissue is located in the following : a) beneath the skin, around blood vessels and nerves, and filling spaces between organs. Stratified cuboidal b) Iris Un-structured c) larynx columnar	3
Q.12	a) Explain Composite fish culture. b) What is the limitation of this type of fish farming? c) How is this overcome?	3

Long Answer Questions (1 x 5= 5 marks)

Q.13	a) Identify the tissue in the picture given below: Stratified Squamous  b) Where is this tissue located? Skin c) What is the identifying feature of this tissue? Multiple layers d) What is the function of this tissue? protection from wear and tear e) What is the chemical secreted by this tissue? KERATIN ✓ But with acid / chromosomal	5
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Case Study based (1X4 = 4 marks)

Arjun accidentally watered his potted plant with saltwater. Meanwhile, at the school lab, a technician placed red blood cells (RBCs) in distilled water.

Q.14	What do you think happened to the plant when Arjun watered it with saltwater? Why? <i>plasmolysed - hypertonic</i>	2
Q.15	What would the technician see under the microscope in the RBC experiment? <i>bursts - crenated - hypotonic</i>	1
Q.16	Why don't plant cells burst in a hypotonic solution, while animal cells do? a) Plants have dead cells, while animal cells are living. <input checked="" type="checkbox"/> b) Plant cells have a rigid cell wall, while animal cells only have a cell membrane. c) Plant cells show Plasmolysis, while animal cells do not. d) The cell membrane in animal cells provide better structural support than the cell wall in Plant cells.	1

SUBJECT- CHEMISTRY (26)

Q.1	Smoke is an example of a) compound <input checked="" type="checkbox"/> c) aerosol b) true solution d) emulsion	1
Q.2	Scattering of light occurs when a beam of light is passed through <input checked="" type="checkbox"/> a) blood c) copper sulphate solution b) water d) brine solution	1
Q.3	Assertion – Clothes do not dry quickly on a rainy day. Reason – High humidity decreases the rate of evaporation <input checked="" type="checkbox"/> a) Both statements are True and R is the correct explanation of A b) Both statements are True but R is NOT the correct explanation of A c) A is True, R is False d) A is False, R is True	1
Q.4	Assertion – All gases are diatomic. Reason – Oxygen, chlorine, bromine are diatomic a) Both statements are True and R is the correct explanation of A b) Both statements are True but R is NOT the correct explanation of A c) A is True, R is False <input checked="" type="checkbox"/> d) A is False, R is True	1
Q.5	Calculate the mass of salt required to prepare its 40% solution in 100g water. <i>66.67g of salt</i>	2

Q.6	Design an experiment to show sublimation of I_2 with diagram.	2
Q.7	Write the chemical formulae of the following compounds:	
i.	Aluminium nitride AlN_3	1
ii.	Ammonium sulphate $(NH_4)_2SO_4$	1
iii.	Magnesium bicarbonate $Mg(HCO_3)_2$	1
Q.8	What are the characteristics of particles of matter? <i>attract, moving, space</i>	3
Q.9	An atom of an element has 6 electrons in its outermost M shell. Write its	
i.	'Electronic configuration $2, 8, 6$	1
ii.	Name of the element and symbol <i>Sulphur, S</i>	1
iii.	Valency of the element 2	1
Q.10	Non metals are usually poor conductors of heat and electricity. They are non-lustrous, non-sonorous, non-malleable and are coloured.	
i.	Name a lustrous non-metal <i>Iodine</i>	1
ii.	Name a non-metal which exists as a liquid at room temperature <i>Bromine</i>	1
iii.	Name a non-metal whose allotropic form is a good conductor of electricity <i>Carbon</i>	1
iv.	Name a non-metal which is required for combustion OR Name one metalloid. <i>Oxygen</i>	1
Q.11	Fill in the blanks	
i.	Elements are defined by the number of atoms they possess	0.5
ii.	The electrons of an atom is equal to the number of protons in its nucleus	0.5+0.5


iii.	Rutherford's alpha ^{gold foil} Experiment led to the discovery of structure of the atom ^{structure of the atom}	0.5+0.5
iv.	J.J Thomson proposed that electrons ^{electrons are} embedded in a spherical ^{spherical} sphere of positive charge ^{of positive charge}	0.5+0.5
v.	Isobars are atoms having the same atomic number ^{atomic number} but different atomic mass ^{atomic mass}	0.5+0.5
vi.	Depending upon the amount of solute ^{solute} present in a solution, it can be called dilute, concentrated or saturated solution.	0.5

SUBJECT- PHYSICS (27)

Q.1	What is the linear momentum of a toy of mass 300g moving with a speed of 18km/hr a) 15 kg m/s b) 1.5 kg m/s c) 1.5 g cm/s d) 15 g cm/s	1
Q.2	A body of mass 2kg is moving over a perfectly smooth surface with a uniform velocity of 5m/s. The external force acting on the body is a) 10N b) 10 dyne c) zero d) 10Kg	1
Q.3	Assertion – An object can have constant speed but variable velocity. Reason – Velocity changes due to change in direction, though speed remains same. a) Both statements are True and R is the correct explanation of A b) Both statements are True but R is NOT the correct explanation of A c) A is True, R is False A is False, R is True	1
Q.4	Assertion – Speed of sound is more in air than in iron. Reason – Speed of sound varies directly with density of medium. a) Both statements are True and R is the correct explanation of A b) Both statements are True but R is NOT the correct explanation of A c) A is True, R is False A is False, R is True	1

Q.5	A sound wave has a frequency of 2KHz and wave length 35cm. How long will it take to travel 1.5 Km <i>2.14 s</i>	2
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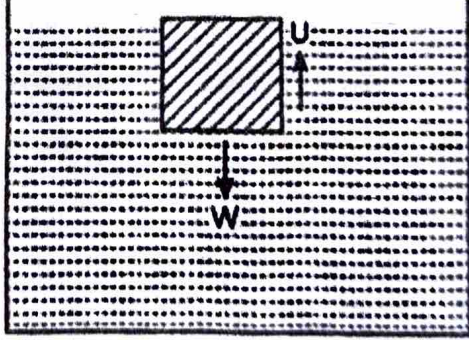
Q.6	What is the work done by the force of gravity on a satellite moving round the earth? Justify your answer.	2
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Q.7	Does sound follow the same laws of reflection as light does? Explain with the help of an activity <i>yes</i> 	3
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Q.8	Answer the following:	3
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i.	What is power? State its SI unit <i>Rate of doing work</i> <i>W (work) / time</i>	
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ii.	The power of a motor pump is 2KW. How much water per minute can the pump raise to a height of 10m ($g=10\text{m/s}^2$) <i>1200 Kg</i>	
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Q.9	The following table shows the weights(W) of objects of equal volume immersed in water (having density= 1000kg/m^3), observe the table and answer the questions that follow (given $g=9.8\text{ m/s}^2$) <table border="1" data-bbox="295 1138 821 1500"> <thead> <tr> <th>OBJECT</th> <th>WEIGHT(N)</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>10</td> </tr> <tr> <td>B</td> <td>15</td> </tr> <tr> <td>C</td> <td>20</td> </tr> <tr> <td>D</td> <td>25</td> </tr> </tbody> </table> 	OBJECT	WEIGHT(N)	A	10	B	15	C	20	D	25	
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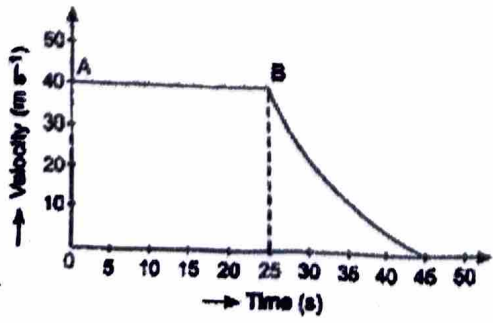
i.	On which object is the maximum upthrust exerted by water <i>same</i>	1
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ii.	If object C floats inside water (while completely immersed in it), what is the upthrust acting on it <i>20N</i>	1
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iii.	State the principle based on which the upthrust acting on an object is obtained OR <i>water displaced = upthrust</i> Give two applications of this principle <i>barometer, submarine, ships</i>	2
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Q.10	Gravitational force is the force of attraction between any two objects having mass. Its strength depends on the masses of the objects and the distance between them. When a body moves under the influence of gravity alone, its motion is called free fall.	
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i.	To keep the gravitational force between the objects constant, what change can be done in one of the masses when the distance between the objects is increased by a factor of four <input checked="" type="checkbox"/> a) increased 16 times <input type="checkbox"/> b) decreased 16 times <input type="checkbox"/> c) decreased 4 times <input checked="" type="checkbox"/> d) decreased 4 increased 4 times	1
ii.	When two bodies of mass 1 Kg each are 1m apart, the gravitational force of attraction between them is <input checked="" type="checkbox"/> a) 6.67×10^{-11} N <input type="checkbox"/> b) 6.67×10^{11} N <input type="checkbox"/> c) 9.8 N <input type="checkbox"/> d) 980 N	1
iii.	A 60Kg man weighs W Kg on the moon. W is <input type="checkbox"/> a) 60 Kg <input checked="" type="checkbox"/> b) 10 Kg <input type="checkbox"/> c) 5 Kg <input type="checkbox"/> d) 70 Kg	1
iv.	A body falling freely near the surface of the earth has <input type="checkbox"/> a) no acceleration <input checked="" type="checkbox"/> b) varying acceleration <input type="checkbox"/> c) uniform acceleration <input type="checkbox"/> d) retardation	1

Q.11	The velocity-time graph of an object is shown in the figure 	
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i.	State the kind of motion that object has from <u>A to B</u> and from <u>B to C</u> <i>uniform velocity</i> <i>retardation</i>	1
ii.	Identify the part of the graph where the object has zero acceleration. Give reason for your answer <i>AB (constant velocity)</i>	2
iii.	Identify the part of the graph where the object has negative acceleration. Give a reason. <i>B (retardation)</i>	2

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