**Time allowed: 1 Hours Max. Marks: 50**

**General Instructions:**

**(a) All questions are compulsory**

**(b) Section A: Q.no. 1 to 21 are very short questions and carries 1 mark each.**

**(c) Section B: Q. no. 1 to 10 are short answer questions and carries 2 marks**

**each.**

**(d) Section C: Q. no. 1 to 3 are also short answer questions and carries 3**

**marks each.**

**Section-A (1 mark each)**

**1.**  The chemical formula of lead sulphate is

(a)  Pb2SO4

(b)  Pb(SO4)2

(c)  PbSO4

(d)  Pb2(SO4)3

**2.**  Which information is not conveyed by a balanced chemical equation?

     (a)  Physical states of reactants and products

     (b)  Symbols and formulae of all the substances involved in a particular reaction

     (c)  Number of atoms/molecules of the reactants and products formed

     (d)  Whether a particular reaction is actually feasible or not

**3.**  Chemically rust is

(a)  hydrated ferrous oxide

(b)  only ferric oxide

(c)  hydrated ferric oxide

(d)  none of these

**4.**  Both CO2 and H2 gases are

(a)  heavier than air

(b)  colourless

(c)  acidic in nature

(d)  soluble in water

**5.**  Which of the following gases can be used for storage of fresh sample of an oil for a long time?

(a)  Carbon dioxide or oxygen

(b)  Nitrogen or helium

(c)  Helium or oxygen

(d)  Nitrogen or oxygen

**6.**  The electrolytic decomposition of water gives H2 and O2 in the ratio of

(a)  1 : 2 by volume

(b)  2 : 1 by volume

(c)  8 : 1 by mass

(d)  1 : 2 by mass

**7.**  In the decomposition of lead (II) nitrate to give lead (II) oxide, nitrogen dioxide and oxygen gas, the coefficient of nitrogen dioxide (in the balanced equation) is

(a)  1

(b)  2

(c)  3

(d)  4

**8.**  Fatty foods become rancid due to the process of

(a)  oxidation

(b)  corrosion

(c)  reduction

(d)  hydrogenation

**9.**  We store silver chloride in a dark coloured bottle because it is

(a)  a white solid

(b)  undergoes redox reaction

(c)  to avoid action by sunlight

(d)  none of the above

**10.**  Silver article turns black when kept in the open for a few days due to formation of

(a)  H2S

(b)  AgS

(c)  AgSO4

(d)  Ag2S

**11.**  What is the rate of flow of electric charges called?

(a)  Electric potential

(b)  electric conductance

(c)  Electric current

(d)  none of these

**12.**  Which of the following is the SI Unit of Electric Current?

(a)  ohm

(b)  ampere

(c)  volt

(d)  faraday

**13.**  Which instrument is used for measuring electric potential?

(a)  Ammeter

(b)  galvanometer

(c)  voltmeter

(d)  potentiometer

**14.**  When one unit electric charge moves from one point to another point in an electric circuit, then the amount of work done in joules is known as?

(a)  Electric current

(b)  electric resistance

(c)  electric conductance

(d)  potential difference

**15.**  The hindrance presented by material of conductor to the smooth passing of electric current is known as:

(a)  Resistance

(b)  Conductance

(c)  Inductance

(d)  None of these

**16.**  The resistance of a conductor is directly proportional to:

(a)  Its area of cross-section

(b)  density

(c)  melting point

(d)  length

**17.**  The purpose of a rheostat is:

(a)  Increase the magnitude of current only

(b)  Decrease the magnitude of current only

(c)  Increase or decrease the magnitude of current

(d)  None of these

**18.**  Point to be kept in mind for verification of Ohm’s Law is:

(a)  Ammeter and voltmeter should be connected in series

(b)  Ammeter should be connected in series and voltmeter in parallel

(c)  Ammeter should be connected in parallel and voltmeter in series

(d)  Ammeter and voltmeter should be connected in parallel

**19.**  When a 40V battery is connected across an unknown resistor there is a current of 100 mA in the circuit. Find the value of the resistance of the resister:

(a)  5000 Ω

(b)  800 Ω

(c)  0.8 Ω

(d)  none of these

**20.**  A battery of 6V is connected in series with resisters of 0.1 ohm, 0.15 ohm, 0.2 ohm,0.25 ohm and 6 ohm. How much current would flow through the 0.3 ohm resistor?

(a)  0.895A

(b)  2.22A

(c)  1A

(d)  none of these

**21**. Which of the following is responsible for sour taste of lemon?

(a) Acetic acid

(b) Oxalic acid

(c) Citric acid

(d) HCL

**Section-B (2 marks each)**

1 a)  Calculate the energy transferred when 2 A current flows through a 10 Ω resistor for 30 minutes.

b)  Calculate the amount of charge that would flow in one hour through the element of an electric iron drawing a current of 0.4 amps.

2 Draw a circuit diagram showing a cell, a bulb and a closed switch.

3 a) How much work is done in moving a charge of 3 coulumb from a point at the volts 115 to a point at 125 volts?

b)  Ammeter burns out when connected in parallel. Give reasons.

4 Given n resistors each of resistance R ohm. How will you combine them to get the ( I ) maximum and (ii) minimum effective resistance? What is the ratio of the maximum to minimum resistance?

5. Which of the following are endothermic reactions and which are exothermic reactions?
(i) Burning of natural gas

(ii) Electrolysis of water

(iii) Decomposition of calcium carbonate

(iv) Photosynthesis

(v) Respiration

**Section C (3 Marks each)**

1. (a) Given the resistances of 1Ω,2Ω and 3Ω how will you combine them to get an equivalent resistance of (i) (11/3)Ω (ii) (11/5)Ω (iii) 6Ω (iv) (6/11)Ω ?
(b) Determine the equivalent resistance of networks shown in Figure below.

2. Give one example each of
(i) Thermal decomposition reaction
(ii) Electrolytic decomposition reaction
(iii) Photo decomposition reaction.

3. You must have seen tarnished copper vessels being cleaned with lemon or tamarind juice. Explain why these sour substances are effective in cleaning the vessels.