Summer Vacation Assignments (2022-23)

CLASS – IX

Date: 19.05.2022

Subject	HOMEWORKS
MATHS	**Solve – 1.** Multiple choice questions (MCQ) Chapter – 1 (Number System). **2.** Multiple Choice Questions (MCQ) Chapter – 2 (Polynomials).
	Write 4 – Activity in Practical Copy or Mathematics Activity Book.

Happy Summer Vacation

ESTB
1993

MAY YOU CLIMB FROM PEAK TO PEAK

MOTION

| **A.** | **Very Short Answer Type Questions** |

Q.1 Can the speed of a body moving with a constant velocity change ?

Q.2 Can the velocity of a body moving with a uniform speed change ?

Q.3 Can average velocity of a moving body be zero?

Q.4 Can average speed of a moving body be zero?

Q.5 Time-displacement graph is a straight line parallel to the time axis. What is its velocity and the acceleration ?

Q.6 What is the acceleration of a body moving with constant velocity ?

Q.7 A stone is thrown upwards, reaches a height h and comes back. What are the distance moved and displacement ?

Q.8 A particle moves along the circumference of a circle in half cycle. Calculate the distance travelled and displacement.

Q.9 Define uniform circular motion.

Q.10 What is the relation between linear velocity and angular velocity ?

Q.11 Does uniform circular motion has accelerated motion or no acceleration at all ?

Q.12 What is the direction of angular velocity ?

Q.13 In uniform circular motion, does the angular velocity remain constant or if changes with time.

Q.14 A car starts moving with 20 m/s and its velocity becomes 80 m/s after 6 sec. Calculate its acceleration.

Q.15 A body is thrown vertically up with a velocity 98 m/s. How much high it will rise ? ($g = 9.8$ m/s^2).

Q.16 A body falls from a height of 500 m. In how much time, will it strike the ground ?

Q.17 Time-displacement graphs of two bodies A and B are shown in the Figure. Which one has larger velocity ?
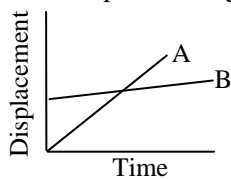
Q.18 The velocity of a body is 72 km/hr. Calculate its value in m/s.

| **B.** | **Short Answer Type Questions** |

Q.19 Define state of motion.

Q.20 Differentiate between the following :

(i) speed and velocity,

(ii) distance and displacement

Q.21 Displacement of a body can be zero even when the distance travelled is not zero. Explain.

Q.22 What do you mean by negative and positive acceleration ? Explain.

Q.23 A train is moving with a constant speed of 40 km/hr. Draw time-speed graph. From this, draw time-distance graph upto 5 hours from the start.

Q.24 Draw the graph for uniform motion.
(i) Displacement - Time
(ii) Velocity - Time

Q.25 In the given figure A and B represent uniform motion or accelerated motion.
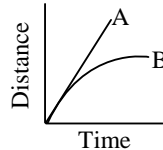
Q.26 In the given Figure. What type of motion are represented by the parts AB, BC, CD and DE.
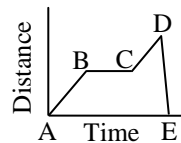
Q.27 For a moving body distance travelled is directly proportional to the time. What do you conclude about its speed ?

Q.28 Figure shows the time velocity graphs for three bodies A, B and C.
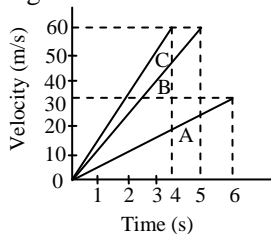
(i) Which body has minimum acceleration ?
(ii) Which body has maximum acceleration ?

Q.29 A body starting with initial velocity u moves with a constant acceleration a. Find the expression for distance travelled in nth seconds.

Q.30 A body starting from rest moves with a constant acceleration. It moves a distance s_1 in first 5 seconds and a distance s_2 in next 5 seconds. Prove that $\Delta s_2 = 3s_1$.

Q.31 An engine is moving with a velocity 44 m/s. After applying the brakes, it stops after covering a distance of 121 m. Calculate retardation and time taken by the engine to stop.

Q.32 A body is thrown vertically up with an initial velocity of 60 m/s. If $g = 10$ m/s^2, at what time, it will be at a height of 100 m.

C. Long Answer Type Questions

**Q.33** What do you mean by average speed ? How will you find average speed from time-distance graph ?

Q.34 What is the difference between time-speed and time-velocity graph ? In what condition, they are similar ?

Q.35 What do you mean by acceleration ? How do you find acceleration from time-velocity graph?

Q.36 Time-velocity graph of a body is shown in figure Calculate the following :
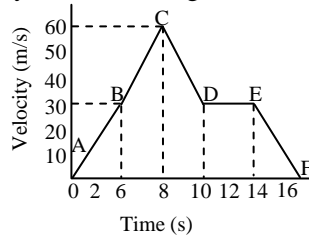
(i) Distance travelled in first 10 s

(ii) Acceleration at $t = 15$ s

(iii) Acceleration between $t = 20$ s to $t = 25$s.
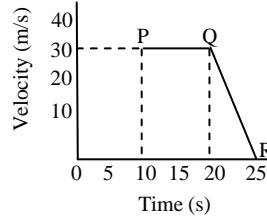
Q.37 Time velocity graph of a moving body is shown in figure Calculate the following :

(i) Change in velocity during $t = 6$s to $t = 8$s

(ii) Average acceleration during $t = 10$s to $t = 12$s.

(iii) In which time interval acceleration will be zero.

(iv) Acceleration during $t = 14$ s to $t = 16$ s.

Q.38 Time-acceleration graph of a moving body is shown in figure Calculate the following :
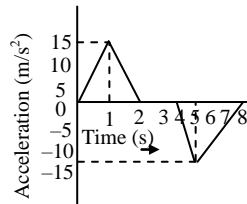
(i) Time interval in which acceleration will be zero.

(ii) Acceleration at $t = 5$ s.

(iii) Change in velocity during time interval $t = 4$s and $t = 8$ s.

Q.39 An artificial satellite is moving in a circular orbit of radius 42, 250 km. Find its speed if it takes 24 hours to revolve round the earth.

Q.40 On 120 km track, a train travels the first 30 km with a uniform speed of 30 km/h. How fast must the train travel the next 90 km so as to average 60 km/hr for entire trip ?
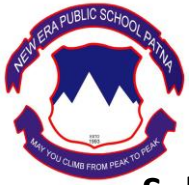
Subject – Chemistry   **Topic - Matter in our surrounding**

Summer Holiday Homework

Fill in the blanks:-

1. Matter is made up of small_____.

2. The forces of attraction between the particles are _____ in solids, _____ in liquids and _____ in gases.

3. _____ is the change of gaseous state directly to solid state without going through liquid state, and vice-versa.

4. Evaporation causes _____.

5. Latent heat of fusion is the amount of heat energy required to change 1 kg of solid into liquid at its _____.

6. Solid, liquid and gas are called the three _____ of matter.

7. The smell of perfume gradually spreads across a room due to _____.

8. Rapid evaporation depends on the _____ area exposed to atmosphere.

9. as the temperature of a system increases, the pressure of the gases _____.

10. As the volume of a specific amount of gas decreases, it's pressure _____.

11. As the temperature of a gas decreases, it's volume _____.

12. Gas molecules at higher temperatures have more _____ than at cooler temperatures.

13. Usually the total charge of plasma is _____.

14. The pressure inside of a sealed tube if you raise the temperature go _____

15. Forces of attraction in liquids are _____ than in solid.

16. Liquids that move quickly downhill are described as having _____.

Very Short Answer Questions-

1. Name the three states of matter. Give one example of each.

2. What are the two ways in which the physical state of matter can be changed?

3. Explain how gases can be liquefied?

4. What is sublimation? Give examples.

5. Define latent heat of fusion.
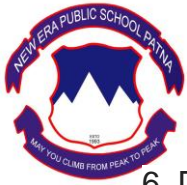
6. Define latent heat of vaporization.

7. What produces more severe burns, boiling water or steam?

8. How can the boiling point of a liquid be rased, without adding any impurity?

9. In how many forms did the earlier scientists classify matter?

10. Why does a summer rainstorm lower the temperature?

11. A beaker of a liquid with a vapour pressure of 350 torr at 25°C is set alongside a beaker of water (Vapour pressure of 23.76 torr) and both are allowed to evaporate. In which liquid does the temperature change at a faster rate? Why

12. At a given temperature, one liquid has a vapour pressure of 240 torr and another measure 420 torr. Which liquid probably has the lower boiling point? Which probably has the lower heat of vaporization?

13. A drop of dettol got evenly distributed in water. How?

14. Liquid nitrogen is used as a commercial refrigerant to flash freeze foods. Nitrogen boils at -196°C. What is this temperature on the Kelvin temperature scale?

15. What property or properties of gases can you point to support the assumption that most of the volume in a gas is empty space?

16. What is unit cell?

17. What is the effect on surface tension of temperature?

18. Surface tension is same for different liquids. Explain.

Multiple choice questions:-

Question 1. The quantity of matter present in an object is called its:

(a)Weight   (b)Gram   (c)Mass   (d)Density

Question 2. At higher altitudes:

(a)Boiling point of a liquid decreases   (b)Boiling point of a liquid increases

(c)No change in boiling point   (d)Melting point of solid increases

Question 3. The boiling point of alcohol is 78^0C. What is this temperature in Kelvin scale:

(a)373 K   (b)351 K   (c)375 K   (d)78 K

Question 4. In which phenomena water changes into water vapour below its B.P.?

(a)Evaporation   (b)Condensation   (c)Boiling   (d)No such phenomena exist

Question 5. The boiling point of water on Celsius and Kelvin scale respectively is:

(a)373, 273   (b)0, 273   (c)273, 373   (d)100, 373

Question 6. The liquid which has the highest rate of evaporation is:

(a)Petrol   (b)Nail- polish remover   (c)Water   (d)Alcohol

Question 7. When we put some crystals of potassium permanganate in a beaker containing water, we observe that after sometime whole water has turned pink. This is due to:

(a)Boiling   (b)Melting of potassium permanganate crystals

(c)Sublimation of crystals   (d)Diffusion

Question 8. The state of matter which consists of super energetic particles in the form of ionized gases is called:

(a)Gaseous state   (b)Liquid state

(c)Bose- Einstein condensate   (d)Plasma state

Question 9. The force that binds the particles of matter together is known as:

(a)Intermolecular space   (b)Bond   (c)Intermolecular force   (d)Nuclear force

Question 10. The change of a liquid into vapour is called:

(a)Vaporization   (b)Solidification   (c)Sublimation   (d)None of these

Question 11. Which of the following describes the liquid phase?

(a)It has a definite shape and a definite volume

(b) It has a definite shape but not a definite volume

(c) It has a definite volume but not a definite shape

(d) It has neither a definite shape nor a definite volume

Question 12. When a teaspoon of solid sugar is dissolved in a glass of liquid water, what phase or phases are present after mixing:

(a)Liquid only   (b)Still solid and liquid   (c)Solid only   (d)None of these

Question 13. Volume of a gas at a particular temperature and on atmospheric pressure is 200 ml. Keeping the temperature constant if pressure is increased to 5 atmosphere, then volume of the gas will be:

(a)100 ml   (b)40 ml   (c)200 ml   (d)205 ml

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THE FUNDAMENTAL UNIT OF LIFE

A. Single Choice Type Questions

Q.1 Power house of cell is -
(A) Lysosome   (B) Ribosome
(C) Mitochondria   (D) Vacuole

Q.2 Who discovered the cell -
(A) Robert hooke   (B) Purkinje
(C) Robert brown   (D) Davson

Q.3 Mitochondria are site of -
(A) Electron transport
(B) Cellular respiration
(C) ATP formation
(D) All

Q.4 Golgi body take part in -
(A) Lipid synthesis
(B) Carbodydrate synthesis
(C) Protein synthesis
(D) Oxidative phosphorylation

Q.5 Protein synthesis occurs on -
(A) Ribosome   (B) Lysosome
(C) Nucleus   (D) Chloroplast

Q.6 Which of the following has a single membrane -
(A) Nucleus   (B) Mitochondrion
(C) Ribosome   (D) Plastid

Q.7 What is the function of ER -
(A) Nucleus
(B) Mechanical support
(C) ATP formation
(D) Exchange of molecules

Q.8 Grana & Stroma lamella occur in -
(A) Ribosome   (B) Chloroplast
(C) Mitochondria   (D) Golgi body

Q.9 Kreb's cycle occurs in -
(A) Matrix of mitochondria
(B) Nucleoplasm
(C) Cytoplasm
(D) Protoplasm

Q.10 Organelle, which remove worn-out cell organelle is -
(A) Lysosome
(B) Plastid
(C) Mitochondria
(D) Golgi complex

Q.11 Which of the following organelle is involved in formation of lysosomes -
(A) SER   (B) Golgi complex
(C) RER   (D) Mitochondria

Q.12 Numerous membrane layer present in plastid known as -
(A) Cisternae   (B) Stroma
(C) Grana   (D) Matrix

Q.13 Chromosomes are made up of -
(A) DNA   (B) Protein
(C) DNA & protein   (D) RNA

Q.14 Cell wall of which one of these is not made up of cellulose -
(A) Bacteria   (B) Hydrilla
(C) Mango tree   (D) Cactus

Q.15 Kitchen of the cell -
(A) Mitochondria   (B) ER
(C) Chloroplast   (D) Golgi complex

Q.16 Membrane biogenesis is related with -
(A) Cell membrane
(B) Nuclear membrane
(C) Cell wall
(D) None

Q.17 Organelle other than nucleus, containing DNA is -
(A) Endoplasmic reticulum
(B) Mitochondria
(C) Golgi apparatus
(D) Lysosome

Q.18 Amoeba acquires its food through a process termed as -
(A) Exocytosis   (B) Plasmolysis
(C) Endocytosis   (D) Both A & B

Q.19 The outermost layer of human cheek cell is -
(A) Cell wall
(B) Nuclear membrane
(C) Plasma membrane
(D) Cytoplasm

Q.20 The diffusion of water from external solution into dry raisins is called -
(A) Exosmosis
(B) Endosmosis
(C) Imbibition
(D) Plasmolysis

Q.21 The plasma membrane of all living cell is -
(A) Impermeable
(B) Semi permeable
(C) Permeable
(D) Selectively permeable

Q.22 Which cell organelle is not bounded by a membrane -
(A) Nucleus   (B) Lysosome
(C) Ribosome   (D) ER

Q.23 In plant cells, the cell wall is -
(A) Dynamic & living
(B) Rigid & non living
(C) Dynamic & non living
(D) Rigid & living

Q.24 The outer most covering of amoeba is -
(A) Tonoplast   (B) Plasma membrane
(C) Cell wall   (D) Neurolemma

Q.25 Oxysomes are present in -
(A) Mitochondria   (B) Peroxisomes
(C) Plastid   (D) Cytoplasm

A. Very Short Answer Types Questions

Q.1 What are chromosomes ?

Q.2 Name the protein factory of cell ?

Q.3 What are leucoplasts ?

Q.4 Which cell organelle is commonly called cellular housekeeper ?

Q.5 Name any cell organelle which is non-membranous ?

Q.6 Name the organelles having double membrane envelope ?

Q.7 Give 2 examples of unicellular organisms ?

Q.8 Define osmosis ?

Q.9 Define diffusion.

Q.10 Name two types of Endoplasmic reticulum present in the cell ?

B. Short Answer Types Questions

Q.11 Who discovered cell & how ? -

Q.12 Why is plasma membrane called selectively permeable membrane ?

Q.13 Which organelle is known as the power house of cell & why ?

Q.14 What is osmosis ?

Q.15 Why are lysosomes known as suicide bags ?

C. **Long Answer Types Questions**

Q.16 Draw a well labelled sketch of a ultra structure of animal cell ?

Q.17 Explain the following -
(a) Mebrane biogenesis
(b) Diffusion
(c) Endocytosis
(d) Cell organelles

Q.18 (a) Draw a diagram of an animal cell & label its seven parts.
(b) Mention two cell organelles which are bounded by double membrane. Give structural detail also.

D. **Match The Following**

Q.19

Column (A)		Column (B)
(i) Smooth endoplasmic reticulum	–	Amoeba
(ii) Lysosome	–	Nucleus
(iii) Food vacuoles	–	Bacteria
(iv) Chromatinmaterial & Nucleolus	–	Detoxification
(v) Nucleoid	–	Suicidal bag

E. **Complete the following sentences**

Q.20 Transporting channels of cell is ………

Q.21 Power house of cell is…………….

Q.22 Digestive bag of cell is………………

Q.23 Kitchen of cell is …………………

Q.24 Storage sacs of the cell is ………………

Q.25 Control room of the cell is……………

Summer Vacation Assignments (2022-23)

CLASS – IX

Date: 19.05.2022

Subject	HOMEWORKS
ENGLISH	**1. Make your own five sentences on each modal auxiliary verb given below :-** Can, Could, May, Might, Shall, Should, Will, Would, Must, Ought to, need, dare, used to **2.** How are "dare" and "need" used both as modals and main verbs? Show with examples. **3. Answer these following questions in your own words:-** **1.** What had once happened to Tommy's teacher? **2.** Did Margie have regular days and hours for school so why? **3.** What are the main features of the mechanical teachers and the school that Margie and Tommy have in the story? **4.** Where did the child go with his parents? What did he want there? **5.** Parents were in a hurry to reach the fair but the child was delaying them. How? **6.** What is a wood? What did the narrator see in the wood? Were the paths similar? **7.** Does one road seem to be more appealing than the other? Use examples from the poem to support your answer. **8.** What plea does the poet make when he addresses the wind? **9.** Is wind regarded as a symbol of destruction in the poem? Explain. **10.** How and why does the poet plan to befriend the wind? **11.** Why did the ticket-collector look closely at the tortoise? **12.** What opinion do you form about Toto in the story? **13.** Why was it decided to keep Toto's presence a secret from Grandmother? **14.** What did Kezia always find her father and mother doing on Sunday afternoons? **15.** Why was there hue and cry on the loss of the papers in the house?

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Summer Vacation Assignments (2022-23)

CLASS – IX

Date: 19.05.2022

Subject	HOMEWORKS

HINDI	सभी प्रश्नों के उत्तर 100 से 150 शब्दों में दें :–
	
	 1. "दुःख का अधिकार" पाठ के अनुसार दुःख का क्या स्वरूप है वैसी पाँच परिस्थितियों का नाम लिखें जिसमें आप सुख–दुःख का अनुभव करते है ?
	
	 2. किन–किन परिस्थितियों में दुःख की अनुभूति होती है ?
	
	 3. अपने दैनिक जीवन में किसी यात्रा का वृतांत अपने शब्दों में लिखिए ?
	
	 4. "महादेवी वर्मा" द्वारा रचित "गिल्लू" पाठ में आए उन पक्षियों का वर्णन अपने शब्दों में कीजिए ।
	
	 5. कौआ एक साथ आदृत और निरादृत कैसे होता है ?
	
	 6. "रैदास" ने अपने पदों में प्रभु को किन–किन शब्दों से संबोधित किया है ?
	
	 7. "शब्द निर्माण" क्या है? सोदाहरण समझाकर लिखें।
	
	 8. अपने मित्र के पास पत्र लिखें जिसमें ग्रीष्मावकाश का अनुभव की चर्चा हो।
	
	 9. इन लोकोक्तियों का अर्थ स्पष्ट करें :–
	
	      1. नाच न जाने आँगन टेढा
	
	      2. अधजल गगरी छलकत जाय

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Summer Vacation Assignments (2022-23)

CLASS – IX

Date: 19.05.2022

Subject	HOMEWORKS
Artificial Intelligence	Complete Questions and Answers of Session – 1 and 2 of Chapter – 2.

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