NAVODAYA VIDYALAYA SAMITI

HYDERABAD REGION

Term I Examination (2025-26)

CLASS: IX **SUBJECT: SCIENCE**

Max Time: 3 hrs. **Max Marks: 80**

SET-I

General Instructions:

i. . All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.

ii. Section A consists of 20 objective type questions carrying 1 mark each

iii. Section B consists of 6 very short answer questions carrying 2 marks each.

iv. Section C consists of 7 short answer type questions carrying 3 marks each.

v. Section D consists of 3 long answer type questions carrying 5 marks each.

vi. Section E consists of 3 source based/case based questions carrying 4 marks each with sub parts.

SECTION A

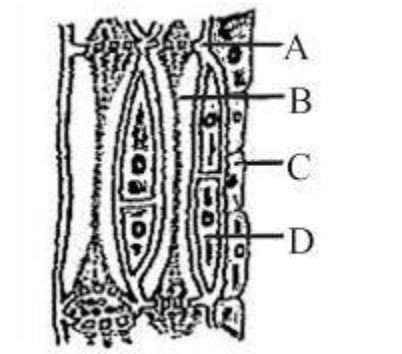
Select the most appropriate option out of the four choices given for each of the question

Q.No	Question	Marks
1	What is the physical state of water at 0^0C? a) Solid b) Liquid c) Gas d) Both solid and liquid	1
2	Smoke is an example of aerosol. The dispersed phase and dispersion medium in smoke is a) Solid & liquid b) Liquid & gas c) Solid & gas d) Gas & Gas	1
3	Which phenomenon occurs during the formation of clouds?	1

	a) Condensation b) Evaporation c) Deposition d) Solidification	
4	Convert 375K into Celsius scale: a) 120 ^{0}C b) 102 ^{0}C c) 115 ^{0}C d) 112 ^{0}C	1
5	Milk is example of a) Aerosol b) Sol c) Foam d) Emulsion	1
6	Which of the following plastids are colourless? a) Chromoplast b) Chloroplast c) Luecoplast d) All of the above	1
7	Which of the following is not a component of phloem? a) Sieve tube b) Companion cells c) Xylem vessels d) Phloem parenchyma	1
8	Energy currency of the cell a) Endoplasmic reticulum b) ATP c) Mitochondria d) None of the above	1
9	The tissue responsible for the increase in girth of a plant stem a) Intercallery meristem b) Lateral meristem c) Apical meristem d) Parenchyma	1

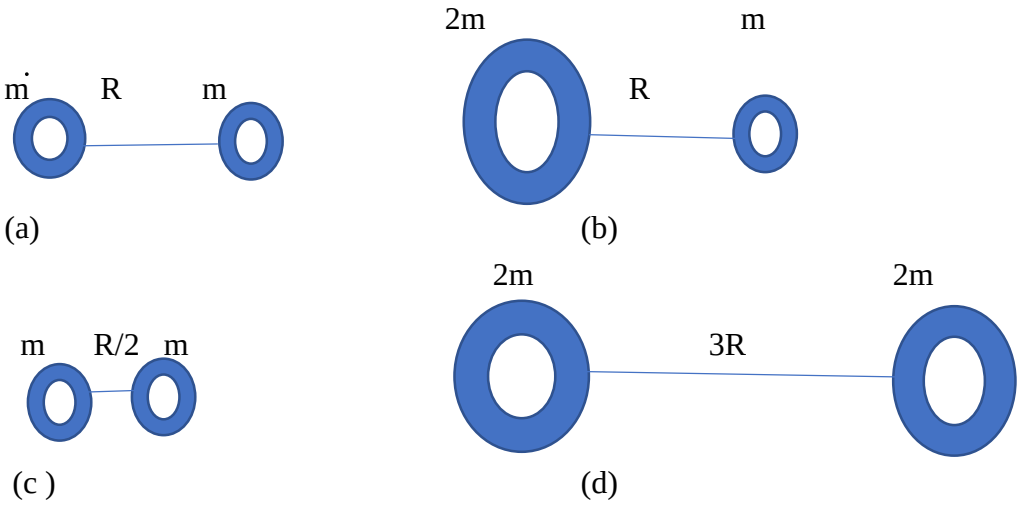
10	What type of plant tissue is found in the husk of a coconut? a) Parenchyma b) Collenchyma c) Sclerenchyma d) Meristematic tissue	1
11	The Odometer of a car measures ---------- a) Speed b) Distance c) Displacement d) Acceleration	1
12	The Inertia of an object depends on------- a) Force b) Mass c) Momentum d) Velocity	1
13	The slope of a velocity time graph gives: a) Acceleration b) Velocity c) Displacement d) Force	1
14	An athlete running along a circular track with constant speed. Which of the following statements are true? a) Acceleration changes b) Distance with respect to time changes c) Direction of speed changes d) Force acting towards center changes	1
15	a)  b)  c)  d)  If the above vehicles running at same speed hits an object from behind. In which case acceleration of the object will be maximum, a) Case a b) Case c	1

	c) Case d d) Same acceleration in all cases.	
16	According to Newton's third law, action and reaction a) Acting on different bodies in opposite direction b) Acting on different bodies in same direction c) Acting on different body in different directions d) Acting on same body in same direction	1
Question nos 17 to 20 are Assertion-reason Questions: there are two statements- Assertion (A) and reason (R) in each question. Answer these questions by selecting the most suitable options 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 (A): Mitochondria are known as powerhouse of a cell. Reason (R): Mitochondria are the sites of photosynthesis in plants.	1
18	Assertion (A): The displacement of an object can be either positive, negative or zero. Reason (B): Displacement has both magnitude and direction.	1
19	Assertion (A): A pillion rider falls backward when bike suddenly moves forward. Reason (B): The pillion rider continues to be in a state of rest when bike moves forward.	1
20	Assertion (A): Gases exert pressure on the walls of the container. Reason (B): The inter-molecular force of attraction is very strong in gases.	1
SECTION – B खंड ख		
21	Name two cell organelle which possess DNA and ribosomes.	2
22	Define chlorenchyma and aerenchyma. OR Why are corks impervious to gases and water?	2

23	A motorboat starting from rest on a lake accelerates uniformly to attain a velocity 10m/s in 5 seconds. Calculate (a) acceleration of motorboat (b) How far boat travelled during this time?	2
24	Why a cricket fielder moves back his hands gradually on catching the fast cricket ball? OR Why it is easier to stop tennis ball than a cricket ball moving with same speed?	2
25	What is Tyndall effect? Which types of solutions shows this effect?	2
26	Define the term a) Solubility b) Concentration	2
	SECTION – C खंड ग	
27	a) Identify the type of plant tissue given below. b) Which part of the plant would you find this tissue? Label the parts marked A,B,C and D 	3
28	Write the difference between plant cell and animal cell.	3
29	Name the simple permanent tissue (a) which store food (b) which provide flexibility in plants (c) name the process by which meristematic tissue develop into permanent tissue	3

30	What is meant by uniform motion? Draw the position-time graph for a uniform motion. What will be displacement of the body, if position time graph is parallel to time axis?	3
31	On which factors does Momentum of a body depends? Give the SI Unit of Momentum. A bullet of small mass can kill a person when fired from a gun. Why? OR Define SI unit of Force. A body of mass 500kgis at rest. Calculate the force required to produce a velocity of 10m/s in 5 seconds.	3
32	What produces more severe burn, boiling water or steam? Why? Define latent heat of vaporisation?	3
33	Sonu was making a solution by dissolving 80g of sugar in 320g of water. Calculate the concentration in terms of mass by mass percentage of the solution?	3
	SECTION – D खंड घ	
34	Draw the diagram of a plant cell and label the parts (a) which provide definite shape to the cell (b) transporting channel of the cell (c) control room of the cell OR Write the name of (a) Undefined nuclear region of prokaryote (b) Storage sac of a cell (c) Substance by which cell wall is made up of (d) Cell organelle responsible for the release of energy as ATP (e) The scientist who discovered nucleus	5
35	State Newton's second Law of motion. Derive the mathematical relation of Newton's second Law. A force of 10N produces an acceleration of $4m/s^2$ in a body moving on a horizontal surface. What is the mass of the body? OR Define the term inertia. If we stop pedaling, a moving bicycle comes to rest. Is it obey Newton's first law? Justify. Which has greater momentum- a body of mass 5kg moving with 10m/s or a 20kg moving with 2m/s.	5

36	a) How do evaporation and boiling differ from each other? b) Why does our palm feel cold when we put some acetone on it? c) Write four properties of matter? OR a) Draw the states of matter triangle and indicate different processes in it. b) " Naphthalene balls disappear with time without leaving any residue" Define the process associated with the above statement. Name two other solids having this property.	5
	SECTION – E ਖੰਡ ਙ	
37	New cells are formed in organisms inorder to grow, to replace old, dead and injured cells and to form gamates required for reproduction. The process by which new cells are made is called cell division. (a) What are the two types of cell division? (b) Name the cell division which is responsible for growth and development (c) Name the cell division which takes place in reproductive cell during gamate formation (d) Write differences of these two types of cell divisions in respect of i) Number of daughter cells formed ii) Number of chromosomes in daughter cells OR (d) Name the cell division i) Known as equational division. ii) which maintain chromosome number constant in sexually reproducing organisms	1 1 1 1
38	Philosophers made observations about things falling down − and developed theories why they do – as early as Aristotle, who thought that rocks fall to the ground because seeking the ground was an essential part of their nature. The famous story of Isaac Newton and the falling apple is linked to his discovery of the law of universal gravitation. While the story is likely embellished, it highlights Newton's insight that the force pulling an apple down is the same force that governs the motion of planets. Isaac Newton's theory of universal gravitation explains that every particle in the universe attracts every other particle with a force that is proportional to the product of their masses and inversely proportional to the square of the distance	

	between them. This force is what we experience as gravity, and it's responsible for holding planets in orbit around stars and keeping us grounded on Earth. 1. What do we call gravitational force between earth and an object? 2. Acceleration due to gravity of a freely falling body is ---------- (6.7×10^{-11} N m^2/kg^2, 1000kg, 9.8 m/s^2 ,1.0005×10^5 Pa) 3. How does force of attraction changes a) Mass of one body doubled. b) Distance between masses doubled. OR  Study the situations in above diagrams. In which case force of gravitation a) Maximum b) Minimum	1 1 2
39	Gases are highly compressible as compared to solids and liquids. The LPG cylinders that we get in our home for cooking or the oxygen supplied to hospitals in cylinders is compressed gas. CNG is used as fuel these days in vehicles. Due to the larger amount of empty space between their molecules it is highly compressible. a) CO_2 is a gas. Write its two gaseous properties to justify it. b) How can we liquify a gas? c) Write the full form of a) CNG b) LPG	2 1 1