



SET- 1

PHYSICS

TIME : 1.5 HOURS

Maximum: 40 Scores

PART I

A. Answer any four questions from 1 to 6. Each carries 1 score. (4x1=4)

1. Electric Iron: Electric energy ---> Heat Energy
Electric Fan: Electric energy --->
2. What is the magnification of the plane mirror?
(0, 1, 2, 3)
3. Write down any phenomenon that cause the formation of the rainbow?
4. Find the term that is not related with electrical power
(I^2R , IR , V^2 / R , VI)
5. Find odd one?
(Armature, graphite brush, voice coil, split ring)
6. What is the major component of coal?

B. Answer all questions from 7 to 9. Each carries 1 score. (3 x1 =3)

7. The name of the phenomenon of seeing the path of sunlight on snowy mornings ?
(Reflection, refraction, scattering, Tyndal effect)
8. If wrong, correct it
The speed of light increases as the refractive index of the medium increases
9. What is the requirement of the use of the watt hour meter?

PART II

A. Answer the following question. Carries 2 scores. (1x2 = 2)

10. .What are the reasons for using Nichrome as a heating coil in heating appliances?

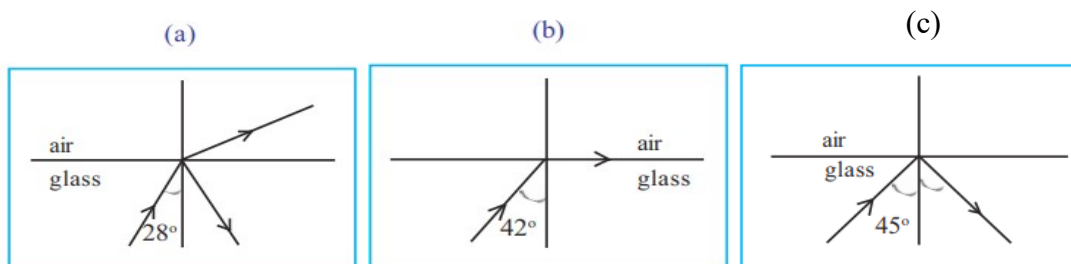
B. Answer any one question from 11 to 12. Each carries 2 scores. (1 x2=2)

11. What are the advantages of LED bulb?
12. Why is the earth pin longer and thicker than the other pins?

PART III

A. Answer any three questions from 13 to 16. Each carries 3 scores. (3 x 3 = 9)

13. Carefully observe the picture below and answer the questions

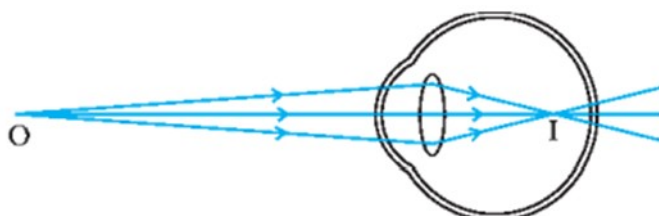


- Which image represents the critical angle?
- What is the phenomenon taking place in Figure C?
- Explain this phenomenon?

14. Write the columns A, B and C together as appropriate

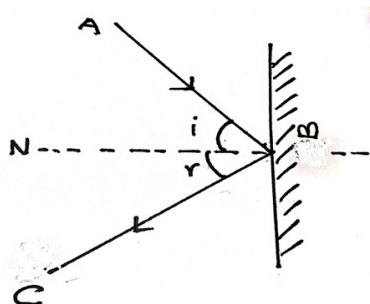
A	B	C
plane mirror	Focuses distant light rays into the main focus	Used as a rear-view mirror
Convex mirror	The image erect and virtual, will be the same size as the object	Used in vehicle headlights
Concave mirror	The image will be small, erect and virtual	Used to observe the face

15. The defect of the eye is given in the picture below



- Name of this eye defect ?
- What are the reasons for that?
- Suggest a solution

16. Observe the picture



- Which is the incident ray?
- Which is the reflected ray?
- Write the laws of reflection?

B. Answer the following question. Carries 3 scores. (1x3 =3)

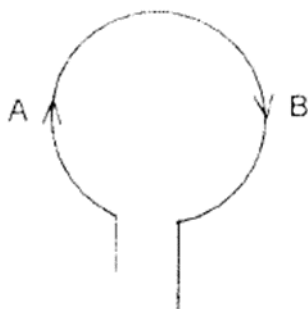
17. Check the following statements regarding New Cartesian sign convention and correct it if any errors

- a) All distances are measured from the focus.
- b) Pole is considered as the origin.
- c) The distance to the right from the origin point is considered negative and the distance to the left is considered as positive.

PART IV

A. Answer any two questions from 18 to 20. Each carries 4 scores. (2x4 = 8)

18. A circular conductor AB is given in figure.



- a) The current flowing from A to B .What is the direction of motion of the electrons in conductor ?
- b) What is the direction of the magnetic field inside the loop ?(In to plane of the paper, out of the plane of the paper)
- c) Which law help you to find it? State the law

19. Explain the reason below

- a) Sun is seen in red at sunrise and sunset
- b) Formation of rainbow

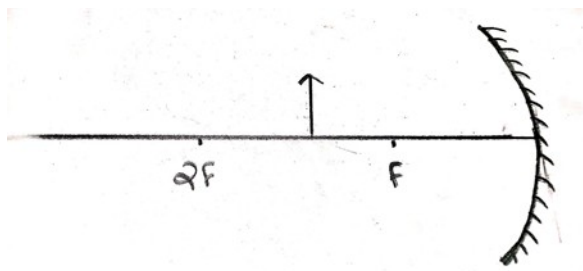
20. LPG is a colourless, odourless gas, but domestic LPG has an odour.

- a) Which gas is added to LPG for odour ?
- b) Is the density of LPG higher or lower than that of air?
- c) What does B26 on the top of the LPG cylinder indicate?
- d) What is the main component of LPG?

B. Answer any one question from 21 to 22. Each carries 4 scores. (1x4 =4)

21. a) What is the monthly electricity consumption of a house if 5 CFL of 40w works for 5 hours a day? b) What is the reduction in power consumption per month if all CFL are replaced by 3 W LED bulbs?

22. a) Complete the picture



b) When this object is placed at F ,what will happen to the image ? Validate the answer

PART V

A. Answer any one question from 23 to 24. Each carries 5 scores. (1 x5 =5)

23.

- a) What do you meant by energy crisis ?
- b) Suggest ways to reduce the energy crisis?
- c) Classify the following energy forms as Green Energy and Brown Energy

(Atomic Reactor, Solar Cells, Windmills , Thermal Power Station, Tidal Power Station, Hydro Electric Power station)

24.

- a) What are factors the required to prove electromagnetic induction experimentally?
- b) Explain the experiment
- c) What are the factors influencing electromagnetic induced emf?