B

COMPREHENSIVE REVISION TEST (UNIT TEST) SERIES - 2023

TEST No. 13 | Time : 45 mts

PHYSICS - UNIT 2 | Total Score : 20

[Chap: 3. Electromagnetic Induction (contd...)- 4. Reflection of Light 5. Refraction of Light]

MUT
Std. X

Instructions:

- *Answer the questions based on instructions.*
- *Answer the questions according to the score and time.*

Answer any TWO *questions from 1 to 3. Each question carries 1 score.* (2 x 1 = 2)

1. Identify the relation the first word pair and fill the second pair suitably.

   Safety fuse : Heating effect of electric current

   MCB : .....

2. Which of the following statement is not correct for irregular reflection?

   a) It is also called scattered reflection.
   b) No image is formed.
   c) Takes place on the rough surface.
   d) Reflected rays are parallel.

3. Give reason.

   Principal focus of a concave lens is virtual.

Answer any TWO *questions from 4 to 6. Each question carries 2 scores.* (2 x 2 = 4)

4. Write any two first aid given in the case of electric shock.

5. Different types of mirrors are used in vehicles.

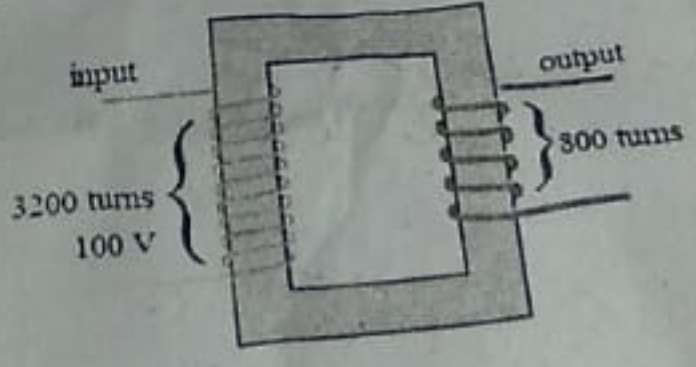
   Which type of mirror is used in head lights of vehicles? Why ?

6. Refractive index of water is $\frac{4}{3}$. Calculate the speed of light in water.

   (Speed of light in vacuum is 3×10^8 m/s)

Answer any TWO *questions from 7 to 9. Each question carries 3 scores.* (2 x 3 = 6)

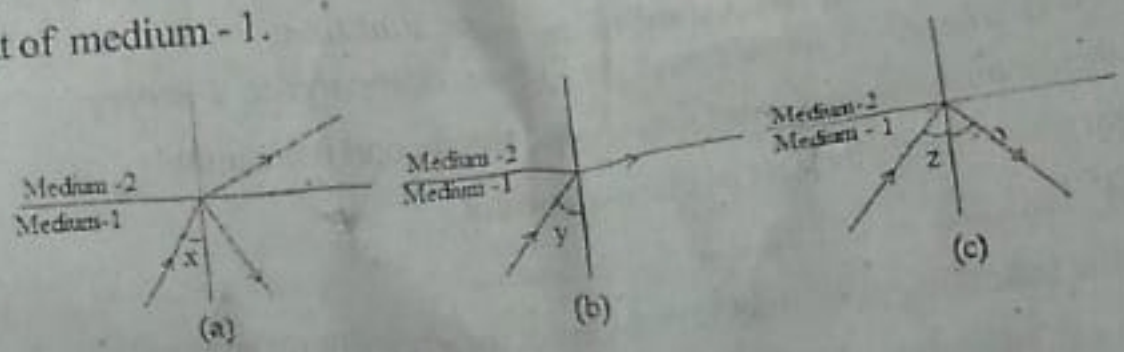
7. Observe the diagram given below.



   a) Calculate the voltage in the out put.

   b) Find out the current in the secondary, if the voltage in the primary is 0.1 A.

8. Both concave and convex mirror forms virtual images.
   a) Where should be the position of object in these case ?
   b) Write any one difference between these images.
9. Observe the diagram given below. Assume that optical density of medium - 2 is less than that of medium - 1.



   a) Which is the critical angle ? Why ?
   b) Which of the diagram represent total internal reflection?
   c) What are the conditions for total internal reflection ?

Answer any **TWO** *questions from 10 to 12 . Each question carries 4 scores.* (2 x 4 = 8)

10. When electricity is transmitted to distant places there is loss of energy in the form of heat.
   a) What are the factors on which loss energy depends on ?
   b) Which is the most suitable method to minimise this loss ?
   c) Why do high voltage is used for power transmission ?
11. A concave mirror of focal length 10cm forms a real image at 30cm away from it.
   a) Find the position of the object.
   b) Find the size of the image if the size of the object is 2cm.
12. An erect magnified and virtual image is formed when an object is placed between the optical centre and principal focus of a lens.
   a) Which type of lens is this ?
   b) Draw a diagram to show the formation of the image with the above stated characteristi