DIET MALAPPURAM & VIJAYABHERI MALAPPURAM

SSLC MODEL EXAMINATION , MARCH 2022

PHYSICS (SET- 2)

TIME : 1.5 HOURS **Maximum : 40 Scores**

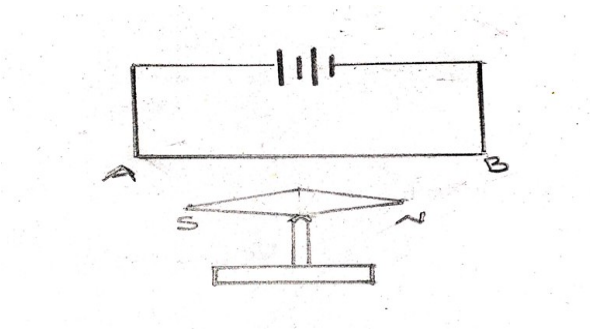
PART I

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

1. Find the odd one ?

($I^2 R t$, $V I t$, $V^2 t/R$, $V^2 R/t$)

2 . The magnetic needle is arranged so that AB of the conductor is parallel and close to the top of the magnetic needle.



In which direction the magnetic needle deflects ?

(Clockwise, anti clockwise, no deflection)

3. Which transformer is used to convert 3 V DC to 30 V DC?

(Step up transformer, step down transformer, not possible)

4. What is the magnification when the size of the image and the size of the object are equal in a concave mirror?

(1, -1, 0)

5. Optical fibre cable works on the principle of ……phenomenon of light

6. CNG: Methane

LPG: …….

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

7. Which liquid is discharged from biogas plant and used as fertilizer?

8. What is the potential difference between Phase and neutral?

9. 100 kWh =..... Unit

PART II

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

10. What is the power of a convex lens with a focal length of 50 cm?

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

11. Hotspots must be found to build geothermal power plants. What is hotspot?

12. What are the two necessary ways to reduce light pollution?

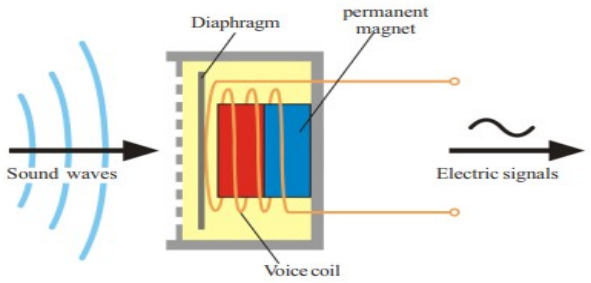
PART III

A. Answer any three questions from 13 to 16. Each carries 3 scores. (3 x3 = 9)

13. a)Draw a graph of the emf obtained from the battery?

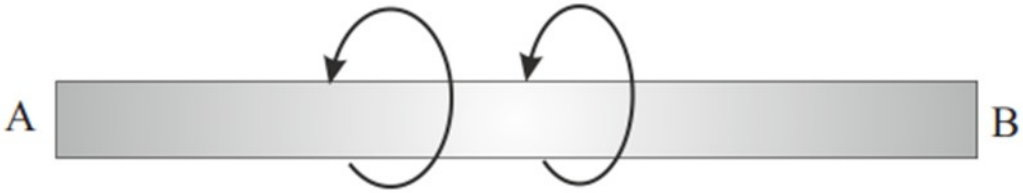
b) Write the differences between the emf obtained from the AC generator and DC generator ?

14.



a) Identify this device?
b) Write down the energy transfer that takes place here?
c) Is it possible to convert an electrical signal into a sound wave? How?

15. The direction of the magnetic field around the conductor AB is marked



A) Find the direction of current flowing through the conductor?

B) Which law helped to find out? State the law ?

16. What is the heat generated if 1 A of electricity is passed through a conductor with a resistance of 100 ohm for 10 minutes?

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

17. a) What is meant by Near Point?

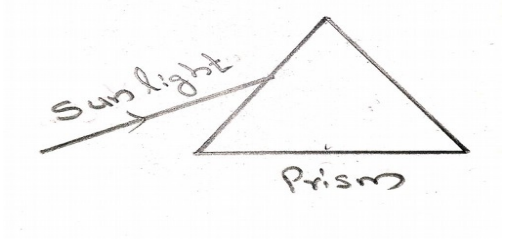
b) What is the name of the eye defect caused by increasing the distance to the near point?

c) How can solve this defect?

PART IV

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

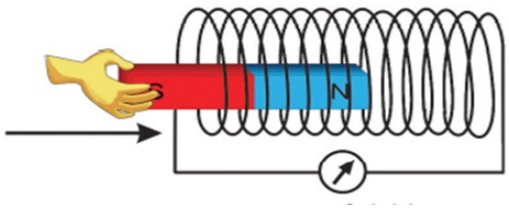
18. a) Complete the diagram below



b) Which phenomenon is indicated by the diagram?

c) Find an example from the nature of this phenomenon?

19.



a) What happens to the magnetic needle when the magnet is inserted into the solenoid?

b) Explain this phenomenon?

c) What are the methods to increase the speed of the magnetic needle?

20. Write down the first aids that should be given to an electric shock?

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

21. a) Write the lens equation ?

b) When an object is placed at a distance of 30 cm in front of a convex lens, the real image is obtained at a distance of 60 cm from the lens. What is the focal length of this lens?

c) Calculate the magnification here?

22. a) A transformer is operating at an input voltage of 230V has 40 turns in the secondary and 400 turns in the primary .What is the output voltage of this transformer?

b) What kind of transformer is this?

c) If the primary power of this transformer is 500 watts, what is the secondary power?

PART V

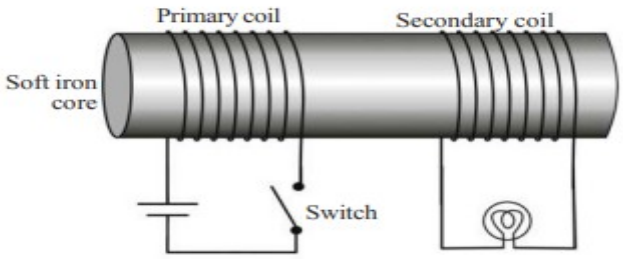
A. Answer any one question from 23 to 24. Each carries 5 scores. (1 x5 =5)

23. a) State the Joule's law?

b) The power of a heating device is 100W. What is the heat generated by passing electricity 5 minutes through it?

c) How does heat changes when time is doubled ?

24.



a) What do you observe when the switch is turned on?
b) What do you observe when the switch is kept on?
c) What do you observe when the switch is turned off?
d) What should be done to keep the bulb lit continuously? Explain the phenomenon

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