



## **GUESS PAPER - 2008**

**Class - X**

**SUBJECT - SCIENCE**

**TIME :- 1 HR**

**MAX MARKS: 30**

- Q1. 100 J of heat is produced each second in a  $4\Omega$  resistance. Find the potential difference across the resistor. 3
- Q.2 Draw the pattern of magnetic field lines through and around a current carrying solenoid. How will the strength of the magnetic field be affected on? 3
- (i) Decreasing the number of turns in the coil.
- (ii) Increasing the electric current passing through the coil.
- Q3. (i) State the law that governs the strength of the current passing through a metallic conductor when a potential difference is applied across its ends. Illustrate this law graphically.
- (ii) Three resistors each of resistance  $10\Omega$  are connected, in turn, to obtain 5
- (a) Minimum resistance and (b) Maximum resistance
- Compute
- (i) The effective resistance in each case.
- (ii) The ratio of the minimum to the maximum resistances so obtained
- Q4. (i) State the law that governs the amount of heat produced in a metallic conductor when electric current is passed through it for a given time. 5
- Express this law mathematically.
- (ii) Two resistors of resistances  $2\Omega$  and  $4\Omega$  are, in turn, connected
- (a) In series and (b) In parallel to a given battery for the same time interval.
- Compute the ratio of the total quantity of heat produced in the combination in the two cases.
- Q5 (a) Select the correct alternative from the given bracket to make the statement true :
- (i) A solution which on heating with  $\text{CaCO}_3$ , we get the  $\text{CO}_2$  gas is \_\_\_\_\_ [conc.  $\text{H}_2\text{SO}_4$  / dil.  $\text{HCl}$  / dil.  $\text{H}_2\text{SO}_4$ ].
- (ii) The pH of blood is 7.4, of saliva is 6.5 and a dil. acid 4.5. A solution which is alkaline is \_\_\_\_\_ [dil. acid / saliva / blood].

iii) When  $\text{H}_2\text{S}$  reacts with Dil.  $\text{HNO}_3$ , the oxidized product obtained is \_\_\_\_\_ [sulphur / sulphur dioxide / sulphuric acid]

(iv) A mineral acid obtained from conc. nitric acid on reaction with a non-metal is \_\_\_\_\_ [carbonic acid / sulphuric acid / hydrochloric acid]. 6

(6) Name three chemical products manufactured from nitric acid. Give two general uses of  $\text{HNO}_3$ .

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