

MDS PUBLIC SCHOOL, MADINA (ROHTAK)
SUMMER HOLIDAYS HOMEWORK
SESSION – (2025-26)
CLASS - 9TH



“MAKE THE MOST OF YOUR BREAK, STAY CREATIVE AND CURIOUS!”

Out of difficulties grow miracles. Tough time doesn't last.

Dear Students,

The beginning of new session might not have been with pomp and show, but the spirit of teaching learning continues in the school. The summer vacation this time would not be ice creams,

Some points to be remember

- Drink plenty of juice and water to avoid dehydration.
- Make hand washing and hygiene a part of your routine.
- Holiday Homework is a part of subject enrichment and will be

assessed on the basis of creativity and efforts of the students.

- It's the perfect time to enhance your speaking skills and vocabulary

by conversing in English with your family and siblings.

- Reading is essential for those who seek to rise above the ordinary.

Spend your quality time reading purposeful books.

- A beautiful handwriting makes a good impression. Practice one page

of English and Hindi handwriting daily.

- Holiday homework should be your authentic creative work.
- Holiday Homework is given according to roll numbers.
- Holiday Homework will be submitted in paper bag as per the given schedule.

Here are the ways by which you can make your holidays fun and learning at the same time:-

- **Go for walk,talk about things you see around.**
- **Speak in English as much as possible.**
- **Help your parents in small household chores like dusting, cleaning and watering the plants.**

NOTE:-Do all the assignments in neat and legible handwriting in separate notebook.

Parents are requested to just guide the children to complete the task on their own.

SUBJECT- ENGLISH

Theme: Learn, Create, and Enjoy!

1. Reading Corner

- **Book** of the Month: The Adventures of Tom Sawyer by Mark Twain (or any book of your choice)
- **Task:** Write a book review in about 100–120 words. Include:
 - Title
 - Author
 - Characters
 - What you liked/disliked
 - Your favourite part
 - Would you recommend it? Why?

2. Creative Writing Fun

Choose any 1 of the following:

- a) Write a short story beginning with: "It was a strange morning when I found a magical box in my backyard..."
- b) Imagine you are a tree. Write a diary entry expressing your thoughts about humans.
- c) Write a poem on Freedom, Summer, or Nature (8–10 lines)

3. Grammar in Action

- Do the following exercises in your English notebook:
- Write 10 sentences using Determiners
- Write 10 sentences using Tenses (Present, Past & Future – 2 each)
- Identify the parts of speech in 5 sentences from your textbook.

4. Let's Be Expressive! (Speaking/Listening Task)

- Record a short video or audio (1–2 mins) where you:
- Recite your poem or story OR
- Share your book review OR
- Speak on "Why books are my best friends" (Best ones will be presented in class!)

5. Fun & Research Activity – "Discover India"

- Pick one Indian state and create a colourful A4-size chart or scrapbook page. Include:
- Famous places
- Food
- Language
- Traditional dress
- A short folk tale or legend
- Make it creative with drawings or printed pictures!

6. Handwriting Practice

- Copy 10 pages from your Literature Reader (any chapter) in neat handwriting.

Note: Best entries will be displayed on the MDS School Bulletin Board!

SOCIAL SCIENCE

Activity 1: Collage on "Democratic Rights"

Instructions:

- Make a colorful collage using newspaper clippings or printouts that show real-life examples of rights being protected or violated.
- Label each example with the specific Fundamental Right it relates to (e.g., Right to Equality, Right to Freedom).

- Add a brief paragraph (5-6 lines) summarizing what you learned.

Activity 2: Timeline on “French Revolution” .

- Instructions:
- Draw a timeline showing 5 major events of the French Revolution.
- Include short descriptions and pictures/icons for each event.
- Highlight key figures like Louis XVI, Robespierre, or Napoleon.

Activity 3: Comparative Chart “India’s Physical Features” (Geography)

Instructions:

- Create a table comparing the following physical features of India:
 1. The Himalayas
 2. The Northern Plains
 3. The Plateau Region
 4. The Coastal Plains
 5. The Islands
- Include columns for Location, Climate, Soil Type, Major Rivers, and Crops Grown
Revise the topics and chapters covered in class.

SUBJECT – MATHS

1. Make a project file on any topic.
2. Revise chapter 1 and 2 complete in Holidays Homework Notebook.
3. Activity : Construct the square root spiral.

Do the given assignment.

1. Find five rational numbers between $\frac{1}{3}$ and $\frac{1}{2}$.
2. Express 3.1416 in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$.
3. Locate $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, $\sqrt{7}$ and $\sqrt{9.3}$ on the number line.
4. Represent 0.333... as a rational number in the form $\frac{p}{q}$.
5. Find the decimal expansion of $\frac{1}{7}$.
6. Is the square root of all positive integers irrational ? Explain.
7. What is the degree of the polynomial $3x^2 + 5x - 7$?
8. Is $x = 2$ a zero of the polynomial $p(x) = x^2 - 4$?
9. Find the value of the polynomial $2x^2 + 3x - 1$ at $x = -1$.
10. Divide $(x^3 - 2x^2 + 5x - 1)$ by $(x - 1)$.
11. What is a binomial of degree 5?
12. If $(x - a)$ is a factor of the polynomial $p(x)$, then what is $p(a)$?
13. Find the rational and irrational parts of $\sqrt{2} + \frac{5}{3}$.
14. Simplify $(\sqrt{3} + \sqrt{2})^2$.
15. If $p(x) = x^2 - 4x + 3$, find $p(1)$, $p(2)$, and $p(3)$.
16. Show that $\sqrt{5}$ is an irrational number.
17. Find the zeroes of the polynomial $x^2 - 16$.
18. What is the coefficient of x^2 in the polynomial $2x^3 + 3x^2 - 5x + 1$?
19. Represent 3.1416 as a fraction with a finite number of digits.
20. Write three non-terminating, non-recurring decimal expansion.

Assertion / Reason

Directions: In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

- (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
- (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.

Q.1 Assertion: Rational number lying between $\frac{1}{4}$ and $\frac{1}{2}$ is $\frac{3}{8}$.

Reason: Rational number lying between two rational numbers x and y is $(x+y)$

Q.2 Assertion: 0.329 is a terminating decimal.

Reason: A decimal in which a digit or a set of digits is repeated periodically, is called a repeating, or a recurring decimal.

Q.3 Assertion: Rational number lying between two rational numbers x and y is $(x+y)/2$.

Reason: There is one rational number lying between any two rational numbers

Q.4 Assertion: 5 is a rational number.

Reason: The square roots of all positive integers are irrationals.

Q.5 Assertion: Sum of two irrational numbers $2 + \sqrt{3}$ and $4 + \sqrt{3}$ is irrational number.

Reason: Sum of two irrational numbers is always an irrational number.

Q.6 Assertion: $78 \div 74 = 74$

Reason: If $a > 0$ be a real number and p and q be rational numbers. Then $ap \times aq = ap+q$

Q.7 Assertion: $\sqrt{5}$ is an irrational number.

Reason: A number is called irrational, if it cannot be written in the form p/q , where p and q are integers and $q \neq 0$

Q.8 Assertion: the rationalizing factor of $3+2\sqrt{5}$ is $3-2\sqrt{5}$.

Reason: If the product of two irrational numbers is rational then each one is called the rationalizing factor of the other

Q.9 Assertion: $113 \times 114 = 1112$

Reason: If $a > 0$ be a real number and p and q be rational numbers. Then $ap \times aq = ap+q$

Case study based questions.

In the current scenario, people use such door whose top half part is made of glass and bottom half part is wooden.



The glass portion of the door is having length and width in the ratio of 5 : 3. The wooden frame around the glass portion adds 11 inches to the total width and 14 inches to the total length. Consider the length of the glass portion as $5x$ inches:

On the basis of the above information, solve the following questions:

Q.1 Find the total length of the glass portion of the door (in inches) is represented in terms of x .

Q.2 Find the total width of the glass portion of the door (in inches).

Q.3 Write the polynomial representation of the area top half part of the door.

Q.4 (i) Find the zeroes of the polynomial representing the area.

(ii) Mrs. Rakhi lives in an undeveloped area where there is no facility of proper education. But one thing is available in that area i.e., network. Since she was very keen to take education, so she decided to complete her education through e-learning. One day she was studying number system, where she learnt about rational numbers, irrational numbers and decimal numbers, etc.



On the basis of the above information, solve the following questions:

Q 1. Convert the rational number $\frac{2}{15}$ into decimal number.

Q 2. Write one irrational number between 2.365 and 3.125 .

Q 3. If $x + \sqrt{2} = 3$, then find the value of $\frac{1}{x}$.

Q4. Find the product of two irrational numbers $(7 + 3\sqrt{2})$ and $(7 - 3\sqrt{2})$.

SUBJECT - BIOLOGY

Important Instructions : All the work must be prepared on A4 size sheet and a separate folders for it. Name of the School, title of the project, Submitted to and Submitted by all such details must be filled on the cover page.

1. Revise Chapter-5 The fundamental unit of life and also practice its internal questions, intext questions and textual questions .

2. Draw well labelled diagram of a.

a. prokaryotic cells

b. Eukaryotic cells

c. All the cell organelles and

- Also write the name of the scientist who discovered it.
- Write 5 keywords in your holiday homework notebook daily related to Biology.

SUBJECT – I.T.

1. Create a *PowerPoint presentation* on the topic of "The Evolution of Computer" or "Impact of Technology on Society."
2. Use *Google Sheets* or *Microsoft Excel* to create a *spreadsheet* with data of your choice (e.g., monthly expenses, favorite sports players, weather data, etc.).
3. Create a *poster or infographic* that educates peers about *cyber safety* and *digital security*.
4. Select an educational app or software (such as a drawing app, productivity tool, or coding platform) that you've never used before.
 - Explore its features and create a review that includes:
 - A brief overview of the app/software.
 - Its key features and how it works.
 - Your experience using it.
 - A rating or recommendation.
5. Create a short video tutorial (3-5 minutes) explaining a basic IT concept such as how to create a spreadsheet, an introduction to HTML, or how to stay safe online.
6. Revise all units of your syllabus done in class.

SUBJECT- CHEMISTRY

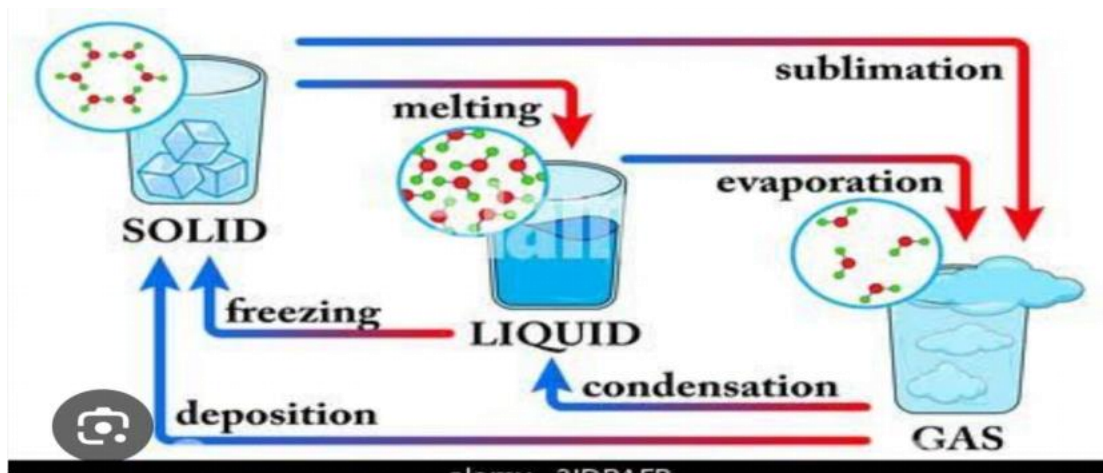
ASSIGNMENT

Note :- (Write given assignment questions in holidays homework notebook)

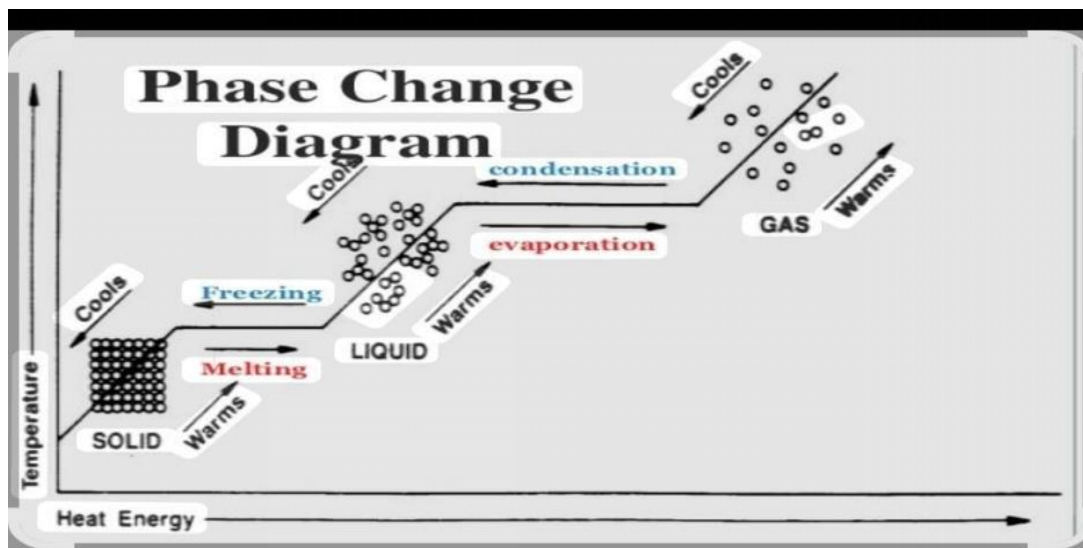
- Q1. Find the density of sand with a mass of 208 g ejecting a volume of 80 mL of water.
- Q2. Why is liquid classified as a fluid?
- Q3. Solid ice float on water. Justify the statement.
- Q4. By which physical phenomenon does the fragrance of a burning stick spread?
- Q5. Name the physical phenomenon accountable for parching watery clothes. Why does the spreading of clothes increase the rate of drying?
- Q6. Which characteristics of gases help in witnessing LPG gas leakage?
- Q7. Convert the following to the Kelvin scale.
 - (i) 65 ° C
 - (ii) 300 ° C
- Q8. Is dry ice same as the normal ice? If no, then differentiate between dry and ordinary ice.
- Q9. Why are fluid particles held less firmly than solid?
- Q10. How will you differentiate between a gas and a vapour?
- Q11. What are the essential requirements of a substance to be categorised as a matter?
- Q12. A student spilt ammonia in one corner of the lab. Soon the laboratory was loaded with the pungent annoying smell. The students instantly unclogged the windows and doors and switched on the exhaust fans. After some time, students got the consolation. What happened? Explain.
- Q13. Why can we split a piece of chalk into tiny particles on hammering but not iron?

DIAGRAMMATICALLY BASED QUESTIONS

Q 1 Draw this diagram on A4 size sheet. Explain all the process involved during the change of states of matter (Roll no 1 to 8)

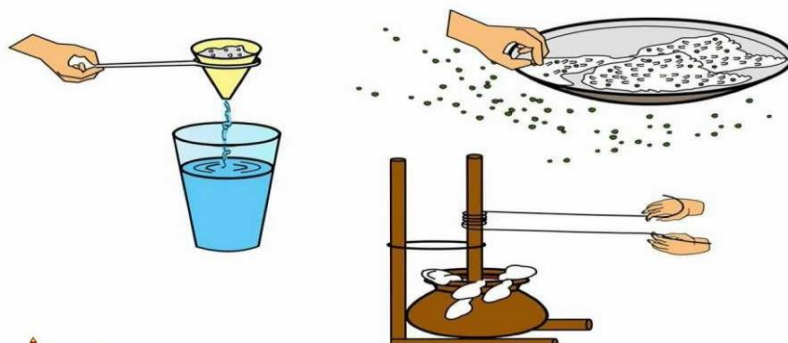


Q2. Draw this diagram on A4 size sheet. Explain all the process involved during phase changes. (Roll no 9 to 16)



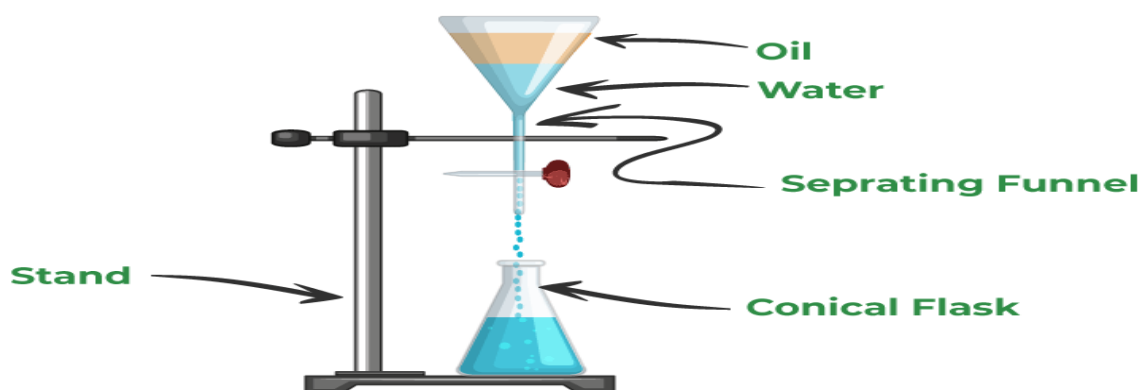
Q3. Draw this diagram on A4 size sheet. Explain the separation technique used for following substance. (Roll no 17 to 24)

Different separation methods



Q4. Draw this diagram on A4 size sheet. Explain the separation technique used for two Immiscible liquid. (**Roll no 25 to 35**)

Separating Mixtures - Funnel



ACTIVITY/PROJECT BASED QUESTION

Activity 1

Pay a visit to any manufacturing unit making bread and biscuits (**Odd Roll no.**)

- Identify the various substances used in unit
- Prepare a report on its various steps involved in the manufacturing process on A4 size sheet

Activity 2

- Have a visit and study the process of water purification in water works of your city (**Even Roll no.**)
- Draw a flow sheet diagram on A4 size sheet showing various steps in purifying water for city supply.

COMPETITIVE EXAM

SUBJECT – MATHS

Objective Type Questions

1. Fill in the blanks:

- i. The reciprocal of every (non-zero) rational number is a number.
- ii. The sum of a rational and an irrational number is always number.
- iii. The difference of a rational and an irrational number is always number.
- iv. The decimal expansion of every rational number is either or non-terminating.
- v. The decimal expansion of every irrational number is always
- vi. Every number whose decimal expansion is non-terminating non-recurring is number.
- vii. Between two distinct rational numbers there lie rational numbers.
- viii. Between two distinct rational numbers there lie irrational numbers.
- ix. Between two distinct irrational numbers there lie rational numbers.
- x. The decimal expansion of a rational number $\frac{p}{q}$, where p, q are integers, $q > 0$, p, q have no common factors (except 1) is non-terminating recurring if q has a prime factor.....
- xi. The decimal representation of the rational number $\frac{1}{9}$ is
- xii. $2\sqrt{3} + \sqrt{27} = \dots\dots\dots$
- xiii. $\sqrt{48} \times \sqrt{75} = \dots\dots\dots$
- xiv. After simplification, $\frac{1}{\sqrt{2} + \sqrt{3}} = \dots\dots\dots$
- xv. After simplification, $\frac{\sqrt{3} - 1}{\sqrt{3} + 1} = \dots\dots\dots$
- xvi. $\sqrt[4]{1296} = \dots\dots\dots$
- xvii. If $17^{\frac{x}{5}} = 289$, then x is equal to
- xviii. If $(81)^{\frac{x}{5}} = 243$, then x is equal to

2. Choose the wrong statement:

- (a) There is no largest natural number.
- (b) There is no largest integer.
- (c) There is no smallest integer.
- (d) The collection of rational numbers has largest as well as smallest.

3. Choose the wrong statement:

- (a) Every natural number is a whole number.
- (b) Every integer is a rational number.
- (c) Every rational number is an integer.
- (d) Every rational number is a real number.

4. Every rational number is

- | | |
|----------------------|--------------------|
| (a) a natural number | (b) an integer |
| (c) a real number | (d) a whole number |

5. Between two rational numbers.

- (a) there is no rational number
- (b) there is exactly one rational number
- (c) there are infinitely many rational numbers
- (d) there are only rational numbers and no irrational numbers.

6. Decimal representation of a rational number cannot be

- (a) terminating
- (b) non-terminating
- (c) non-terminating repeating
- (d) non-terminating non-repeating

7. The product of any two irrational numbers is

- (a) always an irrational number
- (b) always a rational number
- (c) always an integer
- (d) sometimes rational, sometimes irrational

8. The decimal expansion of the number $\sqrt{2}$ is

- (a) a finite decimal
- (b) 1.41421
- (c) non-terminating recurring
- (d) non-terminating non-recurring

9. Which of the following is an irrational number?

(a) $\sqrt{\frac{4}{9}}$

(b) $\frac{\sqrt{12}}{\sqrt{3}}$

10. If $a=2$ and $b=3$, then the value of $(a^a+b^b)^{-1}$ is.....

11. State whether the following statements are true or false.

- (i) Every natural number is a whole number.
- (ii) Every integer is a whole number
- (iii) Every integer can be written in the form $\frac{p}{q}$, where p, q are integers, $q \neq 0$.
- (iv) Every rational number is an integer.
- (v) Every real number is an irrational number.
- (vi) Every irrational number is a real number.
- (vii) Every point on the number line represents a number of the form $\sqrt{n}$; where n is a natural number.
- (viii) The product of a rational and an irrational number is an irrational number.
- (ix) Reciprocal of every rational number is a rational number.
- (x) The square roots of all positive integers are irrational numbers.
- (xi) There are infinitely many integers between any two integers.
- (xii) The square of an irrational number is always a rational number.

Multiple Choice Questions

Choose the correct answer from the given four options:

- 1) The smallest natural number is
(a) -1 (b) 0 (c) 1 (d) 2
- 2) The smallest whole number is
(a) -1 (b) 0 (c) 1 (d) 2
- 3) Which of the following is different from others?
(a) $\sqrt{2}$ (b) $\sqrt{4}$
(c) $\sqrt{9}$ (d) $\sqrt{25}$
- 4) A rational number between $\frac{1}{2}$ and $\frac{1}{3}$ is.
(a) $\frac{1}{5}$ (b) $\frac{2}{5}$
(c) $\frac{3}{5}$ (d) $\frac{4}{5}$
- 5) The number of rational numbers between the rational numbers $\frac{1}{3}$ and $\frac{1}{2}$ is
(a) 1 (b) 2 (c) 6 (d) infinitely many.
- 6) Choose the rational number which does not lie between the rational numbers $\frac{2}{5}$ and $-\frac{1}{5}$
(a) $-\frac{3}{10}$ (b) $\frac{3}{10}$
(c) $-\frac{1}{4}$ (d) $-\frac{7}{20}$
7. Which of the following numbers has terminating decimal representation?
(a) $\frac{3}{7}$ (b) $\frac{3}{5}$
(c) $\frac{1}{3}$ (d) $\frac{3}{11}$

COMPETITIVE EXAM

SUBJECT – CHEMISTRY

1. In all the three states of water, (i.e. ice, liquid and vapour) chemical composition of water
(a) is very different
(b) remains same
(c) sometimes same and sometimes different
(d) none of the above
2. Which of the following statements is incorrect about the state of matter?
(a) The force of attraction between the gas particles is very less.
(b) Plasma consists of super energetic and super excited particles.
(c) The plasma glows with a special colour depending on the nature of the gas.
(d) Bose-Einstein condensate is formed by heating gas of extremely low density.

- 3. Which of the following is not a property of gas?**
(a) Gases have a definite shape
(b) Gases have no definite volume
(c) The rate of diffusion of a gas is higher
(d) Gaseous particles are in a state of random motion
- 4. A form of matter that has no fixed shape but has a fixed volume. An example of this form of matter is _____**
(a) carbon dioxide (b) ice (c) water vapor (d) kerosene
- 5. When heat is constantly supplied by a burner to boiling water, then the temperature of the water during vapourisation:**
(a) Rises very slowly
(b) Rises rapidly until steam is produced
(c) First rises and then becomes constant
(d) Does not rise at all
- 6. The boiling point of water at sea level is _____**
(a) 0°C (b) 273 K (c) 373 K (d) 273°C
- 7. The process in which solid is directly converted to vapours state is called _____**
(a) vapourisation (b) solidification
(c) condensation (d) sublimation
- 8. The solid which undergoes sublimation is _____**
(a) ice cube (b) naphthalene
(c) sodium chloride (d) potassium chloride
- 9. Which of the following phenomena would increase on rising temperature?**
(a) Diffusion, evaporation, compression of gases
(b) Evaporation, compression of gases, solubility
(c) Evaporation, diffusion, expansion of gases
(d) Evaporation, solubility, diffusion, compression of gases
- 10. Which of the following conditions is most favourable for converting gas into liquid?**
(a) High pressure, low temperature
(b) Low pressure, low temperature
(c) Low pressure, high temperature
(d) High pressure, high temperature
- 11. Which of the following cannot be considered a form of matter?**
(a) Atom
(b) Water
(c) Humidity
(d) Electron
- 12. Which of the following causes the temperature of a substance to remain constant while it is undergoing a change in its state?**
(a) Latent heat
(b) Lattice energy
(c) Loss of heat
(d) None of these
- 13. When water at 0°C freezes to form ice at the same temperature of 0°C, then it:**
(a) Absorbs some heat
(b) Releases some heat
(c) Neither absorbs nor releases heat
(d) Absorbs $3.34 \times 10^5 \text{ J/kg}$ of heat

14. Which of the following statement is correct?

- (a) Substances that exist as liquids at room temperature typically have melting and boiling points lower than that of room temperature.
- (b) The process in which a substance transitions directly from a solid to a gas state without going through the liquid state is known as sublimation.
- (c) To convert a temperature from the Celsius scale to the Kelvin scale, add 273 to the given temperature.
- (d) The density of ice is lower than that of water.

15. Under which of the following circumstances would the distance between molecules of hydrogen gas increase?

- (i) Applying greater pressure to hydrogen within a sealed container.
 - (ii) Leakage of a portion of the hydrogen gas from the container.
 - (iii) Expanding the volume of the container holding hydrogen gas.
 - (iv) Introducing additional hydrogen gas into the container without altering its volume.
- (a) (i) and (iii)
 - (b) (i) and (iv)
 - (c) (ii) and (iii)
 - (d) (ii) and (iv)

16. What is the physical state of matter in which particles have the least kinetic energy?

- (a) Solid
- (b) Liquid
- (c) Gas
- (d) Plasma

17. Which of the following is a characteristic property of solids?

- (a) Definite shape and volume
- (b) Indefinite shape and volume
- (c) Indefinite shape but definite volume
- (d) Definite shape but indefinite volume

18. What happens to the arrangement of particles when a substance changes from solid to liquid state?

- (a) Particles come closer together
- (b) Particles move further apart
- (c) Particles become arranged in a regular pattern
- (d) None of the above

19. Which of the following statements about gases is true?

- (a) Gases have definite shape and volume
- (b) Gases have definite shape but indefinite volume
- (c) Gases have indefinite shape and volume
- (d) Gases have indefinite shape but definite volume

20. The process of conversion of a solid into a gas without passing through the liquid state is called

- (a) Evaporation
- (b) Condensation
- (c) Sublimation
- (d) Fusion

21. Which of the following is not a pure substance?

- (a) Water
- (b) Air
- (c) Diamond
- (d) Gold

- 22. The process of converting a solid directly into a gas without passing through the liquid state is called:**
- (a) Condensation
 - (b) Sublimation
 - (c) Evaporation
 - (d) Melting
- 23. What is the boiling point of pure water at standard atmospheric pressure?**
- (a) 100°C
 - (b) 0°C
 - (c) 212°F
 - (d) 373 K
- 24. Which method is used to separate components of a mixture with different boiling points?**
- (a) Filtration
 - (b) Chromatography
 - (c) Distillation
 - (d) Sublimation
- 25. Which of the following is a homogeneous mixture?**
- (a) Orange juice with pulp
 - (b) Sand and water
 - (c) Saltwater
 - (d) Oil and vinegar
- 26. The process of conversion of a gas directly into a solid without passing through the liquid state is called:**
- (a) Deposition
 - (b) Condensation
 - (c) Sublimation
 - (d) Solidification
- 27. Which of the following methods is used to separate an insoluble solid from a liquid?**
- (a) Distillation
 - (b) Sublimation
 - (c) Filtration
 - (d) Chromatography
- 28. Which of the following statements is true about a solution?**
- (a) It is a heterogeneous mixture.
 - (b) It contains only solute.
 - (c) It has a fixed composition.
 - (d) It cannot be separated by physical methods.
- 29. Which of the following is a compound?**
- (a) Air
 - (b) Carbon
 - (c) Saltwater
 - (d) Soil
- 30. The property of a substance to be hammered into thin sheets is called:**
- (a) Ductility
 - (b) Malleability
 - (c) Solubility
 - (d) Viscosity

SUBJECT - PHYSICS (COMPETITIVE EXAM)

Multiple Choice questions :

Q1: What is motion?

- a) The change of position of an object with time
- b) The color change of an object
- c) The size change of an object
- d) The shape change of an object

Q 2: Which of the following is the unit of speed?

- a) m/s
- b) kg/m
- c) m/s²
- d) m³/s

Q 3: What does uniform motion mean?

- a) Changing speed
- b) Changing direction
- c) Constant speed
- d) Constant acceleration

Q 4: What is the formula for speed?

- a) Speed = Distance $\times$ Time
- b) Speed = Distance / Time
- c) Speed = Time / Distance
- d) Speed = Distance + Time

Q 5: What is the unit of distance?

- a) Second
- b) Meter
- c) Kilogram
- d) Newton

Q 6: If an object moves 100 meters in 20 seconds, what is its speed?

- a) 5 m/s
- b) 2 m/s
- c) 10 m/s
- d) 20 m/s

Q 7: What is velocity?

- a) Speed in a particular direction
- b) Speed in all directions
- c) Speed without direction
- d) Distance per unit time

Q 8: Which of the following is a vector quantity?

- a) Speed
- b) Distance
- c) Velocity
- d) Mass

Q9: What is acceleration?

- a) Change in speed
- b) Change in velocity
- c) Change in direction
- d) Change in distance

Q 10: Which of the following is the unit of acceleration?

- a) m/s
- b) m/s^2
- c) m
- d) m^2/s

Q11: If an object accelerates from 0 to 20 m/s in 5 seconds, what is its acceleration?

- a) 4 m/s^2
- b) 5 m/s^2
- c) 6 m/s^2
- d) 3 m/s^2

Q 12: What does the slope of a distance-time graph represent?

- a) Speed
- b) Distance
- c) Time
- d) Acceleration

Q13: What does the slope of a velocity-time graph represent?

- a) Speed
- b) Distance
- c) Acceleration
- d) Time

Q14: What is the acceleration of an object moving at constant velocity?

- a) Zero
- b) Positive
- c) Negative
- d) Infinity

Q15: If a car is traveling at 30 m/s and comes to a stop in 10 seconds, what is its acceleration?

- a) -3 m/s^2
- b) -5 m/s^2
- c) -10 m/s^2
- d) -2 m/s^2

Q16: What is the unit of displacement?

- a) Second
- b) Meter
- c) Kilogram
- d) Newton

Q17: What is the difference between speed and velocity?

- a) Speed is a scalar, velocity is a vector
- b) Speed is a vector, velocity is a scalar
- c) Speed includes direction, velocity does not
- d) There is no difference

Q18: If an object covers equal distances in equal intervals of time, it is said to be in _____.

- a) Non-uniform motion
- b) Uniform motion
- c) Accelerated motion
- d) Circular motion

Q19: What is the formula for acceleration?

- a) Acceleration = Velocity / Time
- b) Acceleration = Time / Velocity
- c) Acceleration = Change in velocity / Time
- d) Acceleration = Distance / Time

Q20: What does a horizontal line on a distance-time graph indicate?

- a) Constant speed
- b) Increasing speed
- c) Stationary object
- d) Decreasing speed

Q21: If an object is moving with uniform velocity, what will its acceleration be?

- a) Zero
- b) Positive
- c) Negative
- d) Variable

Q22: Which physical quantity is described by the area under the velocity-time graph?

- a) Speed
- b) Acceleration
- c) Distance
- d) Displacement

Q 23: What does a steep slope on a distance-time graph indicate?

- a) Slow speed
- b) Fast speed
- c) No motion
- d) Uniform motion

Q24: If a cyclist is moving at a constant speed of 10 m/s, how far will they travel in 5 seconds?

- a) 50 m
- b) 100 m
- c) 10 m
- d) 5 m

Q25: What kind of motion is described by an object moving in a circular path at constant speed?

- a) Uniform motion
- b) Non-uniform motion
- c) Uniform circular motion
- d) Non-uniform circular motion

Q26: What is displacement?

- a) Total path length traveled
- b) Change in position of an object
- c) Time taken to cover a distance
- d) Speed in a particular direction

Q 27: Which quantity is described by both magnitude and direction?

- a) Speed
- b) Distance
- c) Scalar
- d) Vector

Q28: A car accelerates from rest to 60 km/h in 10 seconds. What is its average acceleration?

- a) 6 km/h²
- b) 10 km/h²
- c) 3 km/h²
- d) 60 km/h²

Q29: What is the unit of velocity?

- a) m/s²
- b) m/s
- c) km
- d) s/m

Q30: Which of the following represents non-uniform motion?

- a) Constant speed
- b) Increasing speed
- c) Decreasing speed
- d) Both b and c

Q31: If a train travels 120 km in 2 hours, what is its average speed?

- a) 60 km/h
- b) 120 km/h
- c) 240 km/h
- d) 30 km/h

Q32: What does a curved line on a distance-time graph indicate?

- a) Uniform motion
- b) Non-uniform motion
- c) No motion
- d) Constant speed

Q33: An object covers 80 meters in 4 seconds. What is its speed?

- a) 10 m/s
- b) 20 m/s
- c) 40 m/s
- d) 5 m/s

Q34: Which of the following is not a unit of speed?

- a) m/s
- b) km/h
- c) m/s²
- d) m/min

Q35: If an object is decelerating, what will be the sign of its acceleration?

- a) Positive
- b) Negative
- c) Zero
- d) Variable

Q36: Which physical quantity can be zero even when an object is moving?

- a) Speed
- b) Distance
- c) Displacement
- d) Velocity

Q37: What is the initial velocity of an object starting from rest?

- a) 1 m/s
- b) 5 m/s
- c) 0 m/s
- d) 10 m/s

Q38: Which term describes the total length of the path traveled by an object?

- a) Speed
- b) Displacement
- c) Distance
- d) Velocity

Q39: What does the term 'deceleration' mean?

- a) Increase in speed
- b) Decrease in speed
- c) Constant speed
- d) Zero speed

Q40: In which type of motion is the speed constant but direction changes?

- a) Linear motion
- b) Uniform motion
- c) Circular motion
- d) Non-uniform motion

NOTE- Solve this assignment in COMPETITIVE EXAM notebook only.

SUBJECT - PHYSICS HOMEWORK

Q1. Explain the following terms(with S.I. unit)-

- (a) Displacement
- (b) Distance
- (c) Speed
- (d) Velocity
- (e) Acceleration
- (f) Types of motion
- (g) Centripetal acceleration
- (h) Uniform and non- uniform motion

Q2. Write three equation of motion and derive them using graphical method.

Q3. A Satellite goes round the earth in a circular orbit with constant speed. Is the motion uniform or accelerated?

Assertion reason questions –

Directions: In each of the following questions, a statement of Assertion is given and a corresponding statement of Reason is given just below it. Of the statements, given below, mark the correct answer as:

- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
- (b) Both assertion and reason are true but reason is not the correct explanation of assertion.
- (c) Assertion is true but reason is false.
- (d) Both Assertion and Reason are false

Q1. Assertion : An object may acquire acceleration even if it is moving at a constant speed.

Reason : With change in the direction of motion, an object can acquire acceleration.

Q2. Assertion : Displacement of an object may be zero even if the distance covered by it is not zero.

Reason : Displacement is the shortest distance between the initial and final position.

Q3. Assertion : The graph between two physical quantities P and Q is straight line, when P/Q is constant.

Reason : The straight line graph means that P is proportional to Q or P is equal to constant multiplied by Q.

Q4. Assertion : Velocity versus time graph of a particle in uniform motion along a straight path is a line parallel to the time axis.

Reason : In uniform motion the velocity of a particle increases as the square of the time elapsed.

Q5. Assertion : the speedometer of a car measures the instantaneous speed of the car.

Reason : Average speed is equal to the total distance covered by an object divided by the total time taken.

Q6. Assertion : An object may have acceleration even if it is moving with uniform speed.

Reason : An object may be moving with uniform speed but it may be changing its direction of motion.

Q7. Assertion : Motion with uniform velocity is always along a straight line path.

Reason : In uniform velocity, speed is the magnitude of the velocity and is equal to the instantaneous velocity.

Q8. Assertion : If a particle is moving with constant velocity, then average velocity for any time interval is equal to instantaneous velocity.

Reason : If average velocity of a particle moving on a straight line is zero for a given time interval, then instantaneous velocity at some instant within this interval must be zero.

Q9. Assertion : The displacement of an object can be either positive, negative or zero.

Reason : Displacement has both the magnitude and direction.

Q10. Assertion : When the displacement of a body is directly proportional to the square of the time. Then the body is moving with uniform acceleration.

Reason : The slope of velocity-time graph with time axis gives acceleration.

Activity1 - In the following pictures, different type of motion given then look pictures and write your observation for each picture.



Activity 2 - Try it and write your observation about motion. Is stone accelerating or not?



NOTE- Solve this assignment in HOLIDAY HOMEWORK notebook.

Learn chapter - Motion and solve 2 numerical per day.

Prepare project file for class presentation on any topic related to Physics (like natural phenomenon experienced in your regular life).

विषय-हिंदी

1. एवरेस्ट यात्रा में क्या-क्या तैयारी करनी पड़ती है ? क्या आप भी एवरेस्ट की यात्रा करना चाहोगे?
2. वाक्य और उसके भेद का वॉल हैंगिंग तैयार करें।
3. रहीम के दोहे कंठस्थ करो ।
4. अकबर के दरबार में नवरत्न थे । उनके चित्र लगाकर उनके विषय में लिखें।
5. आगे बढ़ती भारतीय महिलाओं के विषय में जानकारी एकत्रित करके लिखें व उनके चित्र भी चिपकाए ।
6. अपनी मनपसंद कविता पढ़ कर उसकी समीक्षा करें।
7. निम्नलिखित लेखन पर आधारित परियोजना कार्य तैयार करें ।
 - मुंशी प्रेमचंद
 - राहुल सांकृत्यायन



Dr. A.P.J Abdul Kalam – The Missile Man of India

Our mission is water

My mother called me Blue Nile

I am also named by mother White Nile

When we grew and grew we asked

Oh mother, Oh mother

Tell us, why did you name us Nile

Our mothers said lovingly

Oh our children

You travel and travel

Cross mountains, forests and valleys

Thousands of miles, enriching nine countries

you reach Khartoum

you Blue and White Niles confluence with a mission

God has commanded you to give a message

you give a beautiful message

When we rivers confluence

Oh humanity why not your hearts confluence

And you blossom with happiness

By :- Dr. A.P.J Abdul Kalam