VIJAYAPADHAM
KOTTARAKKARA EDUCATIONAL DISTRICT
SSLC PRE MODEL EXAMINATION 2022-23

PM 01 PS 10E

Class : X **PHYSICS** **Time : 1½ hr**

Mark : 40

Instructions

First 15 minutes is given as cool off time. This time is to be spent for reading and understanding the questions.
Answer the questions based on instructions.
Answer the questions according to score and time.

Answer any FOUR questions from 1 to 5. Each question carries one score. (4x1=4)

1)Find the relation between the terms in the first pair and complete the second pair.
LPG : butane
Biogas : .....

2) The phenomenon of splitting up of a composite light into its constituent colours is known as .....

3) Which among the following is possible to become the power of a convex lens of focal length 100 cm?
(-1 D, +1 D, -0.01 D, +0.01 D)

4) Name a device that works on Fleming's left hand rule.

5) The device used to measure electrical energy is .....
(Watt Hour Meter, Ammeter, Galvanometer, Voltmeter)

Answer any FOUR questions from 6 to 10. Each question carries 2 score. (4x2=8)

6) Write down four advantages of LED bulbs.

7) Four 4Ω resistors are given.
a) What is the highest effective resistance that you can get using all of them?
b) What is the least effective resistance that you can get using all these resistors?

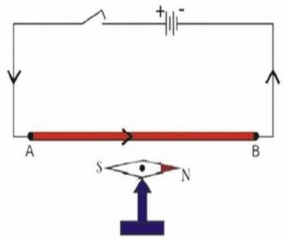
8) Classify the following statements into concave mirror and convex mirror.
   a) Used as rear view mirror in vehicles.
   b) Used in solar furnaces
   c) Always forms virtual and erect images.
   d) Forms both real and virtual images.

9) Statements related to the working of a moving coil microphone are given. Arrange them in the correct order.
   a) Voice coil vibrates.
   b) Diaphragm vibrates.
   c) Electrical signals are generated in the voice coil.
   d) Sound falls on the diaphragm.

10) Calorific value of a fuel marks as 45000 KJ/kg.What does it mean ? Write any two characteristics of a good fuel ?

Answer any FOUR questions from 11 to 15. Each question carries 3 score. (4x3=12)

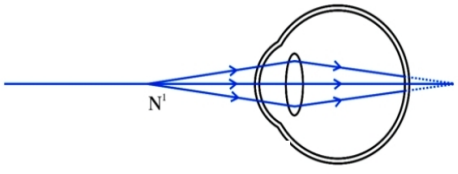
11)A straight conductor AB is placed parallel to a magnetic needle as shown in the figure



(a) When the switch is ON what happens to the magnetic needle?. Give reason

b) Write a method to reverse the direction of deflection of magnetic needle.

12) The figure given is an image formed in the eye of a person with eye disease.



a) Which defect of eye is indicated?

b) What are the reasons for this deficiency?

c) Suggest a way to overcome this deficiency

13) Safety fuse ensures safety in electric circuits,

a) Based on which effect of electric current does safety fuse work ?

b) What are the peculiarities of fuse wire ?

c) what are the precautions to be taken while connecting fuse wire in electrical circuits?

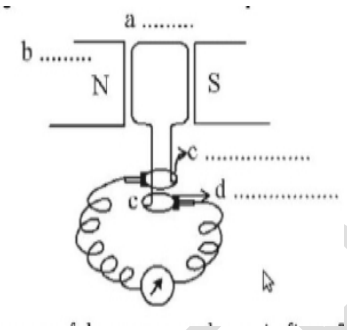
14) 50 V & 100 W is marked on the output of a transformer. It has 2500 turns in the primary and 500 turns in the secondary.

a) calculate the voltage in the primary?

b) Identify the type of transformer? (Step up / step down).

c) calculate the current through the secondary If the transformer has no power loss?

15) Observe the figure below and answer the questions



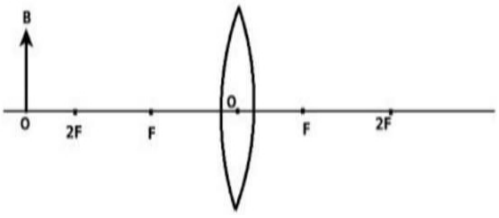
(a) Identify the type of the generator shown in figure.

(b) Write the energy change taking place in this device.

(c) Identify the parts marked a,b,c & d in figure.

Answer any FOUR questions from 16 to 20. Each question carries 4 score. (4x4=16)

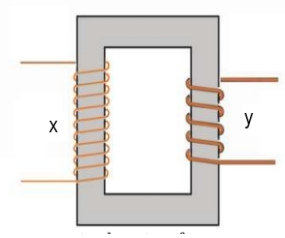
16) Observe the diagram given below



a. Find the position of image by drawing incident rays and refracted rays?

b. Write any two characteristics of the image?

17). It is given the figure of an ideal step up transformer. 'X' and 'Y' are its coils.



a) Identify the primary and secondary coils.

b) Find out the coil which carries more current while it is working.

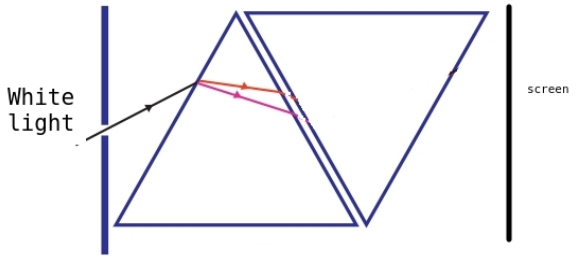
c) If current in the primary coil is 1A and voltage is 20V, what will be the power obtained in the secondary?

d) If 20V DC from a battery is applied to the input of this transformer, what will be the secondary voltage?

18)Write four methods to prevent light polllution ?

19) a. To which device is the electric line reaching our home connected first?
b. What is the use of this device?
c. In a house 5 incandescent lamps each of 100 W works for 4 hours, 4 fans each of 60 W works for 5 hours daily. Calculate the monthly consumption in the house.

20) Observe the figure.



a) Complete the figure ?
b) Which colour is obtained on the screen?
c) Identify the phenomenon of light happening in the first prism?