

PHYSICS

Std - X

Time : 1 hr.  
Total Marks : 25

1. Fill in the blanks by finding suitable relation

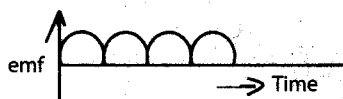
a. Nichrome: High melting point; Fuse wire : \_\_\_\_\_ (2)

b. Fluorescent lamp: Fluorescence; Filament lamp: \_\_\_\_\_

2. Find out the odd one (1)

[  $\frac{V^2 t}{R}$ ,  $Vit$ ,  $I^2 R t$ ,  $I^2 R$  ]

3. The out put current from a generator is given below



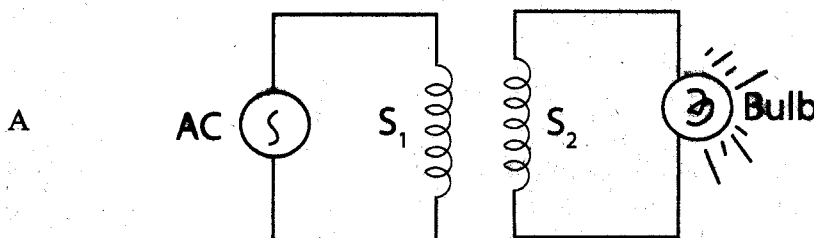
a. Identify the generator (1)

b. Draw the diagram of that generator and labell the parts (3)

4. Match the following given in A, B, C column's (4)

A	B	C
Joules law	ionic conduction	Permanent Magnet
Electrolysis	voice coil	Vit
Fluorescent Lamp	Heating coil	U.V. rays
Loud speaker	Mercury vapour	$M \propto Q$
	Metalic conduction	Temporary magnet

5.



a. What is the phenomenon that causes the bulb to glow (1)

b. What will be the change in the brightness of the bulb, when a soft iron core is inserted in S2 ? Justify your answer. (2)

c. Which is the instrument used this principle ? (1)

OR

Figure I

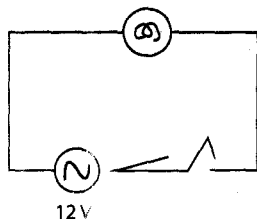
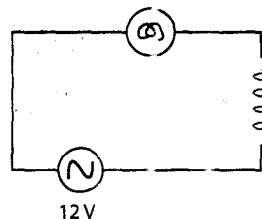


Figure II



B

- Compare the brightness of the bulbs when the switches of both the circuits are on? (1)
- Justify your answer? (2)
- What will be the change in brightness of the bulb, when AC is replaced by battery in Figure II (1)

6. The following statements are related to AC and DC generators. Identify the statements which are suitable for both AC and DC generator (2)

- Armature rotates between the poles of a field magnet
- Full rings are used
- In External circuit current flows in the same direction
- The current produced in the armature coil always changes its direction.

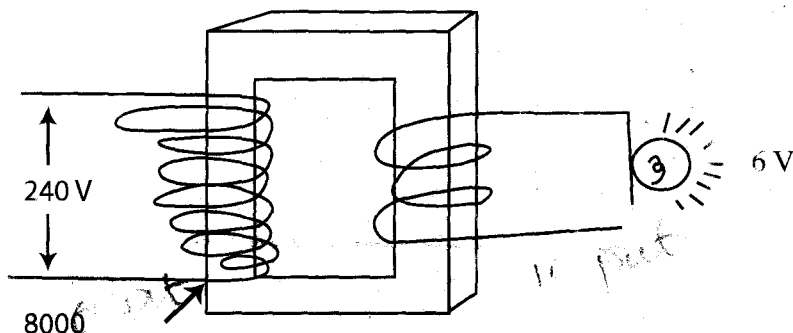


Figure shows a transformer used to glow a bulb by connecting it to the 240 V mains

- Which type of transformer is this? (1)
- Analysing the data from the figure, Calculate the no. of turns in the secondary (3)

8.

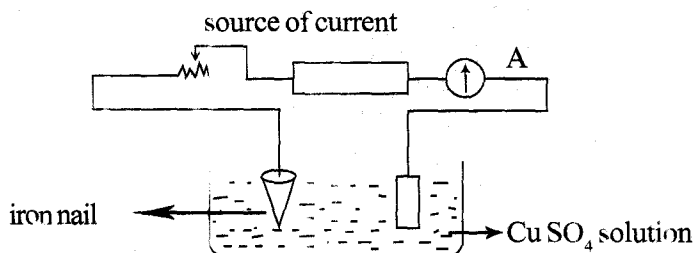


Figure shows the arrangement for coating one metal on Iron Nail. Observe carefully and answer the following question.

- Which source of current is suitable in the above process? (1)
- What change observed in the colour of  $\text{CuSO}_4$  solution? (1)
- Which Substance is used as anode here? (1)
- In which name this process is known? Write down any one of its uses? (1)

electroplating