



G - W CLASSES, GONDIA
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GW PARIKSHA (PRE ANNUAL)- 02

CLASS-IX

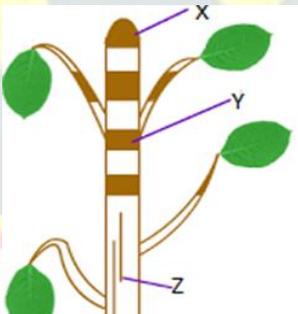
SUBJECT-SCIENCE (086)

TIME ALLOWED : 3 HRS

MAX. MARKS : 80

General Instructions:

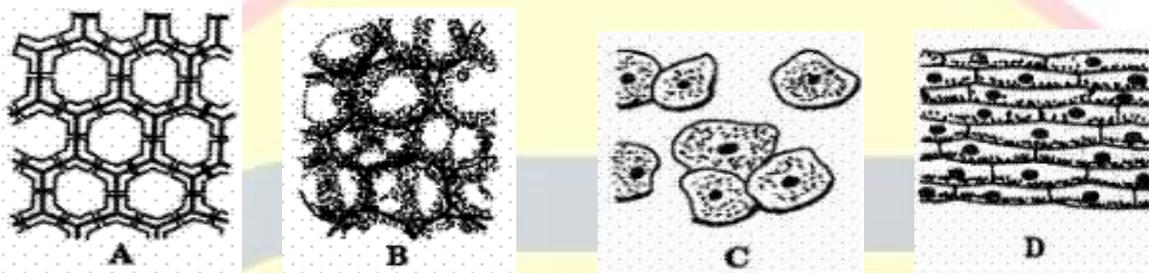
- 1.This question paper consists of 39 questions in 3 sections. Section A is Biology, Section B is Chemistry and Section C is Physics.
- 2.All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.

SECTION A		
1	<p>X, Y, and Z are meristematic tissues present at different regions in plants. Which of these are responsible for the increase in girth of stems or roots?</p>  <p>a) Y b) Both Y and Z c) X d) Z</p>	[1]
2	<p>Refer to the given figure and select the incorrect statement regarding X, Y and Z.</p>  <p>a) Y contains respiratory enzymes, lipids, RNA, etc. b) Y is arranged in characteristic pattern in different cells and bear oxysomes. c) Z contains respiratory enzymes, lipids, RNA, etc. d) X is freely permeable to small molecules and ions.</p>	[1]
3	Match the following with the correct response:	[1]

(a) The living membrane surrounding cell	(i) Stroma
(b) The single membrane surrounding the vacuole	(ii) Plasma membrane
(c) Ground material of chloroplast	(iii) Cristae
(d) Fold of inner membrane in mitochondria	(iv) Tonoplast

- a) (a) - (iii), (b) - (ii), (c) - (iv), (d) - (i) b) (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii)
c) (a) - (iv), (b) - (i), (c) - (iii), (d) - (ii) d) (a) - (i), (b) - (iii), (c) - (ii), (d) - (iv)

4 Identify the tissues in given diagrams and choose the correct sequence [1]



- a) A : Parenchyma, B : Sclerenchyma, C : Onion peel, D : Cheek cells
b) A : Sclerenchyma, B : Parenchyma, C : Onion peel, D : Cheek cells
c) A : Parenchyma, B : Sclerenchyma, C : Cheek cells, D : Onion peel
d) A : Sclerenchyma, B : Parenchyma, C : Cheek cells, D : Onion Peel

5 Green manure refers to [1]

- a) the organic manure added to soil before ploughing and sowing
b) the plants grown and mulched by ploughing before sowing the crop
c) the manure used by small green plants
d) the organic manure prepared by green worms

6 **Assertion (A):** The root tips of a plant were cut and the plant was replanted. The plant will die within few days of replanting. [1]

Reason (R): The root tips are cut, the roots won't grow because of the absence of meristematic tissue. And if the roots will not grow, proper absorption of water and minerals will not occur.

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

7 **Assertion (A):** Crop rotation is the growing of different crops on a piece of land in a pre-planned succession. [1]

Reason (R): Legumes are included in the crop rotation program to increase soil fertility.

	<p>a) Both A and R are true and R is the correct explanation of A.</p> <p>b) Both A and R are true but R is not the correct explanation of A.</p> <p>c) A is true but R is false.</p> <p>d) A is false but R is true.</p>	
8	Differentiate between striated, unstriated and cardiac muscles on the basis of their structure and site/location in the body.	[2]
9	<p>1. Give two advantages of apiculture.</p> <p>2. Give an example of each, local variety and foreign variety of bee.</p> <p>3. Group the following as energy-yielding crops. Wheat, rice, berseem, maize, gram, oat, pigeon gram, sudangrass, lentil, soybean, groundnut, castor and mustard.</p> <p style="text-align: center;">OR</p> <p>What are the desirable agronomic characteristics for crop improvements?</p>	[2]
10	<p>1. What is poultry farming? How does it help in solving food and nutrition problems?</p> <p>2. Name two desirable traits for the variety of improvement in poultry farming.</p>	[2]
11	<p>Give reasons:</p> <p>(a) Meristematic cells have a prominent nucleus and dense cytoplasm but they lack vacuole.</p> <p>(b) Intercellular spaces are absent in sclerenchymatous tissues.</p> <p>(c) We get a crunchy and granular feeling when we chew pear fruit.</p>	[3]
12	Why is mitochondria called 'powerhouse of cell'? Give three similarities and one difference between mitochondria and plastid.	[3]
13	<p>Read the following text carefully and answer the questions that follow:</p> <p>In older plants, the outer protective layer that is epidermis undergoes certain changes the epidermis of the stem is replaced. There is cork cambium which is simple tissue having one type of the cell. The cell of cork cambium are rectangular and their protoplast is vacuolated contain tannins. The cork cambium gives off new cell from its both side. The cell of the cork cambium is dead and compactly arranged without the intercellular space and there is suberin deposition.</p> <p>1. The epidermis of the cell is replaced by? (1)</p> <p>2. How does a cork acts as a protective tissue?(1)</p> <p>3. There is suberin deposition what is the main disadvantage?(2)</p> <p style="text-align: center;">OR</p> <p>When cork cambium gives off new cells what does it form on its inner and outer</p>	[4]

18 Match the following with the correct response : [1]

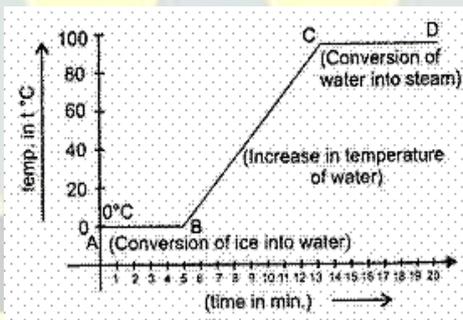
(a) Canal rays consist of positively charged particles (protons)	(i) Rutherford
(b) Electrons are distributed in shells	(ii) J.J.Thomson
(c) Centre of an atom is dense	(iii) J. Dalton
(d) Atom is indivisible	(iv) Neils Bohr

- a) (a) - (iii), (b) - (ii), (c) - (iv), (d) - (i) b) (a) - (i), (b) - (iii), (c) - (ii), (d) - (iv)
 c) (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii) d) (a) - (iv), (b) - (i), (c) - (iii), (d) - (ii)

19 Atomicity of Chlorine and Argon is: [1]

- a) Monoatomic and diatomic respectively
 b) Diatomic and monoatomic respectively.
 c) Monoatomic and monoatomic respectively.
 d) Diatomic and diatomic respectively.

20 The inferences drawn by the temperature versus time graph are [1]



1. During the melting, temperature of substance does not change.
2. Temperature rises after all amount of ice melts.
3. At a specific temperature water starts boiling and temperature remains the same during the conversion of water into steam.

Which statement is correct regarding graph?

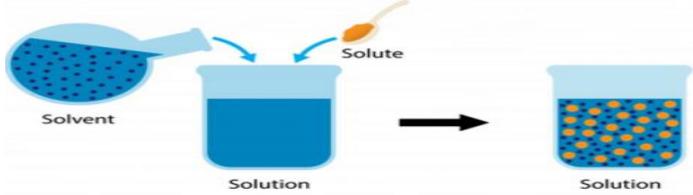
- a) All (A), (B) and (C) are correct b) Only (C) is correct
 c) Only (A) is correct d) Only (B) is correct

21 The nucleons are [1]

- (a) Protons and electrons (b) Neutrons and electrons
 (c) Protons and neutrons (d) None of these

22 **Assertion (A):** According to the Law of Constant Proportion, in a chemical substance, elements are always present in a definite proportion by mass. [1]

Reason (R): The proportion of hydrogen and oxygen is 1 : 8 by mass in a molecule

	<p>of water.</p> <p>a) Both A and R are true and R is the correct explanation of A.</p> <p>b) Both A and R are true but R is not the correct explanation of A.</p> <p>c) A is true but R is false. d) A is false but R is true.</p>	
23	State the Postulates of Dalton Theory.	[2]
24	<p>Comment on the following statements:</p> <p>(a) Rate of evaporation of an aqueous solution decreases with increase in humidity.</p> <p>(b) Evaporation produces cooling.</p> <p>(c) Conversion of solid state to liquid state is called fusion. What is meant by latent heat of fusion?</p> <p style="text-align: center;">OR</p> <p>(a) What do you mean by Atomicity Give examples of</p> <p>(i) Mono atomic molecules (ii) Diatomic molecules (iii) Triatomic molecules</p> <p>(iv) Polyatomic molecules</p> <p>(b) What is formula unit mass? How is it different from molecular mass ?</p>	[3]
25	The average atomic mass of a sample of an element X is 16.2 u. What are the percentages of isotopes $^{16}_8X$ and $^{18}_8X$?	[3]
26	<p>Read the following text carefully and answer the questions that follow:</p> <p>Mixtures are constituted by more than one kind of pure form of matter. Sodium chloride is itself a pure substance matter. The solution is a homogeneous mixture of two or more substances. Lemonade, soda water etc. are all examples of solutions. Alloys are mixtures of two or more metals or a metal and a non - metal and cannot be separated into their components by physical methods. A solution has a solvent and a solute as its components. The component of the solution that dissolves the other component in it (usually the component present in a larger amount) is called the solvent. The component of the solution that is dissolved in the solvent (usually present in lesser quantity) is called the solute.</p> <p style="text-align: center;">Solute + Solvent → Solution</p>  <p>1. List any four properties of a colloid and mention any two properties in which colloids differ from suspension.</p>	[4]

36	Calculate the force of gravitation between the earth and the sun, given that the mass of the earth = 6×10^{24} kg and of the sun = 2×10^{30} kg. The average distance between the two is 1.5×10^{11} m.	[3]
37	A body starts from rest and moves with a uniform acceleration of 2 m/s^{-2} until it travels a distance of 625 m. Find its velocity.	[3]
38	<p>Read the following text carefully and answer the questions that follow:</p> <p>A car of mass 900 kg is travelling at a steady speed of 30 m/s against a resistive force of 2000 N, as illustrated in figure.</p> <div> <p>The diagram shows a side view of a car moving to the right. An arrow above the car points to the right and is labeled '30 m/s'. An arrow below the car points to the left and is labeled '2000 N resistive force'.</p> </div> <ol style="list-style-type: none"> 1. Calculate the kinetic energy of the car. (1) 2. If a body is thrown vertically upward, its velocity goes on decreasing. What happens to its kinetic energy when it stops at the top and its velocity becomes zero ? (1) 3. What is the minimum power that the car engine has to deliver to the wheels? (2) <p style="text-align: center;">OR</p> <p>What amount of energy in kWh is consumed in 10 h by a machine of power 500 W? (2)</p>	[4]
39	<p>Explain the following:</p> <ol style="list-style-type: none"> 1. Why do we jerk wet clothes before spreading them on wire? 2. Why does dust fly off when carpet is hit with stick? 3. Why do fruits fall off the branches in strong wind? 4. Why does a pillion rider fall forward, when the driver of a two-wheeler suddenly applies brakes? 5. Why does a passenger jumping out of a rapidly moving bus fall forward with his face downwards ? <p style="text-align: center;">OR</p> <ol style="list-style-type: none"> (1) How can ultrasound be used to detect the defects in a metal block ? (2) What is reverberation and what is done to reduce it ? (3) Sound requires a medium to travel. Justify experimentally. (4) Write down the properties of ultrasound. 	[5]