

**CHRIST KING HR. SEC. SCHOOL, KOHIMA**  
**CLASS-8**  
**SUBJECT: SCIENCE**  
**3<sup>rd</sup> Term 2020**

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**Chapter-15**  
**Electricity and Lightning**

**A. Quick Check**

**I. Choose the correct answers:**

1. c
2. d
3. a
4. b

**II. State 'T' for true and 'F' for false:**

1. F
2. T
3. F
4. F
5. T

**III. Match the columns:**

1. c
2. a
3. d
4. e
5. b

**B. Short answer type question: (I)**

**1. What is the flow of charge called?**

Ans: The flow of charge is called electricity.

**2. What kind of charge is produced in silk cloth when it is rubbed against a glass rod?**

Ans: Positive charge.

**3. Is our body a conductor or an insulator?**

Ans: Conductor.

**4. Can charge flow through an ebonite rod?**

Ans: Yes, charge can flow through an ebonite rod.

**C. Short answer type questions: (II)**

**1. What do you mean by static electricity?**

Ans: Static electricity means electricity at rest.

**2. What are conductors? Give three examples.**

Ans: The substances which allow electric charge to flow through them are called conductors.

Three examples of conductors are: Metal, graphite and impure water.

### **3. State two uses of electroscope?**

Ans: Two uses of electroscope are:

- (a). It is used for measuring electric charge.
- (b). It can be used to detect radio activity.

### **4. What are lightning conductors?**

Ans: A lightning conductor is a metal rod secured on the top of the building and this metal rod is connected to the other end of the conductor with a wire which is buried deep in the earth. It protects building from lightning strikes.

### **5. Who discovered the phenomenon of static electricity? How?**

Ans: The phenomenon of static electricity was discovered by Thales (a greek philosopher) 2500 years ago. He found that when a piece of amber is rubbed with fur, it attracts small pieces of leaves, paper or straw.

## **D. Long answer type question:**

### **1. How would you show that like charges repel each other and unlike charges attracts each other?**

Ans: Take two ebonite rods and rub them with flannel. You will find that both the rods get charged, because they can attract small pieces of paper. Now suspend one of the charged rods with a silk thread and bring the other charged rod near it. You will find that the charges on the two ebonite rods cause repulsion in between.

**Diagram-** refer textbook page 185(activity 1)

### **2. What causes lightning? What happens when lightning strikes a tree or a high building?**

Ans: Lightning is caused due to the discharge of static electricity between two clouds with unlike charge. When lightning strikes a tree or a high building it can cause fire and shatter the building.

### **3. Draw a neat labeled diagram of a gold leaf electroscope and explain how you will charge a gold leaf electroscope.**

Ans: An electroscope is a device that contains two strips of metal foil, called leaves that hang from one end of a metal rod. A metal ball is at the other end of the rod. When the charged comb touches the ball, some of the charges on the comb flow to the leaves, which separate because they now hold like charges and repel each other. If the comb is removed, the leaves remain apart because they retain charges. The electroscope has thus been charged by contact with the comb.

**Diagram:** refer textbook page 186 (fig-15.5)

### **4. Explain the difference between conductors and non-conductor. Give two examples for each.**

Ans: Materials which allows electric current to flow through them are called conductor.

Eg: Metal and graphite.

Where as materials which oppose electric current to flow through them is called an insulator.

Eg: Glass and wood.

### **5. Why do we say that only repulsion is a sure test of charge?**

Ans: There are two kinds of charges, positive and negative charge. Two bodies attract each other if they have unlike charge. If one is having positive charge than the other should have a negative charge or neutral. Two bodies repel each other if they have like charge. Hence, when object repel each other we can be sure that both the object are like charge. So, repulsion is a sure test of charge.

# Chapter-16

## Light

### A. Quick Check

#### I. Choose the correct answers:

1. d
2. d
3. a
4. a
5. d
6. b
7. a
8. c
9. b
10. a

#### II. Fill up the blanks:

1. Angle of reflection
2.  $90^\circ$
3. Perversion
4. Rough
5. Luminous
6. Sharp & clean
7. one
8. Parallel
9. pupil
10. Retina

#### B. Short answer type question: (I)

##### 1. State the laws of reflection.

Ans: The laws of reflection are:

- (a). The incident rays, the normal and reflected ray all lies in the same plane.
- (b). The angle of incident is equal to the angle of reflection.

##### 2. List the characteristics of the image formed by a plane mirror.

Ans: Characteristics of the image formed by a plane mirror are:

- (a). It gives sharp and clean image.
- (b). The image formed are virtual.
- (c). They are left-right reversed.

##### 3. What is regular reflection?

Ans: Reflection of light from a smooth mirror is called regular reflection.

##### 4. What is diffused reflection?

Ans: If the reflection surface is irregular, the ray of light fall on it are scattered in all direction. This is called diffused reflection.

### C. Short answer type questions: (II)

**1. What is the name given to objects that emit light of their own? Give three examples of such objects.**

Ans: Luminous object.

Eg: Sun, Star and light bulbs.

**2. What do we call objects that do not emit light? Give three examples of such objects.**

Ans: Non-Luminous object.

Eg: Moon, Planets and wood.

**3. How can we see objects that do not emit light?**

Ans: We can see objects that do not emit light with the help of luminous object.

**4. What is dispersion?**

Ans: The phenomenon of splitting of light into seven colours is called dispersion.

### D. Long answer type question:

**1. Explain the structures of the eye with a diagram.**

Ans: The human eye is an important organ and its work is based on the same principle as a photographic camera. The part of the eye is covered by a transparent spherical membrane called the cornea. The space behind the cornea is filled with a clear liquid called aqueous humor. The eye consists of a nearly spherical eye ball containing all its part. The eye ball has a small bulge at the front which has a transparent membrane over it called the cornea. Behind the cornea lies a coloured disc-shaped diaphragm called the iris. This has a small opening called the pupil. The pupil is regulated by the iris which can contract or relax by means of two sets of muscular fibres called ciliary muscles. Light entering the eye finally falls on the retina, which is at the back of the eyeball to form an image.

**Diagram-refer textbook page 199 (fig-16.18)**

**2. How do the eyes help us to see things around? Explain the functioning of eye.**

Ans: The incident light enters into the eye through the cornea and the pupil. The eye lens is a convex lens and forms a real image inverted highly diminished image on the retina. The surface of retina consists of a large number of light sensitive cells. When light falls on them, they get activated and generate electric signals. These signals are then sent to the brain by the optic nerves and the observer see the actual size, erect image of the object.

**3. Write brief notes on the following:**

(a). Cataract

Ans: A cataract is the clouding of the lens in the eye that affect vision. Symptoms may include blurry vision, trouble with bright light and trouble seeing at night.

(b). Braille.

Ans: The Braille system is a method which is used by visually impaired people to read.

(c). Antioxidants.

Ans: It is a molecule that inhibits the oxidants of other molecule.

Eg: Ascorbic acid.

# Chapter-17

## Night Sky

### A. Quick Check

#### I. Choose the correct answers:

1. c
2. d
3. d
4. d
5. b

#### II. Match the columns:

1. c
2. d
3. a
4. b
5. f
6. e

### B. Short answer type question: (I)

#### 1. What is a star?

Ans: A star is a heavenly body with its own light.

#### 2. What is a light year?

Ans: A light year is the distance travelled by light in one year.

#### 3. What are constellations?

Ans: Constellations are a group of stars arranged in a pattern resembling some recognizable figure.

#### 4. Mention two differences between a star and a planet.

Ans: Two differences between a star and a planet are:

- (a). Stars have their own light whereas Planets do not have their own light.
- (b). Stars twinkle but Planets do not.

#### 5. What is the universe?

Ans: The universe is the vast expanse of space that includes everything that exists, like galaxies, stars, planets, satellites, clouds of dust and gases etc.

### C. Short answer type questions: (II)

#### 1. What is solar system?

Ans: The solar system consists of the sun at the centre, the eight planets, asteroids and comets revolving around the sun with thousands of comets and innumerable meteors.

#### 2. What are planets?

Ans: Planets are the largest bodies in our solar system. They do not emit light like the sun or the stars.

#### 3. What is a satellite?

Ans: A heavenly body which revolves around a planet is called a natural satellite.

#### 4. What is an artificial satellite?

Ans: A man made space craft orbiting a planet or a moon is called an artificial satellite.

**5. Why does the moon have no air or water?**

Ans: The pull of gravity on the moon is unable to hold any gas and hence does not have any atmosphere and due to extreme weather it cannot hold water.

**6. What are asteroids?**

Ans: Asteroids are stony or metallic rocks in space which revolve around the sun mainly between the orbits of Mars and Jupiter.

**7. What are meteorites and what do they cause on the earth's surface?**

Ans: Meteoroids that fall on a planet or a moon are called meteorites.  
When meteors land on the surface of the earth it produce craters.

**8. What is the difference between a star and a shooting star?**

Ans: A star is a heavenly body with its own light.  
When a piece of stony or metallic rock enters the earth's atmosphere it heats up because of friction with the air and starts burning which can be seen from the earth like a streak of light is called shooting stars.

**9. What is a comet?**

Ans: A comet is an aggregate of a large number of rocky and crystalline particles with frozen ice and gases like ammonia, methane, carbon dioxide, which moves around the sun in an elongated orbit.

**D. Long answer type question:**

**1. Differentiate between stars, planets and satellites.**

Ans: Stars are very large celestial bodies. They emit their own light and they twinkle.  
Planets are the largest bodies in the solar system. They do not emit light like the stars and they do not twinkle.  
Satellites are heavenly bodies which revolve around a planet. They do not emit light.

**2. Define solar system. Name all the planets in the solar system in order if their distance from the sun.**

Ans: The solar system consists of the sun at the centre, the eight planets, asteroids and comets are innumerable meteors.  
The planets in the solar system in order of their distance from the sun are: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

**3. How are stars born?**

Ans: Stars are born within the clouds of dust turbulence deep within. These clouds give rise to the knots with sufficient mass that the dust and gas begin to collapse under its own gravitational attraction. As the cloud collapse the materials of the centre begins to heat up known as proto star, it is this hot core at the heart of the collapsing cloud that one day become a star.

**4. What are artificial satellites? Write about any three uses of artificial satellites.**

Ans: A man-made spacecraft orbiting a planet or a moon is called artificial satellite.  
Three uses of artificial satellite are:  
(a). Locating mineral resources.  
(b). It is used to forecast weather.  
(c). Military and other uses.

# Chapter-18

## Earthquakes

### A. Quick Check

#### I. Choose the correct answers:

1. c
2. b
3. a
4. b
5. b
6. a

#### II. Fill up the blanks:

1. Earthquake
2. Plate tectonics
3. Shock waves
4. Richter scale
5. Severe

#### B. Short answer type question: (I)

##### 1. What is an earthquake?

Ans: A sudden movement or a fracture in the crust and upper layer of the mantle is called an earthquake.

##### 2. Explain briefly how earthquake occurs.

Ans: Earthquake occurs at plate boundaries when two blocks of rock or plate rub against each other preventing the plates from moving. The pressure builds up and breaks the rock causing earthquake.

##### 3. What is plate tectonics?

Ans: The surface of the earth is made of lithospheric plate which move is called plate tectonics.

#### C. Short answer type questions: (II)

##### 1. Which are the places on the surface of the earth that are prone to earthquakes?

Ans: Some earthquakes prone areas are Alaska, South-America, Japan, Australia, Africa, India etc.

##### 2. Why are buildings built on landfills and reclaimed areas more dangerous during earthquakes as compared to those built on stable soil?

Ans: Buildings built on landfills and reclaimed areas are more dangerous during earthquakes as compared to those of stable soil because such land may not have enough strength to support the building during an earthquake.

##### 3. Explain the words 'focus' and 'epicenter' with respect to earthquake.

Ans: The point at which the rocks on either side of the plate give way is called focus.

Whereas, the point vertically above the focus on the surface of the earth is called epicenter.

#### D. Long answer type question:

##### 1. Write a note on the precautions we should take while designing buildings to reduce loss of life and property due to earthquake.

Ans: (a). When a building is build, the first factor to be considered is the type of soil on which it is being build. Landfills and reclaimed areas are more dangerous.

(b). Buildings norms should also be followed with respect to the quality of materials used and the structure and design of the building.

(c). Buildings in many highly earthquake-prone areas use very light weight materials so as to reduce loss of life, should these structures collapse in the event of an earthquake.

(d). We should make sure that ceiling, fans and fixtures, air conditioners and air coolers are firmly secured. These can cause a lot of harm if they come crashing down.

**2. What should we do during an earthquake to minimize injury to ourselves? Give an account each for what we should do if we are indoor or outdoor.**

Ans: (a). During an earthquake, if you are indoor, take cover under a heavy table or cot. Keep away from heavy objects that might fall.

(b). If you are indoor in a public place, you should try to cover under a sturdy object. Running to the exit may cause a stampede, and this could be very dangerous.

(c). If you are outdoors, move away from buildings, electric post and trees, which could come down crashing.

(d). If you are driving, stop if it is safe, but stay inside your car. Stay away from bridges, overpasses and tunnels.

**4. What is an earthquake hazard? Give examples.**

Ans: An earthquake hazard means the damages caused by the occurrence of an earthquake.

Example of earthquake hazards are:

(a). Loss of life due to toppling of building.

(b). People become homeless.

(c). Communication and transport system are damaged.

(d). Supply of water and electricity are disrupted.

## **CHAPTER-19 FOREST**

**A: Quick check.**

**I. Choose the correct answer.**

1. C
2. D
3. C
4. B

**II. Write 'T' for true or 'F' for false for the following.**

1. F
2. F
3. T
4. T
5. T

**III. Match the columns.**

1. C
2. D
3. A
4. B
5. E

**B: Short answer type question.**

1. What is deforestation?

**Ans: The loss or continual degradation on forest habitat due to natural or human related causes is called deforestation.**

2. State two methods of afforestation?

**Ans: Growing of trees and spreading awareness.**

3. What purpose was served by the Chipko movement?

**Ans: It prevents the felling of trees is probably the world most well known eco-development programme.**

**C: Short Answer type Question II.**

1. What do you mean by the term 'afforestation'?

**Ans: The process of converting barren land into forest by planting trees is called afforestation.**

2. What is the relationship between depleting forest and rainfall?

**Ans: Deforestation causes climatic changes, lesser trees means lesser transpiration and lesser transpiration makes the atmosphere dry. This can lead to reduced rainfall.**

3. Why did Chipko movement begin?

**Ans: The Chipko movement started in March 1973 in Chamoli district of Uttaranchal to prevent the felling of trees.**

**D: Long Answer type question.**

1. How are forests important for the welfare of Man?

**Ans: a). forests provide habitat to a large number of plants, animals, birds and insects.**

**b). trees provide us with useful products, such as gum, paper, timber, medicines etc.**

**c). dead plants decompose to form humus a material that provides nutrients to the soil.**

**d). trees and plants are the primary producers and hence form an important part of food chains.**

**e). roots of trees help to hold the soil in place and prevent soil erosion and landslides.**

2. What are causes of overexploitation of natural resources?

**Ans: The causes of overexploitation of natural resources are.**

**a. Technological and industrial development.**

**b. Mining for oil and minerals**

**c. Deforestation**

**d. Excessive and unnecessary use of resources**

**e. Non equitable distribution of resources.**

3. Explain why the replenishment of forest is necessary.

**Ans: a). forests provide habitat to a large number of plants, animals, birds and insects.**

**b). trees provide us with useful products, such as gum, paper, timber, medicines etc.**

**c). dead plants decompose to form humus a material that provides nutrients to the soil.**

**d). trees and plants are the primary producers and hence form an important part of food chains.**

**e). roots of trees help to hold the soil in place and prevent soil erosion and landslides.**

4. What are the causes of depletion of forest in India?

**Ans: a. Urbanization: increasing human population has led to the conversion of forests and woodland to agricultural land to feed the growing human population on earth. Forest has also been cleared for development activities such as construction of roads, building, railway tracks and dams etc.**

**b. Commercial logging: logging the major cause of the global ecosystems. Trees have been or are being cut down at increasingly high rates.**

**c. overgrazing: Many a time animals such as cattle, goats and sheep are left to graze in the forests and farmlands unattended.**

# Chapter-20

## Pollution

### A. Quick Check

#### I. Choose the correct answers:

1. a
2. a
3. a&b
4. a
5. a

#### II. Match the columns:

1. c
2. e
3. d
4. b
5. a

### B. Short answer type question: (I)

#### 1. Name the gases emitted from auto-exhaust.

Ans: Hydrocarbons, Nitrogen oxide, carbon dioxide, sulphurdioxide, carbon particles, small amount of benzene, dioxins and lead.

#### 2. Why should sewage not be dumped into the rivers?

Ans: Sewage should not be dumped into the rivers because it causes water pollution.

#### 3. Which is the major source of air pollution in metro cities?

Ans: Auto-exhaust is the major causes of air pollution in metro cities.

### C. Short answer type questions: (II)

#### 1. Define the terms: pollution and pollutants.

Ans: Pollution is the contamination of the environment with substances that are harmful to living beings. Pollutants refer to the materials that cause pollution.

#### 2. List four sources of water pollution.

Ans: Four sources of water pollution are:

- (a). Factory waste.
- (b). Household sewage.
- (c). Oil spills from huge tankers.
- (d). Inorganic pesticides and chemical fertilizer draining into water bodies from agricultural fields.

#### 3. What is greenhouse effect?

Ans: The warming of earth's surface and troposphere caused by the presence of water vapour, carbondioxide, methane, carbon-monoxide and other gases is called greenhouse effect.

#### 4. State two harmful effects of air pollution.

Ans: (a). Polluted air is unpleasant to breathe.

(b). It causes several diseases and disorders like dizziness, headache, eye irritation, nasal irritation, lung cancer, coughing, sore throat, bronchitis, chest pain and allergies.

**D. Long answer type question:**

**1. What is bioconcentration of pesticides?**

Ans: Bioconcentration is the accumulation of chemicals in an organism due to the result of exposure to chemicals in water bodies. Pesticides used by farmers for agricultural purpose, drain into water bodies by leaching and eventually reach human being by way of chains. It can cause cancer, birth effect, asthma etc.

**2. Write four methods to prevent water pollution.**

Ans: (a). Bathing and washing clothes near water bodies, such as lakes, ponds and rivers should be restricted.

(b). Domestic and industrial sewage wastes should be treated to remove toxic substances before being released into water bodies.

(c). Pollution- control rules enforced by the government should be strictly followed.

(d). Usage of eco-friendly fertilizers and herbicides should be encouraged to prevent water pollution due to run offs and leaching.

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