

**Model Question Paper**  
**Magnetic Effect of Electric Current and light (P) - Part I**

10th Standard

**Science**

Reg.No. :

I. Answer all the questions.

II. Use blue pen only.

Time : 01:00:00 Hrs

Total Marks : 40

5 x 1 = 5

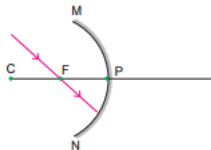
**Part-A**

- 1) The magnification produced by a mirror is  $+1/3$ . Then the mirror is a \_\_\_\_\_.  
 (a) concave mirror (b) convex mirror (c) plane mirror
- 2) The phenomenon of producing an emf in a circuit whenever the magnetic flux linked with a coil changes is \_\_\_\_\_.  
 (a) electromagnetic induction (b) inducing current (c) inducing voltage (d) change in current
- 3) An electric current through a metallic conductor produces \_\_\_\_\_ around it.  
 (a) magnetic field (b) mechanical force (c) induced current
- 4) The field of view is maximum for \_\_\_\_\_.  
 (a) plane mirror (b) concave mirror (c) convex mirror
- 5) An object is placed 25 cm from a convex lens whose focal length is 10 cm. The image distance is \_\_\_\_\_.  
 (a) 50cm (b) 16.66cm (c) 6.66cm (d) 10cm

**Part-B**

5 x 2 = 10

- 6) Correct the mistakes, if any, in the following statements. i) The magnetic field is a quantity that has magnitude only. ii) Outside the bar magnet, the magnetic field lines emerge from the south pole and merge at the north pole.
- 7) The ray diagram shown below is introduced to show how a concave mirror forms the image of an object. i) Identify the mistake and draw the correct ray diagram. ii) Write the justifications for your corrections.



- 8) Fill the table with the appropriate words given in bracket.

_____	the tooth's	enlarged image
_____	rear side of the vehicle	erect image

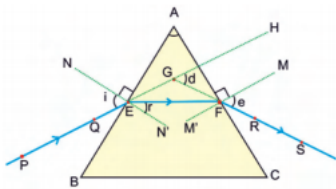
(Convex mirror, Plano convex, Concave mirror, Plane mirror, Convex lens, Concave lens)

- 9) Write down the names of the specified parts of the human eye. i) Dark muscular diaphragm that controls the pupil. ii) The screen where the image is formed by the eye lens.
- 10) You know that myopia is a common refractive defects of vision. A person with this defect can clearly see only objects that are near. Using concave lens of suitable power this defect is corrected. i) Mention the other two types of defects. ii) Explain how they can be corrected.

**Part-C**

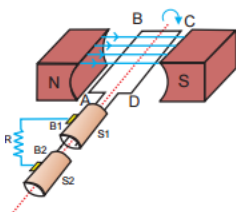
5 x 5 = 25

- 11) a. Draw the given diagram and label the following in the diagram.



i) Incident ray ii) Refracted ray iii) Emergent ray iv) Angle of refraction v) Angle of deviation vi) Angle of emergence b. The refractive index of diamond is 2.42. What is the meaning of this statement in relation to the speed of light?

- 12) i) Redraw the diagram. ii) This diagram represents \_\_\_\_\_. iii) Label the parts of the diagram. iv) Mention the principle used in the device denoted by this diagram.



- 13) i) Find the nature, position and magnification of the image formed by a convex lens of focal length 10cm, If the object is placed at a distance of a) 15cm b) 8cm ii) Which of the above represents the use of convex lens in a) A film projector b) The magnifying glass used by palm reader
- 14) An object of 5cm tall is placed at a distance of 10cm from a concave mirror of radius of curvature 30cm i) Find the nature, position and size of the image ii) Draw the ray diagram to represent the above case

- 15) The optical prescription of a pair of spectacle is Right eye : - 3.5 D      Left eye : - 4.00 D i) Name the defect of the eye ii) Are these lenses thinner at the middle or at the edges?  
iii) Which lens has a greater focal length?

\*\*\*\*\*

