

1. State the rule which you use to find the direction of induced current .
2. Draw magnetic field lines produced around a current carrying straight conductor passing through cardboard. How will the strength of the magnetic field change, when the point where magnetic field is to be determined is moved away from the straight wire carrying constant current? Justify your answer.
3. (a) State Fleming's left hand rule.  
(b) Write the principle of working of an electric motor.  
(c) Explain the function of the following parts of an electric motor:-  
(i) Armature, (ii) Brushes, (iii) Split ring.
4. (a) Write relation between  $u$  ,  $v$ ,  $f$  for mirrors, where  $u$ ,  $v$ ,  $f$  are object distance, image distance and focal length respectively.  
(b) The magnification produced by a concave mirror is  $m = + 4$ . Write the information about the image given by this statement.  
(c) Draw a ray diagram for the following and show the formation of the images in case of concave mirror when the object is placed:  
(i) between the pole and focus point.  
(ii) at the centre of curvature.
5. Find the equivalent resistance of the following circuit

