

CLASS – X  
SUB- Science  
General instruction-

M.M -80  
TIME- 3 hrs.

- 1-All questions are compulsory
- 2-Marks for each question are given next to it

MCQ 1x10=10

- Q.1 The magnetic field inside a long straight solenoid carrying current.
- (a) Is zero
  - (b) Decreases as we move towards its ends
  - (c) Increases as we move towards its ends
  - (d) Is the same at all points? 1
- Q.2 A positively charged particle projected towards west is deflected towards north by a magnetic field. The direction of magnetic field is
- (a) Towards south
  - (b) Towards east
  - (c) Downward
  - (d) Upward 1
- Q.3 Strong heating of ferrous sulphate leads to formation of Brown solid and two gases. This reaction can be categorized as- 1
- (i) displacement and redox
  - (ii) decomposition and redox
  - (iii) decomposition and endothermic
  - (iv) decomposition and exothermic
- Q.4 Which of the following is most reactive metal- 1
- (i) sodium            (ii) potassium            (iii) calcium            (iv) Aluminium
- Q.5 Which of the following is not a part of the female reproductive system in human beings? 1
- (a) Ovary            (b) Uterus            (c) Vas deferens            (d) Fallopian tube
- Q.6 The breakdown of pyruvate to give CO<sub>2</sub>, water and energy takes place in- 1
- (a) Cytoplasm            (b) mitochondria            (c) chloroplast            (d) nucleus
- Q.7 The anther of a flower contains- 1
- (a) sepals            (b) ovules            (c) carpel            (d) Pollen grains
- Q.8 Asexual reproduction takes place through budding in – 1
- (a) amoeba            (b) yeast            (c) plasmodium            (d) leishmania

Q.9 The autotrophic mode of nutrition requires-	1
(a) CO <sub>2</sub> and water (b) Chlorophyll (c) Sunlight (d) all above	
Q.10 During respiration, the exchange of gases takes place in-	1
(a) bronchi (b) alveoli (c) bronchioles (d) trachea	
Fill in the blanks:-	1X2=2
Q.11 The sexually transmitted disease which is caused by bacteria is .....	1
Q.12 The transfer of pollen grains from anther to stigma is called .....	
V.S.A.:	1X8=8
Q.13- Define resistance and give its SI unit.	1
Q.14-Why are coils of electric irons made up of alloy rather than a pure metal.	1
Q.15- List two reasons for carbon forming large number of compounds-	1
Q.16- What are amphoteric oxide?	1
Q.17- How does binary fission differ from multiple fission?	1
Q.18- What are the function performed by the testis in human beings?	1
Q.19- Why is it necessary to separate oxygenated and deoxygenated blood in mammals and birds?	1
Q.20- How is the small intestine designed to absorb digested food?	1
S.A.	2X2=4
Q.21- How much work is done to move 20 coulomb charge from one place to other against a potential difference of 200 volt.	2
Q.22 How are broken railway tracks joined? Give the name of process and chemical, reaction involved in it.	2
S.A.	3X12=36
Q.23 Define electric power, Give its SI unit, also define 1KWh.	3
Q.24 A wire of given material having length $\ell$ and area of cross section A has a resistance of 4 ohm. What would be the resistance of another wire of same material having length $\ell/2$ and area of cross section 2A?	3
Q.25 How can three resistors of resistances 2,3 and 6 ohm be connected to give total resistance of 6,4, 1 and 30/11 ohm?	3
Q.26 Derive an expression for equivalent resistance when three resistors of resistances R <sub>1</sub> , R <sub>2</sub> and R <sub>3</sub> are connected in parallel.	3
Q.27 How does a solenoid behave as a magnet? Can you determine the north and south pole of a current carrying solenoid with the help of a bar magnet? Explain.	3

- Q.28 A chemical compound X used in and soap industry. It is preparing form Brine.  
 (i) Write the chemical name and chemical formula of X. 3  
 (ii) Write equation involved in It's preparation.  
 (iii) What happen if it is treated with water containing Ca or Mg salt.
- Q.29 A shining metal 'M' on burning gives a dazzling flame and changes to a powder 'N'  
 (i) Identify "M" and 'N'.  
 (ii) Does 'M' undergo reduction or oxidation in this reaction ? Justify. 3
- Q.30 (a) What is Homologous series? List any two characteristics of it.  
 (b) What is the role of conc. H<sub>2</sub>SO<sub>4</sub> in esterification reaction. 2+1
- Q.31 Cosider the molecular formulas of compound 'A' and 'B" given below- 3  
 (a) C<sub>3</sub>H<sub>8</sub>O  
 (b) C<sub>3</sub>H<sub>6</sub>O<sub>2</sub>  
 (i)- Identify the functional group in 'A' and 'B'  
 (ii)- Are 'a' and 'b' is one given reason.  
 (iii)- What happen when alkaline KMnO<sub>4</sub> is added in to a test tube containing worm Propanol.
- Q.32 (a) Do basic solution also have H<sup>+</sup> (aq) ions? if yes then why are there basic?  
 (b) Name the substance which on treatment with chlorine give bleaching powder. 2+1
- Q.33- The following question consist of two statement- 3  
 Assertion (A) and Reason (R) . Answer the question selecting an appropriate option-  
 (a) Both 'A' and 'R' are true and 'R' is the correct explanation of 'A'.  
 (b) Both 'A' and 'R' are true but 'P' is not the correct explanation of 'A'.  
 (c) 'A' is true but 'R' is false.  
 (d) 'A' is false but 'R' is true.  
 (I) Assertion (A) :- Heart is responsible for blood circulation.  
 (II) Reason ® :- Blood is not related with the process of excretion.
- Q.34- What is pollination? How is self-pollination different from cross pollination? 3

L.A. 5X4=20

- Q.35 Explain the underlying principal and working of of an electric motor by drawing a labeled diagram. 5

Or

Define (i) Right hand thumb rule (ii) voltmeter (iii) fuse wire (iv) Fleming's left hand rule (v) electromagnetic induction.

- Q.36 (a) What will happen if strip of zinc is immersed in solution of copper sulphate.  
(b) In the formation of compound AB an atom of element A lost 2 electron while an atom of element B gain 2 electrons. Predict two properties of AB.  
(c) Write the formation of  $\text{Na}_2\text{O}$  and  $\text{MgO}$  by transfer of electron. 1+2+2
- Q.37 Draw a labelled diagram of human male reproductive system or female reproductive system. 5
- Q.38 Compare the functioning of alveoli in the lungs and nephrons in the kidney with respect to their structure and functioning. 5