

# CARMEL CONVENT HR. SEC. SCHOOL

## HOLIDAY HOMEWORK CLASS X

### SUBJECT: PHYSICS

Q1. A wire of resistance 20 ohm is bent in the form of a closed circle. What is the effective resistance between the two points at the end of any diameter of the circle?

Q2. A 1.2cm long pin is placed perpendicular to the principal axis of a convex mirror of focal length 12cm, at a distance of 8 cm from it.

(a) Find the location of the image

(b) find the height of the image

(c) Is the image erect or inverted?

Q3. Two wires A and B are of equal lengths, different cross-sectional areas and made of the same metal.

(i) Name the property which is same for both the wires.

(ii) Name the property which is different for both the wires.

(iii) If the resistance of wire A is four times the resistance of wire B, calculate

(a) the ratio of the cross-sectional areas of the wires.

(b) the ratio of the radii of the wires.

Q4. State OHMS law and draw electric circuit to verify this law.

Q5. A 2.0cm high object is placed at a distance of 20cm from a spherical mirror which forms a real image at 40cm from the mirror. Calculate the focal length of the mirror and size of the image. Is the mirror converging or diverging.

Q6. An object of height 2cm is placed at a distance of 15 cm from a concave mirror of focal length 10cm. Draw a scale diagram to locate the image. From the diagram, find the length of the image formed.

Q7. The refractive index of diamond is 2.42. What is the meaning of this statement?

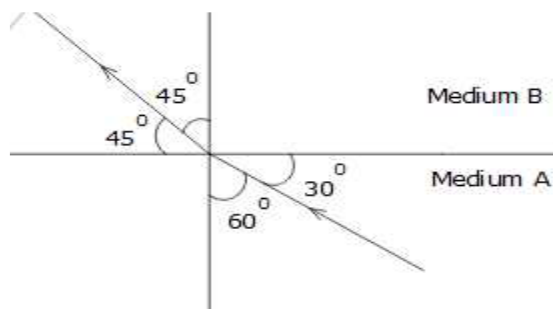
Q8. Identify the type of mirror:

(a) Magnification is always +1.

(b) Magnification is always less than 1

Q9. (a) Write Snell's Law of Refraction.

(b) Following figure shows a light ray travelling from medium A to B. Calculate the refractive index of medium B with respect to medium A?



Q10. When a concave mirror is placed facing the sun, the sun's rays converge to a point 10cm from the mirror. Now, an erect, 2cm long pin is placed 15cm away on the principal axis of the mirror. If you want to get the image of the pin on a card, where would you place the card? What would be the nature and height of the image?

**Read the chapter:** Sources of energy

**SUBJECT: CHEMISTRY**

Q1. Discuss Doberienier traids , newlands law of octaves, Mendeleev's periodic classification.

Q2. Discuss the limitation of Mendeleev's periodic table

Q3. Discuss the characteristics of modern long form of periodic Table . Write its limitations and advances too.

Q4. Discuss the general trends in periodic properties :-

I) Atomic Size II) ionization energy III) Electronegativity

IV) Electron Gain Affinity V) Metallic Character and Non-metallic character .

VI) valency & VII) Electropositivity

Q5. Describe the main characteristics of S,P,d & f –block elements .

Q6. Write the IUPAC names of Elements from 100 – 120.

Q7. Write short notes on :

VanderWaal's radius II) Metallic radius III) Covalent radius IV) Effective Nuclear Charge

Q8. What are isoelectronic species ? Give an example to illustrate your answer.

Q09. Write a short note on –lanthanoids and actinides .

Q10.  $Mg^{2+}$  ion is smaller than that of  $O^{2-}$  ion although both have the same electronic configuration . Explain why?

Q11. What do you mean by Diagonal relationship ?

Q12. What is Hydride Gap?

Q13. How you link the following – pnicogens, chalcogens, coinage metals, halogens , icosagen, Alkali metals, monoatomic gases, lanthanoids , actinoids and alkaline earth metals?

**SUBJECT: BIOLOGY**

Q1) Draw a well labelled diagram of the human brain.

Q2) Study the growth of bread mould (rhizopus) on a moist slice of bread and write your observations.

Q3) Find out the ways by which consumption of coal and petroleum product can be reduced.

Q4) In each of the following situations what happens to the rate of photosynthesis?

a) Cloudy days

b) No rainfall in the area

c) Good manuring in the area

d) Stomata get blocked due to dust

Q: Find out about the organizations that spread awareness about conservation of our environment and natural resources.

Q: Why are human beings, who look so different from each other in terms of size, color, and looks are said to belong to the same species?

Q: Ozone layer is more severe in coldest part of the earth such as Antarctica. Give reason.

**Read the chapter:** Management of natural resources

**Revise the chapter:** Life processes and Reproduction

## **SUBJECT: MATHS**

- 1) Find the value of  $p$  when the distance between the points  $A(3, p)$  and  $B(4, 1)$  is  $\sqrt{10}$ .
- 2) Find a point on the  $y$ -axis which is equidistant from the point  $A(6, 5)$  and  $B(-4, 3)$ .
- 3) Find a relation between  $x$  and  $y$  such that the point  $(x, y)$  is equidistant from the points  $(7, 1)$  and  $(3, 5)$ .
- 4) Prove that the points  $(-2, 5)$ ,  $(0, 1)$  and  $(2, -3)$  are collinear.
- 5) Prove that the points  $(3, 0)$ ,  $(6, 4)$  and  $(-1, 3)$  are the vertices of a right angled isosceles triangle.
- 6) The points  $A(0, 3)$ ,  $B(-2, y)$  and  $C(-1, 4)$  are the vertices of  $\triangle ABC$ , right angled at  $A$ . Find the value of  $y$ .
- 7) If the points  $A(4, 3)$  and  $B(x, 5)$  are on the circle with centre  $O(2, 3)$ , find the value of  $x$ .
- 8) Show that the points  $A(3, 5)$ ,  $B(6, 0)$ ,  $C(-1, 3)$  and  $D(-2, 2)$  are the vertices of square  $ABCD$ .
- 9) In what ratio does the point  $P(2, 5)$  divide the join of  $A(8, 2)$  and  $B(-6, 9)$  ?
- 10) Determine the ratio in which the line  $x - y = 2$ , divides the line segment joining  $(3, -1)$  and  $(8, 9)$ .
- 11) Find the value of  $k$  so that the points  $A(-2, 3)$ ,  $B(3, -1)$  and  $C(5, k)$  are collinear.
- 12) Find the area of a rhombus if the vertices are  $(3, 0)$ ,  $(4, 5)$ ,  $(-1, 4)$  and  $(-2, -1)$  taken in order.

### **Revise and practice :-**

First five Chapters and Chapter No. 7 (coordinate geometry)

**Revision Test** on 19/7/2019 (First four Chapters)

**Revision Test** on 22/7/2019 (chapter No.5 and 7))

## **SUBJECT : ENGLISH**

- 1) Prepare a recipe book enlisting at least 8 to 10 recipes which you have learnt and prepared during the vacations.
  - 2) Read any one of the given novels and write gist of it.  
'The art of peace' by Erasmus.  
'Beyond war' by Douglas Fry.  
'Confronting the Bomb' by Lawrence Wittner.
  - 3) Write two to four articles about the current affairs of the world relating to peace.
  - 4) Watch movie 'Chalk and Duster' and share your views in 200-250 words.
- Study what is done in the class.

- 5) Solve any two question papers of previous years.
  - 6) Read the play 'The proposal' and rewrite it in the form of short story.
- Grammar work.
- 7) Write 5 notice and 5 message on any topic.
  - 8) Write 20 sentences of narration and voices each.
- Edit any 5 passages.

### **SUBJECT : SOCIAL SCIENCE**

- 1) Do survey and prepare a report on causes of Obesity among children and measures followed to overcome it. Show it through PPT/ Chart/ Collage.
- 2) Prepare a PPT on work done by UN Keeping Force in Bangladesh to maintain peace.
- 3) Conduct a survey and prepare a report on ways followed in India to establish peace.
- 4) Read ch 2&3 of Economics and make short notes on them.
- 5) Read ch. Disaster Profile of J&K (Geography), make short notes on them.
- 6) Learn the chapters done in the class.

**NOTE: Do Q4 and Q5 in the Social Science Notebook.**

### **SUBJECT: HINDI**

- 1) विश्व शांति में महात्मा गाँधी का योगदान देते हुए एक निबंध लिखो ।
- 2) किसी एक विषय पर अनुच्छेद लिखो ।
  - क) टी-20 का रोमांच ।
  - ख) गर्मी की दोपहर ।
- 3) आपके मोहल्ले में चोरी की घटनाएं बहुत होने लगी हैं । नगर के पुलिस अधीक्षक को मोहल्ले की सुरक्षा के लिए एक पत्र लिखो ।
- 4) मनीआर्डर खो जाने की शिकायत करते हुए पोस्टमॉस्टर को एक शिकायत पत्र लिखो ।

### **SUBJECT : URDU**

- 1) Read Afsana
- 2) Read Khala
- 3) Read Gazal - (Atish)

### **SUBJECT: ARTS**

- 1)Painting with m-seal
2. Painting on ice-cream sticks
- 3.Flower pot with handmade flowers
4. Complete all the works done in the class