

**SUBJECT- PHYSICS**  
**TOPIC – ELECTRICITY**  
**CLASS- X**

1. How many electrons pass through a wire in 1 minute? If the current passing through the filament of the bulb glows for 2 hours. Also calculate the no. of electrons passed?
2. Differentiate between ammeter and voltmeter.
3. Find the potential difference between two points if 5 Joule of work done in moving a charge of 5mC from one point to another.
4. Calculate the no. of electrons constituting one Coulomb of charge.
5. State Ohm's law? How can it be verified experimentally? Does it hold good under all conditions? Comment.
6. How is the direction of current related to the direction of flow of electron in a wire?
7. In a voltmeter there are 20 divisions between the 0 mark and 0.5 V mark. Calculate its least count.
8. The values of current  $I$  flowing in a given resistor for the corresponding values of potential difference  $V$  across the resistor are given below.

$I$ (Ampere)	0.5	1.0	2.0	3.0	4.0
$V$ (Volt)	1.6	3.4	6.7	10.2	13.2

**Plot a graph for the given data.**

**SUGHAR SINGH ACADEMY (SWARN JAYANTI VIHAR)**

**HOLIDAY HOMEWORK**

**CLASS - X**

**SUBJECT – CHEMISTRY**

**TOPIC: CHAPTER-I**

**CHEMICAL REACTION AND EQUATION**

**Q.1 .“We need to balance a skeltal chemical equation.” Give reason to justify the statement.**

**Q.2 Giving an example list two information which make a chemical equation more useful (informative).**

**Q.3 Write the chemical equation of the reaction in which the following changes have taken place with an example of each:**

- (i) Change in colour**
- (ii) Change in temperature**
- (iii) Formation of precipitate**

**Q.4 State the type of chemical reactions and chemical equations that take place in the following:**

- (i) Magnesium wire is burnt in air.**
- (ii) Electric current is passed through water.**
- (iii) Ammonia and hydrogen chloride gases are mixed.**

**Q.5 Write the balanced chemical equation for the following reaction:**

- (i) Phosphorus burns in presence of chlorine to form phosphorus penta chloride.**
- (ii) Burning of natural gas.**
- (iii) The process of respiration.**

**Q.6 What is observed when a solution of potassium iodide solution is added to a solution of lead nitrate? Write a balanced chemical equation to represent the above chemical reaction.**

**Q.7 What is meant by skeltal type chemical equation? What does it represent? Using the equation for electrolytic decomposition of water, differentiate between a skeltal chemical equation and a balanced chemical equation.**

**Q.8 .Write balanced chemical equations for the following reactions.**

- (i) Silver bromide on exposure to sunlight decomposes into silver and bromine,**
- (ii) Sodium metal reacts with water to form sodium hydroxide and hydrogen gas.**

**Q.9 Write balanced equation for the reaction between magnesium and hydrochloric acid. Name the product obtained, identify the type of reaction.**

**Q.10 .Describe an activity to observe what happens when quick lime is added to water taken in a beaker. State two important observations and name the type of reaction taking place.**

**SUGHAR SINGH ACADEMY (SWARN JAYANTI VIHAR)**

**WORKSHEET**

**CLASS - XII**

**SUBJECT – CHEMISTRY**

**Topic: Chapter –I Solution**

- Q.1 Differentiate between molarity and molality of a solution. What is the effect of change in temperature of a solution on its molality and molarity?
- Q.2 What type of intermolecular attractive interaction exists in the pair of methanol and acetone?
- Q.3 State Henry's law and mention two of its important applications.
- Q.4 Explain why aquatic species are more comfortable in cold water rather than in warm water.
- Q.5 Why do gases nearly always tend to be less soluble in liquids as the temperature is raised?
- Q.6 Gas (A) is more soluble in water than Gas(B) at the same temperature. Which one of the two gases will have the higher value of  $K_H$ (Henry's constant) and why?
- Q.7 If  $N_2$  gas is bubbled through water at 293K, how many millimoles of  $N_2$  gas would dissolve in 1 litre of water? Assume that  $N_2$  exerts a partial pressure of 0.987 bar. Given that Henry's law constant for  $N_2$  at 293K is 76.48 k bar.
- Q.8 The partial pressure of ethane over a saturated solution containing  $6.56 \times 10^{-2}$  g of ethane is 1 bar. If the solution contains  $5.0 \times 10^{-2}$  g of ethane, then what will be the partial pressure of the gas?
- Q.9 A solution of glucose ( $C_6H_{12}O_6$ ) in water is labelled as 10% by weight. What would be the molality of the solution?(Molar mass of glucose =  $180 \text{ g mol}^{-1}$ )
- Q.10 Henry's law constant for  $CO_2$  in water is  $1.67 \times 10^8$  Pa at 298 K. Calculate the number of moles of  $CO_2$  in 500 ml of soda water when packed under  $2.53 \times 10^5$  Pa at the same temperature.
- Q.11 Calculate the mole fraction of benzene in solution containing 30% by mass in carbon tetrachloride.
- Q.12 Calculate the molarity of each of the following solution:  
(a) 30 g of  $Co(NO_3)_2 \cdot 6H_2O$  in 4.3 L of solution  
(b) 30 mL of 0.5 M  $H_2SO_4$  diluted to 500 ml.

**SUGHAR SINGH ACADEMY**

**Class X**

**Subject – Biology**

**Chapter- life Processes.**

**Topic- Autotrophic Nutrition.**

**Answer the Following questions.**

Q.1- Define life processes . Give some examples.

Q.2-What do you mean by nutrition? Write its different modes.

Q.3- What is autotrophic nutrition & How does it differ from heterotrophic nutrition?

Q.4 – Why are green plants called producers?

Q.5- What is photosynthesis? Write its balanced equation.

Q.6- What are the raw materials required for photosynthesis?

Q.7- Write the end product(s)of photosynthesis in plants.

Q.8- Name the food formed in plant body. In which form does it store in leaves?

Q.9- From where do the green plants get CO<sub>2</sub>.

Q.10- What are the functions of stomata?

Q.11- If you paint a dry leaf green , Will it prepare its own food? Explain why?

Q.12- How does photosynthesis help to Maintain the percentage of O<sub>2</sub> & CO<sub>2</sub> in the atmosphere?

Q.13- What is Chlorophyll ? Where does it present in plant cell ? Write its importance.

Q.14- What will happen if a green plant does not get sunlight? Describe the process sunlight plays a very important role in the life of a plant.

Q.15- From where does the oxygen liberated during the photo synthesis by green plants come?

**SUGHAR SINGH ACADEMY**

**Class XII**

**Subject - Biology.**

**Topic – Reproduction in organisms.**

**Answer the following questions.**

Q.1- Enlist the significance of reproduction.

Q.2- Offsprings produced by asexual reproduction are referred to as clones . Why?

Q.3- Name the most invasive aquatic plant weed which is called as Terror of Bengal.

Q.4- Mention the main difference between the offsprings produced by asexual reproduction & progeny produced by sexual reproduction.

Q.5- What represents the life span of an organisms?

Q.6- Bryophytes & Pteridophytes produce a large number of male gamete but relatively very few female gametes .Why?

Q.7- Mention the different stages of sexual reproduction .

Q.8- What are heterogamete ? What do we call these gametes individually?

Q.9- Give any three differences between asexual & sexual reproduction . Which is better mode of reproduction & Why?

Q.10- Identify the monoecious & dioecious organisms.

Earth worm , Chara, Marchantia, Cockroach.

Q.11- What is Gametogenesis ?

Q.12- What are the different types of asexual reproduction? Explain them.

## ACCOUNTANCY CLASS 12 (HOMEWORK)

1. Solve all the question related with fundamental of partnership and fast adjustment from ( T.S GIREWALL BOOK) in your copy.
2. Learn the theory portion of good will and ruler related with A.S 26

# SUGHAR SINGH ACADEMY

## BUSSINESS STUDIES CLASS-XII(HOMEWORK)

1. "Management is regarded as an Art by some science or as an in exact science by other " in the light of this statement explain the true nature of management n
2. 'Management is a profession like medical or legal profession "do you agree with this statement? Give reason?
3. What is meant by management?
4. Explain five characteristics of management?
5. Differentiate between efficiency and effectiveness?
6. "Management is said to be essential part of energy business" write the importance of management?
7. Hero ltd's target is to produce 20,000 shirts per month at a cost of Rs 150 per shirts. The production manager could achieve this target at accost of Rs 170 per shirts do you think the production manager is "efficient "?give reason in support on your answer?

# **SUGHAR SINGH ACADMAY**

## **Computer class 10**

### **COMPUTER APPLICATION(homework)** **(ASSIGNMENT)**

#### **1. NETWORKING:**

- I. World wide web**
- II. Client and web client**
- III. Server and web server**
- IV. Web Browser**
- V. Portal**
- VI. E-mail**

#### **2. Write the difference between:**

- a) Web Portal/website**
- b) Hypertext/Hyperlink (in broad)**

#### **3. Write advantage and disadvantage**

- a) Internet**
- b) Broad band**
- c) wireless**

# **SUGHAR SINGH ACADEMY**

## **CLASS 12**

### **COMPUTER SCIENCE (homework)**

#### **4. Revision of basic python**

**VII. Overview of interactive and script mode with their ex. Code**

**VIII. All data type of python with ex. Code**

**IX. Drive new function like G.S.T And V.A.T**

**X. Light touch on SQL data base**

#### **5. Programming in python**

**c) Character is palindrome or not**

**d) No. Is Armstrong or not**

**e) Make a pattern (pyramid )**

**f) Fibonacci series**

**g) Factorial**

**h) Recursion**



## ECONOMICS CLASS –XII (HOMEWORK)

1. What is the difference between micro economics and macro economics with example
2. Differentiate between injection and leakages?
3. Distinguish between stock and flow?
4. Explain with the diagram, the circular flow of money?
5. Explain the real flow, with diagram, and suitable example?
6. Explain the two sector model of the economy?
7. Distinguish between citizen and resident?
8. Explain the term “Normal resident” and the people or institutes which are not included in category of normal resident?
9. Identity as normal resident of India:
  - I. Indian official working in the Indian embassy in china
  - II. An American tourist who stays in India for 2 month
  - III. Indians going to Australia for watching the cricket match.
  - IV. Chinese coming to India for medical treatment
  - V. Students from India going to Australia for higher studies

**SUGHAR SINGH ACADEMY**

**Class XII**

**Subject :- Hindi**

(1) हिन्दी साहित्य के सूर्य महाकवि सूरदास का सचित्र जीवन परिचय लिखो  
एवं

पाठ में दी गई पद्य रचना लिखे तथा उसका सार भी लिखें।

# SUGHAR SINGH ACADEMY (CLASS-X)

## Math worksheet on real number:

1. What do you understand by irrational number and also give few example of it
2. Fill in the blank:
  - a) A positive integer when divided by another positive integer leaves remainder 0, 1, 2 or 3, the value of divisor is.....
  - b) H.C.F of the given number is the product of the..... power of each common prime factor involved in the number
  - c) L.C.M of the given number is the product of..... power of each prime factor involved in the number
  - d) For any two numbers  $HCF \times LCM = \dots\dots\dots$
  - e) For any two co-prime integer, a and b HCF is..... and LCM is.....
3. Define the fundamental theorem of arithmetic.
4. By using Euclid's division Algorithm, find the H.C.F of the following number :-
  - I. 1290 and 228
  - II. 12576 and 4052
  - III. 867 and 225
  - IV. 1290 and 228
5. Prove that the square of any positive integer is of the form  $5m$ ,  $5m+1$ ,  $5m+4$  for some integer  $m$ .
6. If the HCF of 210 and 55 is expressible in the form of  $210x+55y$ , then find  $y$ .
7. If the HCF of 408 and 1032 is expressible in the form of  $1032m-408x$ , find  $m$ .
8. Show that any positive odd integer is the form of  $6q+1$  or  $6q+3$ , where  $q$  is the some integer.
9. Find the largest number which divided 853 and 285 leaving remainder 7 in each case
10. Find the largest number which exactly divides. 280 and 1245 leaving remainder 4 and 3 respectively
11. Express the following number as the product of its prime factor:
  - I. 945
  - II. 3825
  - III. 1771

IV. 20570

12. The HCF of the two numbers is 23 and their LCM is 1449. If one of the numbers is 161, find the other.
13. Given the H.C.f (81, 54) = 27, find the LCM (81, 54) = ?
14. Using the factorisation method, find H.C.F and L.C.M of following numbers
- I. 30, 72 and 432
  - II. 26, 51 and 91
15. Show that  $12^n$  cannot end with digit 0 for any natural number  $n$ .
16. Check whether the following numbers are composite and give reason about it
- I.  $17 \times 11 \times 13 \times 17 \times 19$
  - II.  $5 \times 7 \times 11 + 7$
  - III.  $7 \times 6 \times 3 \times 5 + 5$
  - IV.  $3 \times 5 \times 7 \times 11 \times 23 + 11$
  - V.  $47 \times 19 \times 11 + 19$
17. Use Euclid's division lemma to show that the square of any positive integer is either of the form  $3m$  or  $3m+1$  for some integer  $m$ .
18. Use Euclid's division lemma to show that the cube of any positive integer is of the form  $9Z$ ,  $9Z+1$  or  $9Z+8$  for some integer  $Z$ .

**SUGHAR SINGH ACADEMY**  
**CLASS XII**  
**PHYSICAL EDUCATION WORKSHEET(I) -2020-21**

1. What is planning?
2. Write the objectives of planning.
3. List the various sports committees for organizing the tournament.
4. What is tournament?
5. Write the responsibilities of pre, post and during the tournament of sports committee.
6. Write the importance of tournament.
7. Write the types of tournaments.
8. What is knock-out tournament? Explain with suitable example.
9. Write the advantages and disadvantages of knock-out tournament.
10. Draw the fixtures of 12, 16, 19 and 15 teams on knock out basis separately.
11. What is bye?
12. What is seeding?
13. Write the method of fixing bye.
14. What do you mean by league tournament?
15. Write any three advantages and disadvantages of league tournament. Write its types.
16. Explain the procedure of fixture in a Round Robin tournament.
17. Draw the fixture of 6 and 8 teams in cyclic method separately.
18. Draw the fixture of 7 and 9 teams in stair case method separately.
19. Draw a fixture of 7 teams to the ladder method on league basis and declare the winner by British method .
20. Write the responsibilities of Finance committee, Reception committee, Ground and Equipment committee, First Aid committee and Publicity committee.
21. Write the formula of single league and double league with suitable example.

**SUGHAR SINGH ACADEMY**

**Class - X**

**Sub. Social Science.**

<b>S.No.</b>	<b>Subject.</b>	<b>Topic/Chapter.</b>	<b>Activity.</b>
<b>1-</b>	<b>History.</b>	<b>Ch. 1 Rise of Nationalism in Europe.</b>	<b>Read the chapter &amp; Answer the NCERT questions given at last of the chapter.</b>
<b>2-</b>	<b>Geography.</b>	<b>Ch. 1 Resource and Development.</b>	<b>Read the chapter &amp; Answer the NCERT questions given at last of the chapter.</b>
<b>3-</b>	<b>Political Science.</b>	<b>Ch. 1 Power sharing.</b>	<b>Read the chapter &amp; Answer the NCERT questions given at last of the chapter.</b>
<b>4-</b>	<b>Economics.</b>	<b>Ch. 1 Development.</b>	<b>Read the chapter &amp; Answer the NCERT questions given at last of the chapter.</b>

# SUGHAR SINGH ACADEMY

## Class – XII

### Subject: Mathematics

#### Types of Matrices

1. If a matrix has 6 elements, then number of possible orders of the matrix can be

(a) 2 (b) 4

(c) 3 (d) 6

2. If  $A = [a_{ij}]$  is a  $2 \times 3$  matrix, such that

$$a_{ij} = \frac{(-i + 2j)^2}{5}, \text{ then } a_{23} \text{ is}$$

(a)  $\frac{1}{5}$  (b)  $\frac{2}{5}$

(c)  $\frac{9}{5}$  (d)  $\frac{16}{5}$

3. If  $A = \text{diag}(3, -1)$ , then matrix  $A$  is

(a)  $\begin{bmatrix} 0 & 3 \\ 0 & -1 \end{bmatrix}$  (b)  $\begin{bmatrix} -1 & 0 \\ 3 & 0 \end{bmatrix}$

(c)  $\begin{bmatrix} 3 & 0 \\ 0 & -1 \end{bmatrix}$  (d)  $\begin{bmatrix} 3 & -1 \\ 0 & 0 \end{bmatrix}$

4. Total number of possible matrices of order

$2 \times 3$  with each entry 1 or 0 is

(a) 6 (b) 36

(c) 32 (d) 64

5. Zero matrices  $\begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$  and  $\begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$  are equal. State true or false.

6. If a matrix has 5 elements, write all possible orders it can have. [AI 2011]

7. If  $A$  is a  $3 \times 3$  matrix, whose elements are given by  $a_{ij} = \frac{1}{3}|-3i + j|$ , then write the value  $a_{23}$ . [Foreign 2013]

8. If  $\begin{bmatrix} x+3y & y \\ 7-x & 4 \end{bmatrix} = \begin{bmatrix} 4 & -1 \\ 0 & 4 \end{bmatrix}$ , find the values of  $x$  and  $y$ .

9. Find the values of  $x, y$  and  $z$ , if  $\begin{bmatrix} x+y+z \\ x+z \\ y+z \end{bmatrix} = \begin{bmatrix} 9 \\ 5 \\ 7 \end{bmatrix}$ . [NCERT]

10. If  $A = \begin{bmatrix} \cos \alpha & -\sin \alpha \\ \sin \alpha & \cos \alpha \end{bmatrix}$ , then for what value of  $\alpha$ ,  $A$  is an identity matrix?

11. Given matrix  $A = \begin{bmatrix} 3 & -1 & 2 \\ 4 & 5 & 9 \\ 1 & 3 & 4 \end{bmatrix}$ , write the value of  $3a_{22} - 4a_{33}$ .

12. Given zero matrices  $\begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$  and  $\begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$ . Are these matrices equal? Give reasons.