KERALA ENGLISH MEDIUM SCHOOL , CHAMPUA	
HOLIDAY	HOME WORK CLASS- X MAY – 2022
SUBJECT	TOPICS/HOMEWORK/PROJECT
English	State 20 important facts about Nelson Mandela Worksheet – 1 Reported Speech & Sub- Verb agreement
Hindi	1- रमसस्यासूलक अन्तरके - 7 २. दिाकासती पत्र - 7
Science	Physics CH- 10, All exercises Question all examples. Draw Ray diagram page, 116 + Table Solve the physics Assignment.
Biology	Complete Ch : 6 Notes Make a Project on "Organ Transplantation"
Chemistry	Chapter – 05 periodic classification of elements question/ Answer
Social Science	Collect Data's for Project (CBSE Project) Map Activity – India Map
I.T	Ch – 1 communication Skills – Exercise to be done
Mathematics	Chapter – 1. 10 problems Chapter – 2. 10 problems

## Assignment class X

Physics LIGHT

Q. For the same angle of incidence 45 degree, the angle of refraction in two transparent media 1 and 2 is 20 degree and 30 degree respectively. Which medium is optically denser ? Explain.

Q. For the same angle of incidence in media p , q , r the angles of refraction are 45 , 35 and 15 degrees respectively. In which medium will the velocity of light be minimum?

Q.For what angle of incidence, the lateral shift produced by parallel sided glass plate is zero?

Q. A coin in a glass beaker appears to rise as the beaker is slowly filled with water. Why?

Q. An object under water appears to be at lesser depth than in reality. Explain why?

Q. In refraction of light through a rectangular glass slab, the emergent ray is parallel to the direction of the incident ray. Why ?

Q. A student has three concave mirrors A, B, C of focal lengths 20 cm, 15 cm and 10 cm respectively. For each concave mirror he performs the experiment of image formation for three

values of object distance of 30 cm, 10 cm and 20 cm.

Giving reason answer the following:

(a) For the three object distances identify the mirror which will form an image equal in size to

that of object. Find at least one value of object distance.

(b) Out of the three mirror identify the mirror which would be preferred to be used for shaving purpose.

(c) For the mirror B draw ray diagram for image formation for any two given values of object distance.

Q given data shows focal length of three concave mirrors A B and C, and

respective distance of different objects from these mirrors.

Mirror A has u = 45 f = 20 and Mirror B has u = 30 f = 15 and Mirror C, u = 20 f = 30

In the given position of object from the mirrors, which mirror will form the diminished image of the object

Q. A small candle 2.5cm in size is placed at 27 cm in front of concave mirror of radius of curvature 36 cm. If the candle is moved closer to the mirror how the screen should be moved?
Q. Speed of light in transparent medium is 0.7 times that of its speed in vacuum. Calculate the absolute refractive index of the medium.

Q. A dentist mirror has a radius of curvature of 3 cm. How far must it be placed from a small dental cavity to give virtual image of cavity that is magnified 5 times?

Q. radius of curvature of a convex mirror used on a moving automobile is 2m. A truck is coming behind it at a constant distance of 3m calculate the position, size, nature of the image formed?

Q. A concave mirror form the image of the sun at 18 cm on a screen. When an object is placed at 24 cm from the pole of the mirror, the image forms on a screen. Without disturbing the position of the object, the mirror is moved by 3 cm towards the object. By what distance and in what direction, the screen is to be moved to catch the image on it again?

Q. Give the ratio of velocities of two light waves travelling is vacuum and having wave lengths 4000A0 and 8000A0

Q. Q. Under what condition will a glass lens placed in a transparent liquid become invisible? Describe and illustrate with a diagram, how we should arrange two converging lenses so that a parallel beam of light entering one lens emerges as a parallel beam after passing through the second lens.

Q. A convex lens forms a real and inverted image of a needle at a distance

of 50 cm from it. Where is the needle placed in front of the convex lens if the image is

equal to the size of the object? Also, find the power of the lens.

Q. State two conditions under which a ray of light going from medium 1 to

medium 2 does not undergo any change in direction.

Q. A convex lens and a concave lens made of material of refractive index n2 are kept in a medium of refractive index n1. A parallel beam of light is incident on the lens. Compare the path of rays of light emerging from the convex lens if (i) n1 < n2 (ii) n1 = n2 (iii) n1 > n2