

I. Choose the correct answer: 4x1=4

- In current electricity, a positive charge refers to \_\_\_\_\_.
  - presence of electron
  - presence of proton
  - absence of electron
  - absence of proton
- The weak electric current produced in human body is called \_\_\_\_\_.
  - Resistance
  - Synaptic signals
  - Hormone
  - Power
- Potential near a charge is the measure of its \_\_\_\_\_ to bring a positive charge at that point.
  - force
  - ability
  - tendency
  - work
- In an electrolyte the current is due to the flow of \_\_\_\_\_.
  - electrons
  - positive ions
  - both (a) and (b)
  - neither (a) nor (b)

II. Answer any five of the following: 5x2=10

- On what factors does the electrostatic force between two charges depend?
- What are electric lines of force?
- If 25C of charge is determined to pass through a wire of any cross section in 50S, what is the measure of current?
- State Joule's heating.
- Define Electrolysis.
- Draw any two electrical symbols.
- What is electric force?
- Define electric current and give its unit.

III. Answer any one in brief: 1x4=4

- Can electro plating be possible with alternating current?
- A charge of  $2 \times 10^4\text{C}$  flows through an electric heater. The amount of electric energy converted into thermal energy is 5 MJ. Compute the potential difference across the ends of the heater.

IV. Answer any one in detail: 1x7=7

- The values of current (I) flowing through a resistor for various potential differences V across the resistor are given below. What is the value of resistor?  
I (amper) 0.5 1.0 2.0 3.0 4.0  
V (Volt) 1.6 3.4 6.7 10.2 13.2
- A bird sitting on a high power electric line is still safe. How?
  - How many electrons will be there in one coulomb of charge?
  - The emf of a cell is 1.5V. What is the energy provided by the cell drive 0.5C of charge around the circuit?

I. Fill with the correct answer: 4x1=4

- Apple contains malic acid. Orange contains \_\_\_\_\_.  
(citric acid, ascorbic acid)
- Since metal carbonate and metal bi carbonate are basic, they react with acids to give salt and water with the liberation of \_\_\_\_\_ ( $\text{NO}_2$ ,  $\text{SO}_2$ ,  $\text{CO}_2$ )
- Salts that do not contain water of crystallisation are called \_\_\_\_\_. (anhydrous salt/hydrous salt)
- \_\_\_\_\_ is a mixture of potassium sulphate and aluminium sulphate. (caustic soda/Potash alum)

II. Answer any five of the following: 5x2=10

- What is neutralisation reaction? Give an example.
- Correct the mistakes:
  - Washing Soda is used for making cakes and bread soft, spongy.
  - Calcium Sulphate hemihydrates are used in textile industry.
- Two acids 'A' and 'B' are given. Acid A gives one hydrogen ion per molecule of the acid in the solution. Acid B gives two hydrogen ions per molecule of the acid in solution.
  - Find out acid A and acid B.
  - Which acid is called the king of chemicals?
- Define aquaregia
- Circle the odd one and give reason.  
 $\text{HCl}$ ,  $\text{H}_2\text{SO}_4$ ,  $\text{CH}_4$ ,  $\text{HNO}_3$

10. Match the following:

Source	Acid Present
i) Vinegar	- Hydrochloric acid
ii) Tea	- Formic acid
iii) Stomach Juice	- Acetic acid
iv) Ant	- Tannic acid

11. Classify the various types of acids based on their sources.

12. Complete the following:

- \_\_\_\_\_ is used for cleaning and refining gold.
- Salt is \_\_\_\_\_ in nature.

III. Answer in brief:

1x4=4

13. Differentiate hydrate and anhydrous salts with examples.

IV. Answer in detail:

1x7=7

14. Write any five uses of salts

(or)

15. a) Complete the following equations.

- $Zn + 2NaOH \rightarrow ?$
  - $KOH + HCl \rightarrow ?$
  - $Ca(OH)_2 + CO_2 \rightarrow ?$
  - $NaHCO_3 + HCl \rightarrow ?$
- b) Define the term 'Acidity'

I. Choose the correct answer: 6x $\frac{1}{2}$ =3

- If  $B \subseteq A$  then  $n(A \cap B)$  is \_\_\_\_\_.  
a)  $n(A-B)$       b)  $n(B)$       c)  $n(B-A)$       d)  $n(A)$
  - For any three sets A, B and C,  $(A-B) \cap (B-C)$  is equal to \_\_\_\_\_.  
a) A only      b) B only      c) C only      d)  $\emptyset$
  - The set  $P = \{x | x \in Z, -1 < x < 1\}$  is a \_\_\_\_\_.  
a) Singleton Set      b) Power Set  
c) Null Set      d) Subset
  - The exterior angle of a triangle is equal to the sum of two \_\_\_\_\_.  
a) Exterior angles      b) Interior opposite angles  
c) Alternate angles      d) Interior angles
  - The Semi perimeter of a triangle having sides 15cm, 20cm and 25cm is \_\_\_\_\_.  
a) 60cm      b) 45cm      c) 30cm      d) 15cm
  - A plane figure bounded by four line segments is called \_\_\_\_\_.  
a) circle      b) triangle      c) quadrilateral      d) pentagon
- II. Answer any three of the following: 3x2=6
- Represent the following sets in set builder form.  
i) D = The set of all tamil months in a year.  
ii) A = Set of all vowels in English alphabets
  - Identify the given sets as null set or singleton set  
i) B = The set of all even natural numbers which are not divisible by 2.  
ii) C =  $\{0\}$



4. Mention the planetary wind system of the earth.

5. The Egyptians excelled in art architecture. Illustrate.

V. Answer the following caption:

1x4=4

Features of Egyptian Civilisation

1. Why was Egypt called the 'gift of Nile'?

2. Who were Pharaohs and Viziers?

3. What is a pyramid and why was it built?

4. What is the process of mummification?

VI. Distinguish between any one of the following:

1x2=2

1. Land breeze and Sea breeze.

2. Tropical cyclone and Temperate cyclone.

VII. Answer any one in detail:

1x4=4

1. Explain the different types of permanent winds.

2. State the Salient features of the Ziggurats.

VIII. Locate the following places on the outline map of world:

4x½=2

1. Downs      2. Rift Valley of East Asia

3. Tundra biomes

4. Any one delta