

CLASS- XI
HOLIDAYS HOME WORK
ENGLISH

1. Read lesson Portrait of A Lady and create a magazine mentioning five old women in your neighbourhood giving their life style.

2 Read the play Mother's Day and make a project giving reference of 5 celebrities who apart from being a mother have made their place in the society.

3 Paste 5 classified advertisements on A4 sheet and prepare 2 display Advertisements on A4 sheet.

4 Do the given assignment in notebook.

- a) Why were the girls smiling at the camera?
- b) What happened on 2nd January.?
- c) How did Sue try to lighten the atmosphere?
- d) What was the reaction of Jonathan when the father asked him about his fear?
- e) How did the sparrows mourn the death of grandmother?
- F) How many years earlier did the poet's mother die?
- g) Describe the author 's grandfather?
- h) What do you mean by terribly transient feet?
- I) What happened at the end of the story " We are not afraid to Die"?
- j) How did Aram fair in his solo ride?

CHEMISTRY

Activity Work

Q-1) Make a model or 3-D chart on any one of the following topic :

- a) Bohr's Model of an atom
- b) Distillation of water
- c) States of matter
- d) Cathode ray tube
- e) Food adulteration

- f) Mole concept
- g) Water Purifier
- h) Electrolysis of water
- i) Allotropes of carbon
- j) pH machine using red cabbage indicator
- K) Absorption and Emission Spectra
- l) Crystallization
- m) Cleansing action of soaps

Q-2 Do exercise questions of Chapter 2 (Structure of Atom)

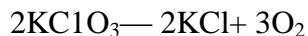
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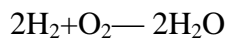
(ASSIGNMENT)

Chapter 1: Some basic concepts of chemistry

1. What is a limiting reagent ?
2. Define molarity of a solution. Give its S.I. units.
3. Why do we prefer molality over molarity ?
4. Battery acid contains 13% by mass sulphuric acid. What is the molality of the solution ?
5. What volume of oxygen at STP can be produced by 6.125 g of potassium chlorate according to the reaction.



6. A mixture containing 100 g of H_2 and 100g O_2 is ignited so that water is formed according to the reaction.



How much water is formed? Also, calculate the volume of the gas left unreacted at STP

7 Commercially available HBr solution contains 48% HBr by mass . What is the molarity of this solution . The density of solution is 1.50 g/cm^3

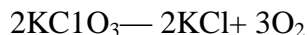
8. Chlorophyll, the green colouring matter of plants responsible for photosynthesis, contains 2.68% of magnesium by mass. Calculate the number of magnesium atoms in 2.00 g of chlorophyll.
9. An impure sample of sodium chloride which weighs 0.50 g gave, on treatment with excess of silver nitrate solution, 0.90 g of silver chloride as a white precipitate. Calculate the percentage purity of the sample.
10. An aqueous sugar syrup of mass 214.2 g contains 34.2 g of sugar (sucrose). Calculate:
(i) the molality of the solution.
(ii) the mole fraction of sugar.
11. Calculate the molarity of pure water if its density at room temperature is 0.997 g/cm^3 .
12. Calculate the mass of carbon tetrachloride which can be produced by the reaction of 10.0 g of carbon with 100.0 g of chlorine. Determine the mass of excess reagent left unreacted.
13. An aqueous solution of sodium chloride is marked 10% (w/w) on the bottle. The density of the solution is 1.071 g/mL . What is its molality and molarity? Also, what is the mole fraction of each component in the solution?
14. Commercially available concentrated hydrochloric acid contains 38% HCl by mass.
(i) What is the molarity of this solution? The density of this solution is 1.19 g/mL .
(ii) What volume of concentrated HCl is required to make 1.00 L of 0.10 M HCl?

(ASSIGNMENT)

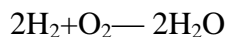
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- (iii)

PHYSICS

1. Prepare a 3 D creative model on any of the following topic;

Dimension , Laws of vector addition

Resolution of vectors, Projectile, Any other topic of your choice of chapter 2 or 3

2. Prepare a dictionary consisting of

20 Physical quantities , S.I. Unit and dimensional formula

3. Prepare flash cards consisting of

x-t graph and v-t graph of a bus moving with uniform velocity

x-t graph , v-t and a-t graph of a train moving with variable velocity

4. Complete N.C.E.R.T. back exercise of chapter 2 & 3 and practice numerical and Conceptuals.

5. Solve the following assignment in your notebook

1. If the unit of force is 100 N, unit of length is 10 m and unit of time is 100 s, what is the unit of mass in this system of units?
2. Give an example of
 - (a) a physical quantity which has a unit but no dimensions.
 - (b) a physical quantity which has neither unit nor dimensions.
 - (c) a constant which has a unit.
 - (d) a constant which has no unit.
3. The displacement of a progressive wave is represented by $y = A \sin(\omega t - kx)$, where x is distance and t is time. Write the dimensional formula of (i) ω and (ii) k.
4. A new system of units is proposed in which unit of mass is α kg, unit of length β m and unit of time γ s. How much will 5 J measure in this new system?

5. The volume of a liquid flowing out per second of a pipe of length l and radius r is written by a student as

$$v = \frac{\pi Pr^4}{8 \eta l}$$

where P is the pressure difference between the two ends of the pipe and η is coefficient of viscosity of the liquid having dimensional formula $ML^{-1} T^{-1}$. Check whether the equation is dimensionally correct.

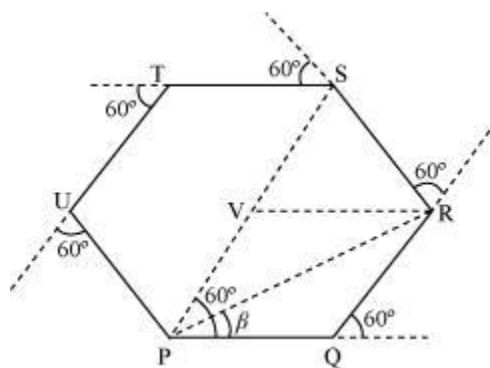
6. If velocity of light c , Planck's constant h and gravitational constant G are taken as fundamental quantities then express mass, length and time in terms of dimensions of these quantities.
7. An artificial satellite is revolving around a planet of mass M and radius R , in a circular orbit of radius r . From Kepler's Third law about the period of a satellite around a common central body, square of the period of revolution T is proportional to the cube of the radius of the orbit r . Show using dimensional analysis, that

$$T = \frac{k}{R} \sqrt{\frac{r^3}{g}},$$

where k is a dimensionless constant and g is acceleration due to gravity.

8. **The rate at which velocity changes is known as acceleration. Assume the rate of change of acceleration is abbreviated as SLAP. After that, what is the SLAP unit?**
9. On an open ground, a motorist follows a track that turns to his left by an angle of 60° after every 500 m as shown in the given figure

- . Starting from a given turn, specify the displacement of the motorist at the third, sixth and eighth turn. Compare the magnitude of the displacement with the total path length covered by the motorist in each case.



10. A passenger arriving in a new town wishes to go from the station to a hotel located 10 km away on a straight road from the station. A dishonest cabman takes him along a circuitous path 23 km long and reaches the hotel in 28 min. What is (a) the average speed of the taxi, (b) the magnitude of average velocity? Are the two equal?

11. The position of a particle is given by

$$\mathbf{r} = 3.0t \hat{\mathbf{i}} - 2.0t^2 \hat{\mathbf{j}} + 4.0 \hat{\mathbf{k}} \text{ m}$$

Where t is in seconds and the coefficients have the proper units for \mathbf{r} to be in metres.

(a) Find the \mathbf{v} and \mathbf{a} of the particle?

(b) What is the magnitude and direction of velocity of the particle at $t = 2.0$ s?

12. A person sitting in a moving train throws a ball vertically upwards how does the ball appear to move to an observer (a) inside the train (b) outside the train?

13. While firing, one has to aim little above the target and not exactly on the target. Why?

BIOLOGY

1. Prepare any one model to show Bacterial cell or mitochondria or chloroplast.
2. Show various types of aestivation or placentation or floral diagram of *Solanumnigrum* by using clay or Prepare fluid mosaic model of plasma membrane
3. Prepare a herbarium file for families/for types of leaves/for modifications of roots/stem/leaves/inflorescence.
4. Maintain practical file and notebook of biology.
5. Solve the attached assignment in note book.

ASSIGNMENT

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

- (a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- (b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.

(c) If Assertion is true but Reason is false.

(d) If both Assertion and Reason are false.

Q.1. Assertion : Apical meristem of root is subterminal.

Reason: At the terminal end of root, root cap is present.

Q.2. Assertion :Histogen theory is not applicable to shoot apex.

Reason : The shoot apex is not clearly divided into three layers.

Q.3. Assertion : Higher plants have meristematic regions for indefinite growth.

Reason : Higher plants have root and shoot apices. [AIIMS 1997]

Q.4. Assertion: Apical meristem and intercalary meristem both are primary meristems.

Reason: Both of these meristems appear early in life of a plant and help in the formation of the primary plant body.

Q.5. Assertion: Lateral meristems include fascicular vascular cambium, interfascicular cambium and cork-cambium.

Reason: These are responsible for forming the secondary tissues.

Q.6. Assertion: Higher plants have meristematic regions for indefinite growth.

Reason: Higher plants have root and shoot apices.

Q.7. Assertion: Quiescent centre is found in the centre of the root apex.

Reason: It consists of actively dividing cells.

Q.8. Assertion: Intercalary meristems increase length of plant like apical meristems.

Reason: It originates from the apical meristems.

Q.9. Assertion: Apical and intercalary meristems contribute to the growth in length, while the lateral meristems cause increase in girth in maize.

Reason: Apical and intercalary meristems always increase the height of plants.

Q.10. Assertion: In grasses and cereals, intercalary meristems are present.

Reason: Intercalary meristems form permanent tissues.

SECTION-2

1. A ball of snow when rolled over snow increases in mass, volume and size. Is this comparable to growth as seen in living organisms? Why?
2. International Code of Botanical nomenclature (ICBN) has provided a code for classification of plants. Give hierarchy of units of classification botanists follow while classifying plants and mention different 'Suffixes' used for the units.

3. How do you prepare your own herbarium sheets? What are the different tools you carry with you while collecting plants for the preparation of a herbarium? What information should a preserved plant material on the herbarium sheet provide for taxonomical studies?
4. A plant may have different names in different regions of the country or world. How do botanists solve this problem?
5. Brinjal and potato belong to the same genus *Solanum*, but to two different species. What defines them as separate species?
6. What is meant by living? Give any four defining features of life forms.
7. A scientist has come across a plant which he feels is a new species. How will he go about its identification, classification and nomenclature.
8. What are taxonomical aids? Give the importance of herbaria and museums. How are Botanical gardens and Zoological parks useful in conserving biodiversity?
9. Define a taxon. What is meant by taxonomic hierarchy. Give a flow diagram from the lowest to highest category for a plant and an animal. What happens to the number of individuals and number of shared characters as we go up the taxonomical hierarchy?
10. Metabolism is a defining feature of all living organisms without exception. Isolated metabolic reactions in vitro are not living things but surely living reactions. Comment.
11. Do you consider a person in coma-living or dead?
12. What is the similarity and dissimilarity between “whole moongdaal” and “broken moongdaal” in terms of respiration and growth? Based on these parameters classify them into living or nonliving?
13. Name the aestivation found in petals of China rose and in Pea.
14. Differentiate between apocarpous and syncarpous ovary.
15. How anatomy of stem is different from roots?
16. Explain modes of respiration in frog.
17. Write down the floral formula of family Solanaceae and draw the floral-diagram of Solanum nigrum.
18. Differentiate between racemose and cymose inflorescence.
19. Explain different types of placentation in plants.
20. Draw the diagram of L.S. of maize seed and Gram seed.

21. Explain secondary growth in dicot root.
 22. Differentiate autumn and spring wood.

MATHS

: Write the following sets in the roster form.

(i) $A = \{x \mid x \text{ is a positive integer less than } 10 \text{ and } 2^x - 1 \text{ is an odd number}\}$ (ii) $C = \{x :$

$$x^2 + 7x - 8 = 0, x \in \mathbb{R}\} \quad (1)$$

Q.2: Given that $N = \{1, 2, 3, \dots, 100\}$, then

(i) Write the subset A of N , whose elements are odd numbers.

(ii) Write the subset B of N , whose elements are represented by $x + 2$, where $x \in N$. (1) Q.3: Let X

$= \{1, 2, 3, 4, 5, 6\}$. If n represent any member of X , express the following as sets:

(i) $n \in X$ but $2n \notin X$

(ii) $n + 5 = 8$

(iii) n is greater than 4 (2)

Q.4: Let $U = \{1, 2, 3, 4, 5, 6\}$, $A = \{2, 3\}$ and $B = \{3, 4, 5\}$.

Find A' , B' , $A' \cap B'$, $A \cup B$ and hence show that $(A \cup B)' = A' \cap B'$. (3) Q.5: Use

the properties of sets to prove that for all the sets A and B , $A - (A \cap B) = A - B$ Q.6: Let $U = \{1, 2, 3,$

4, 5, 6, 7}, $A = \{2, 4, 6\}$, $B = \{3, 5\}$ and $C = \{1, 2, 4, 7\}$, find

(i) $A' \cup (B \cap C')$

(ii) $(B - A) \cup (A - C)$

Q.7:In a class of 60 students, 23 play hockey, 15 play basketball, 20 play cricket and 7 play hockey and basketball, 5 play cricket and basketball, 4 play hockey and cricket, 15 do not play any of the three games. Find

(i) How many play hockey, basketball and cricket

(ii) How many play hockey but not cricket

(iii) How many play hockey and cricket but not basketball

Q.8:Let $U = \{x : x \in \mathbb{N}, x \leq 9\}$; $A = \{x : x \text{ is an even number}, 0 < x < 10\}$; $B = \{2, 3, 5, 7\}$. Write the set $(A \cup B)'$.

Q.9:Let A and B be two sets, if $A \cap X = B \cap X = \emptyset$ and $A \cup X = B \cup X$ for some set X , prove that $A = B$.

Q.10:IF A and B are subsets of the universal set U , then show that:

- (i) $A \subset A \cup B$
- (ii) $A \subset B \Leftrightarrow A \cup B = B$
- (iii) $(A \cap B) \subset A$

(6×3=18)

I.P

1. PREPARE A PRACTICAL FILE ON PYTHON PROGRAMS:

1. W.A.P TO PRINT “python”
2. W.A.P to print sum of two numbers.
3. W.A.P to swap of two numbers
- 4.W.A.P to print area and perimeter of square.
5. W.A.P to print area and perimeter of rectangle.
6. W.A.P to print odd and even number.

Assignment:

Q 1. What do you mean by Escape sequence?

Q 2. Write the output of the following

```
>>> x = 2 + 5j
>>> print(x.real, x.imag)
```

Q 3. What is None data type?

Q 4. Write the output of the following

```
>>> v1 = 10
```

```
>>> v2 = None
```

```
>>> v1
```

```
>>> v2
```

```
>>>print(v2)
```

Q 5. What is the purpose of type() function?

Q 6. Write the output of the following.

```
>>> type(10)
```

```
>>>type('10')
```

```
>>>type(10.0)
```

```
>>>type(True)
```

```
>>>type('False')
```

Q 7. Which function is used to find the data type of variable?

Q 8. Write the output of the following

```
>>> a = "hello"
```

```
>>> b = 10
```

```
>>> c = 9.8
```

```
>>> d = 7 + 3.6j
```

```
>>> print(a)
```

```
>>> print(b)
```

```
>>> print(c)
```

```
>>> print(d)
```

Q9. Identify the variable name, variable type, value and operator used in the following statement.

>>> x = 9

Q 10. What do you mean by assignment operator?

PHYSICAL EDUCATION

1. Revise Chapter-1, 2 and 3. Complete your notebook.
2. Do the following Practical in Practical File :
 - SAI Khelo India Test for School Children.
 - Perform any two asanas used to cure Obesity, Asthma, Hypertension, Diabetes and Back pain (2 for each). Paste your pictures on LHS and briefly explain the procedure, benefits and contraindications for them.
3. Evaluate yourself for the following tests and do practice daily:
 - Sit and Reach Test
 - Sit-Ups Test
 - Push-Ups for boys
 - Modified push-ups for girls
 - 50 mts. standing start
 - Partial curl ups
 - 600m run/walk
4. Do **any one** of the following activity:
 - Prepare a model of court of your favourite game.
 - Paste the pictures of you performing 12 phases of Surya Namaskar on Chart Paper. Briefly write about each step involved in Surya Namaskar.
 - Prepare a project file on IPL Teams 2023.
