S S LC Top Test Series

KP(G)
Std 10

Physics
(Chapter 5 to 7)

Time: 45 Mnts
Score : 20

Instructions:

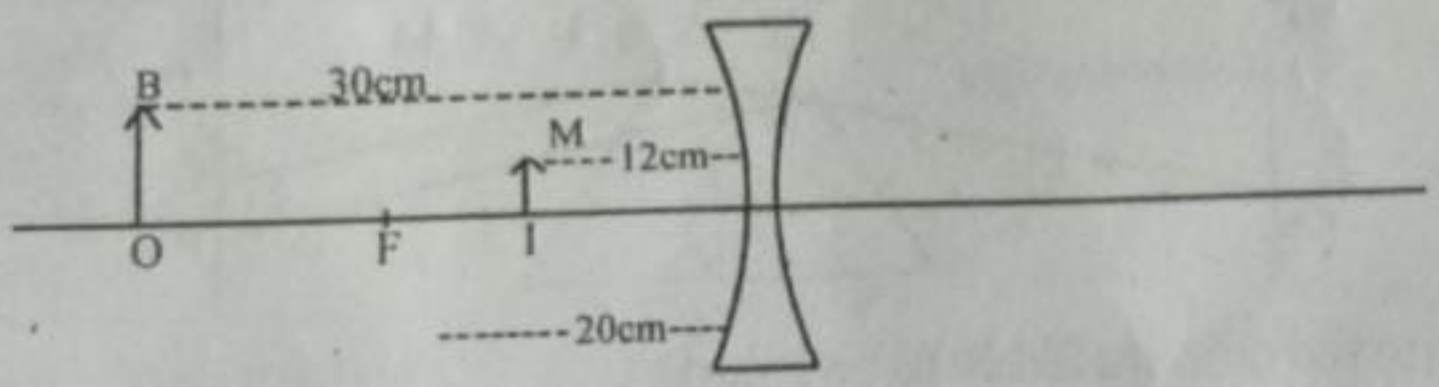
- The first 7 minutes are cool-off time.
- Time is spent for reading the question paper you are not suppose to write any thing during cool-off time.
- Read the instructions carefully and attempt this questions.

[Attempt any 1 questions from 1 to 2 . Each question carries 1 score][1×1=1]

1. If complete combustion of fuels is considered, which among them is not belong to a group.
   [Carbondioxide, Steam, Heat, Carbonmonoxide]
2. Using the relation in the first pair complete the second pair.
   Focal length of a lens: Centimeter
   Power of the lens: _____

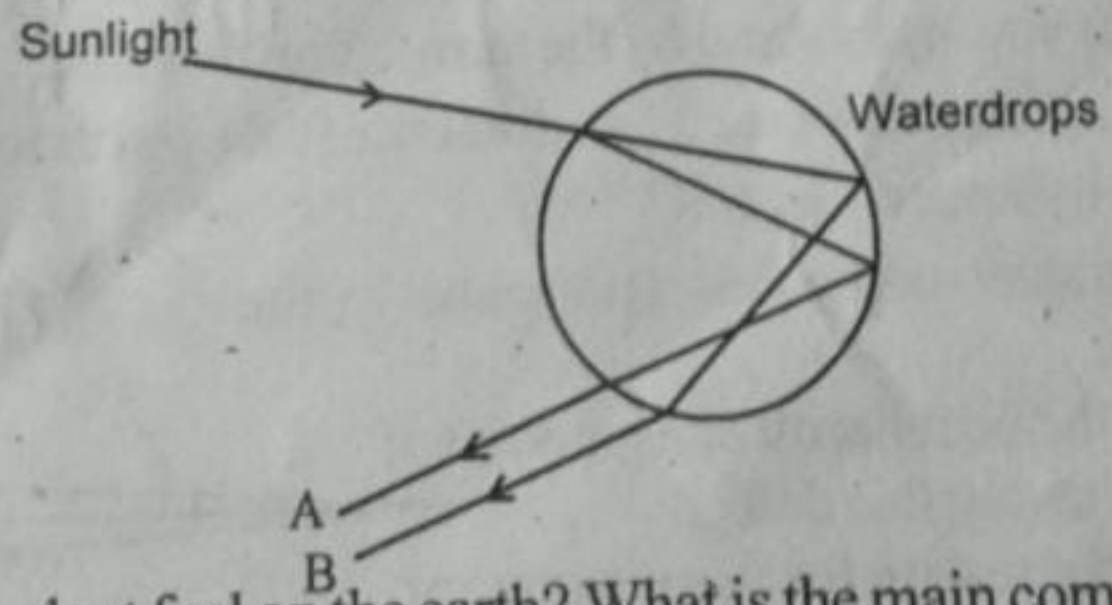
[Attempt any 3 questions from 3 to 7 . Each question carries 2 score][2×3=6]

3.



a. Write down the different measures in the figure using new Cartesian Sign Conversion.
b. Find out the magnification of the image

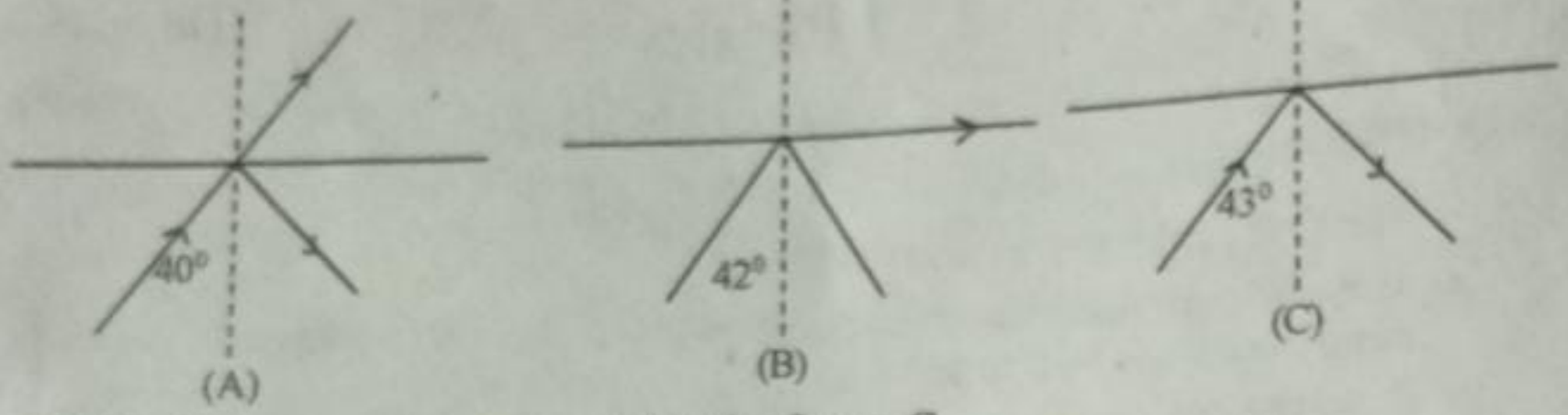
4. Which are the colors likely to be A and B.



5.a. Which is the most abundant fuel on the earth? What is the main component of this?
b. What are the substances obtained when this fuel is distillation in the absence of air?

[P.T.O]

6. A ray of light enters obliquely into air from glass is shown in figures A, B and C.



i. Which phenomena is represented in the figure C.
ii. What is the critical angle of the medium has greater density.

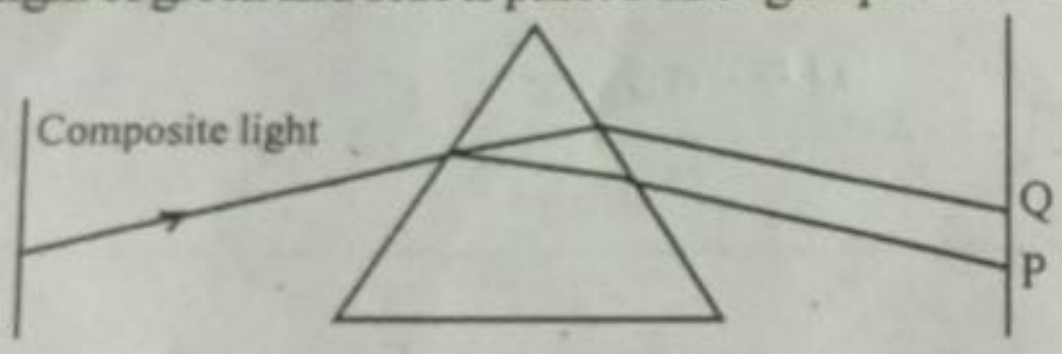
7. Which phenomena is responsible for the appearance of Newton's colour disc while when rotated fast?

[Attempt any 3 questions from 8 to 11 . Each question carries 3 score][3×3=9]

8.a. Write two examples of substances used as fuels in thermal power stations.
b. What is the energy change in this type of power station.
c. Where does this type of power station is established in Kerala.

9. An object of 2cm tall is placed in front of a convex lens of focal length 10 cm at a distance 15 cm from it. Find out the following.
a. Position of the image. b. Size of the image. c. Nature of the image.

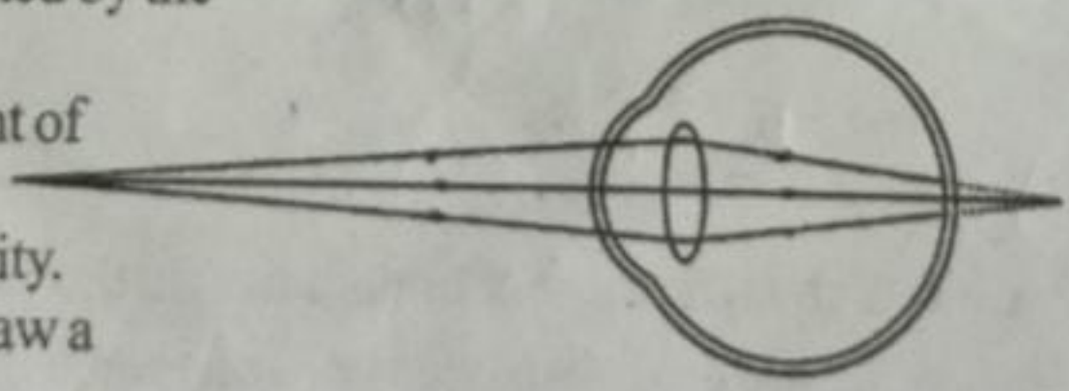
10. A composite light of green and blue is passed through a prism as shown in the diagram.



a. Which are the colours likely to be P and Q.
b. What could be the reason for splitting of composite light into its components while passing through a prism?
c. Why do the colour of light 'P' is found near to the base of the prism?

11. "Hydrogen is a fuel with the highest calorific value".
a. What do you understand by the term calorific value.
b. Why is hydrogen not used as a domestic fuel even though it has high calorific value?
c. What is hydrogen fuel cell?

12.a. Which defect of vision is represented by the diagram.



b. What is the peculiarity of near point of persons having this defect.
c. What is the reason for this peculiarity.
d. How can be rectify this defect. Draw a diagram to show this.

[4]

Type-B

[Attempt any 1 questions from 1 to 2 . Each question carries 1 score][1×1=1]

1. The phenomena of light responsible for tyndal effect.

   [Refraction, Scattering, Dispersion, Reflection]

2. Using the relation in the first pair complete the second pair.

   'B24': cylinder has maturity period up to June 2024

   'D24': _____

[Attempt any 3 questions from 3 to 7 . Each question carries 2 score][2×3=6]

3. "Stars in the sky seems to be appear higher than its actual position"

   Do you agree with this statement? Justify your answer

4.a. What are the factors on which scattering of light depends on.

   b. On what condition scattering of component colors of sunlight is same.

5. "We need to use fossil fuels judiciously". Justify your statement.

6. The refractive index of water and glass are given in the table.

Medium	Refractive Index
Glass	3/2
Water	4/3

   If the speed of light in glass is 2×10^8m/s, calculate the speed of light in vacuum.

7.a. What do you understand by the term light pollution?

   b. What will be the consequences of light pollution? (Write any two)

[Attempt any 3 questions from 8 to 11 . Each question carries 3 score][3×3=9]

8.a. What is meant by 'hot spot'?

   b. How does this is useful to the production of electricity?

9. When a person suffering from problem in vision met a doctor, he wrote in his prescription as -2D.

   a. What is -2D represents?

   b. How much is the focal length of this lens?

   c. Which defect of eyes is to be rectified here?

10. Which color is used in tail lamps of
    a. Vehicles and Signal lights?
    b. Which peculiarity of this color of light is utilized here?
    c. Explain this using the phenomena scattering of light

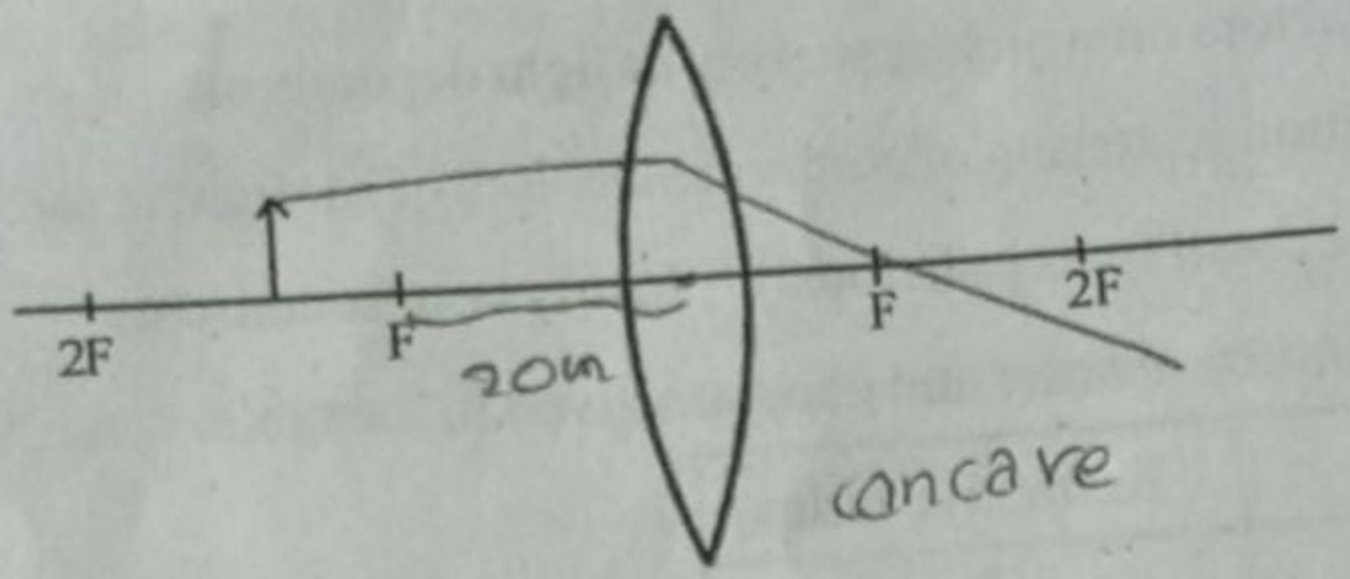
11.a. What do you understand by renewable sources of energy

b. Classify the following sources of energy into renewable sources and non renewable sources energy

Petroleum, High tide, Natural gases, Coal, Wind, Sun light, Nucleus, Rain

12. Complete the diagram.

a.



b. Let the focal length of this lens be 15 cm and the object is 20cm away from the lens. How far will be the image from the lens. [4]