Note:- Write the work assigned to you for winter months on separate note books. You are advised not to use school note books for the winter assignments.

Class: 7th  English    Lesson No: - 05    Trees and Forests

Ex:- Learn the word meanings of the lesson.

Q.1  What are forests?
Ans  Large areas of land covered with woody trees are called forests.

Q.2  Where do we have the biggest and the oldest trees?
Ans  The biggest and the oldest trees are found in California. The biggest trees are the giant sequoias and the oldest trees are the Californian pines.

Q.3  How can we know the age of a tree?
Ans  The age of a tree can be known by counting rings in its trunk.

Q.4  How are rings formed in the trunk of a tree?
Ans  In most of the trees, every year new wood gets formed in the form of a ring. This newly formed ring takes its position outside the ring of the previous year. So, every year one ring is added to the trunk. Thus, by counting these rings we can find the age of that tree.

Q.5  How can the rings of a tree serve as a chart of rainfall?
Ans  In the year of good rainfall, the ring formed is thicker than the one formed in the year of less rainfall. By comparing the thickness of the rings, we can get information about the amount of rainfall. Thus the rings of a tree can serve as a chart of rainfall.

Q.6  What would happen if there were no trees?
Ans  It would be a very miserable world and life would be impossible. The animals would die due to lack of oxygen.

Q.7  How did men in olden days make use of trees?
Ans  Men in olden days used trees for different purposes. They used wood of trees for making their homes, rafts, canoes and weapons. They used it as fuel to cook and keep themselves warm. They got fruits and nuts from trees. They used the leaves of trees for thatching roofs and for clothing. They used the shells of different fruits as utensils. In other words men in olden days were dependant on trees for their survival.

Q.8  What different things have been invented to take the place of wood?
Ans  The different things that have been invented to take the place of wood are concrete, steel, glass and plastic.

Q.9  For what different purposes do we need wood even in present days?
Ans  In present days, we need wood for making furniture, paper, cardboard, packing cases and for construction.

Q.10 What happens when animals breathe and things burn?
Ans  Oxygen is consumed and carbon-dioxide is produced when animals breathe and things burn.

Q.11 How do trees treat the carbon dioxide produced by us?
Ans  The green leaves absorb the carbon dioxide that is produced during burning and breathing. Then with the help of sunlight, they break it into carbon and oxygen. The carbon is used by green leaves to make starch and oxygen is released back into the atmosphere.

Q.12 How do animals get their food?
Ans  Animals get their food from plants or by eating animals that eat plants.

Q.13 How do trees help to cool the atmosphere?
Ans  The leaves of trees give out a lot of water-vapour and it helps to cool the atmosphere.

Q.14 How do trees help to cause rain?
Ans  The leaves of trees release a lot of water vapour which cools the atmosphere. When rain bearing clouds pass through this area, they condense and fall in the form of rain.

Q.15 How do trees save the soil from being washed off?
Ans  The roots of trees hold the soil firmly and thereby prevent it from being washed off by rain, wind and running water.
Q.16 Why did our ancient rishis live in forests?
Ans Our ancient rishis lived in forests because trees provided them peace of mind and also refreshed their souls.

Q.17 What do you know about Shantiniketan?
Ans Shantiniketan means “The home of peace”. It is the name given to a school which was started by Rabindarnath Tagore. It is situated in natural surroundings full of trees.

Q.18 How did our forests come to be destroyed?
Ans Our forests came to be destroyed due to increasing population and our demands for fuel and timber had increased and to meet these needs trees were cut down.

Q.19 Why should we not burn cattle dung as fuel?
Ans We should not burn cattle –dung as fuel because it is a good manure and plays a very important role in maintaining the fertility of the soil.

Q.20 How has the loss of trees harmed the atmosphere?
Ans The loss of trees has disturbed the ratio of different gases in the atmosphere. The amount of carbon dioxide gas has increased in the absence of enough trees. This has resulted in global warming which is a serious threat to mankind.

Suppose you see a man who is felling a tree to have firewood. Write a short paragraph on how you will convince him not to cut down the trees. (Write in about 50 words)

Trees are precious gift of nature. They play a vital role in sustaining the human life and other animal life on the earth. Trees play an important role in weather and climate. They provide us food and shelter. They also provide us firewood, medicine and wood for making furniture. Trees provide us oxygen which animals take in during breathing. Trees absorb carbon dioxide and help to purify air. The roots of trees hold the soil firmly and prevent it from being carried away by wind, water and rain. Thus, trees fight soil erosions, conserve rainwater and reduce water runoff. So, it is suggested not to cut down trees but to plant them on a large scale.

Lesson No: - 06
At the theatre

Ex:-- Learn the word meanings of the lesson.

Central Idea
Some ill mannered people keep talking and shouting all the time while they are watching a play or a film. They keep telling aloud what is going to happen next. Thus they spoil the charm of the play for all those who are sitting around and watching the play.

Summary
The poem ‘At The Theatre’ has been penned down by ‘A.P.Herbert’. It is about an argument between a man and two ill mannered ladies who are continuously irritating this fellow by foretelling the story of the play. The poet tells the ladies that he has never seen the play as the two ladies have. They are foretelling the story which disrupts the charm of the play for the poet. He tells them that the crew members of the play have worked hard to impress the audience by keeping the identity of the murderer hidden but the merit of this murder mystery fades off because of their disclosure of the murderer’s identity. He further tells them that he is quite intelligent to understand the story without the conversational aid of the lady and her niece.

At the end, the poet warns them not to rage him by talking about the story of the play.

Q.1 How did the lady know all the details of the plot?
Ans The lady knew all the details of the plot because she had already seen the play.

Q.2 What kind of play do you think it was?
Ans It was funny and suspense thriller.

Q.3 How was the lady spoiling the charm of the play for the poet?
Ans The lady was spoiling the charm of the play by foretelling the story of the play and thus disclosing the interesting mystery involved in it.

Q.4 Where exactly was the poet sitting? How can you say that?
Ans The poet was sitting infront of the ladies. We can say that because it has been conveyed through the sub-topic of the heading i.e.; at the theatre (to the lady sitting behind me).
Q.5 Who was the lady talking to?
Ans She was talking to her niece.

Q.6 What does the poet say about the other lady?
Ans The poet says that the other lady was stupid and foolish.

Q.7 Why does the poet call the lady ‘foul woman’?
Ans The poet calls the lady ‘foul woman’ because she was ill mannered as she didn’t know how to behave in the theatre.

Q.8 The poet tells the lady two things plainly. Mention them in your own words.
Ans The poet tells them two things clearly:
   a) He asks them to remain silent.
   b) He asks them not to breathe upon his neck i.e; not to irritate him with their conversation.

- Form nouns from the following verbs and use them in simple sentences:
  a) See
     See ( V) Sight (N):- The beautiful sight of daffodils filled me with pleasure.
  b) Tell
     Tell (V) tale (N) I heard a very interesting fairy tale yesterday.
  c) Know
     Know (V) knowledge (N) :- A little knowledge is a dangerous thing.
  d) Add
     Add (V) addition (N) :- We are doing addition in maths
  e) Play
     Play (V) play (N) :- We saw a play at the theatre
  f) Amuse
     Amuse (V) amusement (N) :- I watched the performance with great amusement.
  g) Speak
     Speak (V) speech (N) :- She gave a brilliant speech
  h) Breathe
     Breathe (V) Breath (N) She took a deep breath before she started her homework.

Lesson No: - 07
Ex: Learn the word meanings of the lesson.

Q.1 Who is the narrator of the story?
Ans The narrator of the story is the younger brother, Joe.

Q.2 How old was the narrator at the time of the incident he relates? How old was his brother?
Ans The narrator was ten years old at the time of the incident. His brother was fourteen years old.

Q.3 What job did the narrator’s father do?
Ans The narrator’s father worked as a clerk in a small factory.

Q.4 What filled the two brothers with excitement?
Ans The thought of buying a mother’s day gift for their mother filled the two brothers with excitement.

Q.5 What does the narrator say about his father?
Ans The narrator says that his father is kind and loving. He doesn’t forget to bring birthday and Christmas gifts for them.

Q.6 What does he say about his mother?
Ans He says that his mother works all the day cooking, scrubbing and washing. She does all this silently and never complains.

Q.7 Why had such a thing as a mother’s day gift never come to the narrators mind?
Ans Such a thing as mother’s day gift never came to the Narrator’s mind because he never got any pocket money.
Q.8 How did the two brothers get money for their gifts?
Ans They worked in a small furniture shop which had opened near their house. They made the deliveries to the customers homes by means of an old pushcart. This is how they earned money for their mothers day gift.

Q.9 What did Father say when the boys told him about their idea of the mother’s day gift?
Ans On hearing their idea about the mother’s day gift Father felt pleasant and proud. He encouraged them by saying that this idea of theirs would make their mother happy.

Q.10 What gifts did the two boys buy for their mother?
Ans Joe bought a lovely little comb decorated with shiny stones that looked like a diamond and Nick bought a scrub pail with a wringer and a fresh mop with it.

Q.11 Did the two boys know what each others gift was?
Ans Nick knew about Joe’s gift but Joe didn’t know Nick’s gift.

Q.12 What was the mother doing when the boys came to her with their gifts?
Ans She was wearily scrubbing the floor, when the two boys came to her with their gifts.

Q.13 How did mother react on seeing Nick’s gift?
Ans On seeing Nick’s gift her face turned pale with the disappointment. Her voice broke and she wept on being gifted with a scrub pail.

Q.14 How did father show that Nick’s gift was wonderful?
Ans Father started demonstrating the gift by pointing out its advantages. He soaked the puddle of dirty water up with the mop. Then with the help of a wringer on the bucket he neatly squeezed it. He also told his wife that Nick would help her in that job.

Q.15 What was it that filled mother with regret?
Ans She was filled with great regret because she had not appreciated Nick inspite of the fact that he intended to help her by cleaning the floor himself with the accessories he had brought as a gift for his mother.

Q.16 Why didn’t Joe give mother his own gift?
Ans Joe didn’t give mother his own gift because he knew that she would like his gift and thus reject Nick’s gift in comparison.

Note: Lean all the word meanings of the above lessons.

Subject: - Physics

Motion: - A body is said to be in motion if it changes its position with respect to its surrounding e.g. a car running on the road and a kite flying in the sky, etc.

Rest: - A body is said to be in rest if it doesn’t change its position with respect to its surrounding e.g. a board fixed on the wall, a book lying on the table.

Rest and motion are relative terms:- An object may be in rest with respect to one object and in motion with respect to another e.g. the passengers sitting in a moving bus appear to be in motion with respect to the person standing on the road but the passengers are in rest with respect to one another.

Translatory Motion: - If an object moves on the whole, from one place to another, then the object is said to be in translatory motion.

Translatory motion is of two types.

- Rectilinear motion: - if the motion of an object is along a straight path, it is said to be rectilinear motion. e.g. a boy running straight on a road.
- Curvilinear motion: - if the motion of an object is along a curved path it is called curvilinear motion e.g. ball thrown in air.
- Rotatory motion: - If an object moves about a fixed axis or a fixed point, on the whole then the object is said to be in rotatory motion. e.g. a spinning top, a merry go round.
- Oscillatory motion: - If an object moves to and fro about its mean position, then the object or its body part is said to be in oscillatory motion.
- Very fast oscillations are called vibrations.
Multiple or complex motion: -
When an object shows a combination of two or more types of motion, then this combination of motion is called multiple or complex motion e.g.

- The earth rotates about its own axis and simultaneously revolves around the sun.
- A car moving on a road, as a whole, shows translatory motion but its wheels show rotatory motion.

Periodic motion: - A motion which repeats itself after a fixed interval of time. This type of motion is called periodic motion. e.g. rotation of earth, etc.

Non periodic motion: - A motion which does not repeat itself at regular intervals of time is said to be non-periodic motion. e.g. motion of lungs while breathing, swinging of arms while walking, motion of a rolling cricket ball on the ground are repetitive in nature but are non-periodic.

Uniform motion: - The motion of a moving object is said to be uniform, if it covers equal distance in equal intervals of time e.g. the motion of the hands of a watch etc.

Non-uniform motion: - The motion of a moving object is said to be non-uniform, if it covers unequal distances in equal intervals of time e.g. the motion of a train between two stations is non-uniform.

Distance: - The length of the actual path covered by a moving body is called its distance.
1. S.I unit of distance is metre (m).
2. It is a scalar quantity i.e. it has only magnitude.
3. Distance can never be negative.

Displacement: - The shortest path covered by a moving body in a particular direction is called displacement.
1. S.I unit of displacement is metre (m).
2. It is a vector quantity i.e. it has both magnitude and direction.
3. It can be positive as well as negative.

Speed: - The rate of change of motion of a moving object is called its speed.
- It may also be defined as the distance covered by an object per unit time.
- S.I unit of speed is metre per second (m/s).
- It is a scalar quantity.

\[
\text{Speed} = \frac{\text{Distance}}{\text{Time}} = \frac{s}{t}
\]

Velocity: - Velocity is a speed of an object moving in a particular direction.

Velocity = \frac{\text{Displacement}}{\text{Time}}

Example 5: -
Initial Velocity \( u = 0 \)
Final velocity, \( V = 10 \text{ m/s} \)
Time taken, \( t = 20 \text{ s} \)
Acceleration, \( a = ? \)
Now,
\[
\begin{align*}
a &= \frac{V-U}{T} \\
&= \frac{10-0}{20} \\
&= \frac{1}{2} \text{ m/s}^2 \\
&= 0.5 \text{ m/s}^2
\end{align*}
\]

Or,
\[a = \frac{1}{2} \text{ m/s}^2 \text{ or } 0.5 \text{ m/s}^2.\]

Example 6: -
Initial velocity of a car \( u = 20 \text{ m/s} \)
Acceleration, \( a = 1.5 \text{ m/s}^2 \)
Time taken, \( t = 8 \text{ s} \)
Final velocity of car, \( v = ? \)
\[
\begin{align*}
V &= u+at \\
&= 20 + 1.5 \times 8 \\
&= 20 + 12 \\
&= 32 \text{ m/s}
\end{align*}
\]
Example 7:-
Initial velocity of train \( u = 40 \text{ m/s} \)
Final velocity, \( v=0 \)
Time taken, \( t= 8 \text{ s} \)
Acceleration, \( a= ? \)
Now,
\[
\frac{a}{t} = \frac{v-u}{t} = \frac{0-40}{8} = -5 \text{ m/s}^2
\]

**Acceleration:** - The rate of change of velocity is called acceleration
1. It is calculated as:
   \[
   \text{acceleration} = \frac{\text{change in velocity}}{\text{time taken}}
   \]
2. The S.I unit of acceleration is m/s\(^2\).
3. It is a vector quantity.
4. If velocity of an object increases with time, its acceleration is positive.
5. If velocity of an object decreases with time, its acceleration is negative.
6. Negative acceleration is known as retardation.
7. If the velocity of an object is constant, its acceleration is 0.

**Relation between acceleration, velocity and time**
Let the initial velocity of a body be \( u \)
Final velocity \( v \)
Change in velocity \( v-u \)
Let the acceleration produced in the body in time, “t”
Acceleration= change in velocity/time
\[
\frac{a}{t} = \frac{v-u}{t} = v-u \text{ or } v = u+at \text{ or } u=v-at
\]
- If an object starts from rest its initial velocity is 0.
- If an moving object comes to rest, its final velocity is 0.

Example 4:-
Distance covered = 400m
Time taken =80s
Average speed = total distance
\[
\frac{\text{Total time taken}}{\text{Total time taken}} = \frac{400m}{80s} = 5\text{m/s}
\]
Average velocity = total displacement
Of the person
\[
\frac{0m}{80 \text{ s}} = \frac{0}{80} = 0\text{m/s}
\]

**Acceleration due to gravity:** - Acceleration produced in a freely falling body due to force of gravity is called acceleration due to gravity.
- It is denoted by the letter ‘\( g \)’
- Its S.I unit is m/s\(^2\)
- Value of ‘\( g \)’ on the surface of earth is 9.8 m/s\(^2\)

**Simple pendulum:** It is a small metallic bob whose one end is tied to the string through a rigid support
The pendulum shows oscillatory motion.
Terms related to simple pendulum

- **Length of pendulum**: It is the length between the point of suspension and the centre point of the bob. It is denoted by the letter ‘l’.
- **Mean position**: The rest position of the metallic bob of the pendulum is called its mean position.
- **Extreme position**: It is the position of the bob of an oscillatory pendulum at maximum distance on either side of its mean position.
- **Amplitude**: The maximum displacement of the bob from its mean position is called amplitude.
- **Oscillation**: To and fro motion of the bob of pendulum is called oscillation.
- **Time period**: Time taken by the pendulum to complete one oscillation is called its time period. It is denoted by the letter ‘t’. Its S.I unit is second.
- **Frequency**: Number of oscillations produced by the pendulum per second is called its frequency.
  1. It is denoted by the letter ‘f’ or ‘n’
  2. Its S.I unit is hertz (Hz)
  3. It is reciprocal of time period i.e. \( f = \frac{1}{t} \)

A Test your self
1. Relative
2. Displacement
3. Zero
4. Amplitude
5. Reciprocal

A. 1. Periodic motion
2. Uniform motion
3. Acceleration
4. Oscillatory motion
5. Frequency
  1. Oscillatory motion
  2. Vibratory motion
  3. Multiple motion
  4. Rotatory motion
  5. Translatory motion
  6. Multiple motion
  7. Random motion
  8. Random motion.

- Breathing, motion of a rolling ball, earthquake are the examples of motion which are repetitive but non-periodic.
- It is because speed depends on distance which can’t be zero, while as velocity is related with displacement which can be zero.
- It is because there is no change in the speed and direction of motion of the body.
- Numerical problems:-
  Speed of car = 90km/hr
  \[ = \frac{90 \times 1000 \text{ m}}{60 \times 60 \text{ sec}} \]
  \[ = \frac{90000 \text{ m/sec}}{3600} \]
  \[ = 25 \text{ m/sec}. \]
- Length of train = 400m
  Length of bridge = 1600m
  Total distance covered after crossing the bridge \[ = 1600 + 400 = 2000 \text{ m} \]
Speed = 10 km/hr

\[
\text{Speed} = \frac{\text{Distance}}{\text{Time}}
\]

\[
\text{Time} = \frac{\text{Distance}}{\text{Speed}} = \frac{2000}{1000} = 2 \text{ km/hr}
\]

\[
\frac{1}{2} \times 60 = 12 \text{ min.}
\]

- Speed of car = 50 km/hr
  Distance covered = 225 km
  Let time taken be = T
  We know that
  \[
  \text{Speed} = \frac{\text{Distance covered}}{\text{Time taken}}
  \]
  \[
  50 = \frac{225}{T}
  \]
  \[
  T = \frac{225}{50}
  \]
  \[
  T = 4.5 \text{ hr.}
  \]

Q.4
Initial velocity of car = U = 0
Final velocity of car = V = 30 m/s
Time taken = t = 15 sec.
Let acceleration be = a
Now acc.
\[
a = \frac{V - U}{T}
\]
\[
a = \frac{30 - 0}{15} = 2 \text{ m/s}^2
\]

Q.5
Initial velocity = u = 5 m/s
Acceleration = a = 0.2 m/s^2
Time taken = t = 20 s
Let final velocity be = v
Now,
\[
a = \frac{v - u}{t}
\]
\[
0.2 = \frac{v - 5}{20}
\]
\[
0.2 \times 20 = v - 5
\]
\[
4 = v - 5
\]
\[
4 + 5 = v
\]
\[
v = 9 \text{ m/s or } v = 9\text{ m/s}
\]

Q.6
Distance from home = 1 km
Time taken = 15 m
= 15/60 hr
= 0.25 hr

Speed = distance / time
= 1/0.25
Speed = 4 km/hr.
Q.7 Perimeter of park = 400 m
No. Of rounds = 10
Total distance covered by Resho
= 400 x 10
= 4000 m
= 4000/1000 km = 4 km
Time taken = 30 min
= 30/60
= 0.5 hr
Speed = Distance /Time
Speed = 4/0.5 = 8
Speed = 8 km/hr.

Q.8 Initial velocity of bus $u = 0 \text{ m/s}$
Final velocity $v = 20 \text{ m/s}$
Acceleration $a = 2.5 \text{ m/s}^2$
Let time taken be $t$
Now, $a = (v-u)/t$
$2.5 = 20-0/t$
t = 20/2.5 = 8 \text{ s}$

Q.9 Initial velocity $u = 20 \text{ m/s}$
Final velocity $v = 0$
Time taken $t = 5 \text{ s}$
Acceleration $a = (v-u)/t$
a = 0-20/5
a = -4 \text{ m/s}^2$

Q.10 Negative sign indicates retardation.
Initial velocity $u = 12 \text{ m/s}$
Final velocity $v = 42 \text{ m/s}$
Acceleration $a = 5 \text{ m/s}^2$
Let time taken be $t$
Now $a = (v-u)/t$
$5 = 42-12/t$
t = 30/5
$t = 6 \text{ s}$

Subject: - Biology Chapter No: - 02 Organisation in living things.

Characteristics of living things:-
Living organisms show the following characteristics:

- Living organisms take nutrients as food (nutrition).
- They derive energy from food.
- They increase in size (growth).
- They excrete.
- They respond and react to change in their surroundings (response to stimuli).
- They are made up of cells (cellular organisation).
- They exhibit various levels of complexity in their organisation (levels of organisation).
- They multiply by producing their own types (reproduction).

Q.1 What is organisation?
Ans Organisation represents the manner in which smaller units of any structure are aggregated into bigger units.
Q.2 What is the purpose of organisation in living organisms?
Ans The main purpose of organisation in multicellular organisms is the division of labour. This helps them to carry out different functions more efficiently for sustaining life.

2. Levels of Organisation:
   - Molecular level: All living organisms are made up of cells. These cells have organelles. These organelles are made up of molecules of organic compound (like proteins, carbohydrates, fats, nucleic, acids). This represents the molecular level of organisation.
   - Cellular level: A cell is the smallest living unit that can exist independently and perform all the life activities. In simple multicellular organisms (like algae and sponges), cells are grouped together but they function independently. This represents cellular level of organisation.
   - Tissue level: The cells that perform one function, look alike and work together. They form tissue and represent tissue level of organisation.
   - Organ level: Different tissues that work together to perform one specialised function form an organ. Different organs form organ level of organisation.
   - Organ system level: When many organs work together to perform one major life function, they form an organ system.
   - Population level: Organisms of one species living together in the same area or locality constitute a population.
   - Community level: Populations of different species living together in a particular habitat form a biotic community, or simply a community.
   - Ecosystem level: The members of a biotic community and the abiotic components of their environment together form an ecosystem.
   - Biosphere level: A part of universe that supports life is known as biosphere. It comprises of all the ecosystems of the earth. Biosphere is divided into:
     1. Hydrosphere: It includes all water bodies like ponds, lakes, streams, rivers, seas and oceans.
     2. Lithosphere: It represents the solid surface of earth. It includes both the upper surface of earth which supports plants; and the deeper layers where animals live in burrows.
     3. Atmosphere: The blanket of air surrounding the earth.

Chemistry

Air:
Air is a mixture of many gases namely nitrogen (78%), oxygen (21%), noble gases (0.95%), carbon dioxide (0.03%) and varying amount of water vapour.

Atmosphere: A thin layer of air that surrounds the earth is called atmosphere.

Nitrogen gas: It is the most abundant gas present in the air. It is essential for the growth of plants and animals.
   - It is colourless, odourless and tasteless gas.
   - It is slightly lighter than air.
   - It does not support combustion.
   - It is an inert gas.

Nitrogen cycle: The continuous exchange of nitrogen between the plants, animals, soil and the atmosphere is known as nitrogen cycle.

Oxygen gas: Oxygen gas makes up 21% of the air.
   - It is essential for the life to exist.
   - It is tasteless, colourless and odourless gas.
   - It is non poisonous and slightly soluble in water.

Carbon dioxide: It makes up only 0.03% of air. Green plants use CO₂ gas to prepare their food in the presence of sunlight.
   - It is colour less and odourless gas.
   - It is fairly soluble in water.
   - It neither burns nor supports burning.

AIR AND ITS CONSTITUENTS
Balance of oxygen and carbon dioxide in air:-

During respiration oxygen combines with food to form carbon dioxide, water and a lot of energy. The carbon dioxide so produced is released into the atmosphere where it is taken by plants to prepare food through the process of photosynthesis. During photosynthesis oxygen is produced as a by-product and is released into the atmosphere. In this way a balance is maintained between carbon dioxide and oxygen.

Carbon Cycle: Carbon dioxide produced during respiration by animals is released into the atmosphere where it is taken by plants to prepare food. The food from plants is consumed by animals and when they respire, they exhale CO\(_2\) into the atmosphere.

Water cycle: The continuous circulation of water from the earth’s surface to the air and from the air back to the earth’s surface is called water cycle.

Noble gases: These gases are present in traces in the air. These were discovered by Lord Ray and Sir William Ramsay. Helium, Neon, Argon, Krypton, Radon and Xenon are noble gases. These gases are chemically very unreactive. There are also known as inert gases or rare gases.

Uses of Noble gases:

1. Helium is used to fly weather observation balloons.
2. Argon is used to fill electric light bulbs.
3. Argon is also used in welding metals.
4. Radon is used in the treatment of cancer.
5. Neon is used in advertising signs.

Air pollution: The mixing of harmful substances in air that result in the degradation of air quality is called air pollution.

Air Pollutant: The substance (unwanted chemicals or other materials) present in the air that affects the humans, vegetation, animals etc. e.g., SO\(_2\), NO\(_2\), CO etc.

Effect of various pollutants on environment:

1. Carbon Monoxide: It is a very poisonous gas. When inhaled, it combines with the hemoglobin present in the blood and makes it difficult to breathe and can cause death. It slows our reflexes. Too much CO can cause death.
2. Nitrogen dioxide (NO\(_2\)): It can cause respiratory diseases. It causes acid rain. It contributes in the formation of smog.
3. Ground level ozone (O\(_3\)): At the ground level, O\(_3\) gas acts as an air pollutant. It causes irritation in eyes and nose. It lowers the lung’s working capacity.
4. Chlorofloro carbons (CFCs): They damage the ozone layer. This allows harmful ultraviolet rays to reach the earth’s surface. This can lead to skin cancer, diseases of the eyes, and can even cause damage to plants.
5. Suspended particulate matter (SPM):
   1. It causes irritation in nose, throat, eyes, and respiratory tract.
   2. It can damage our lungs.
   3. It reduces visibility.
Acid Rain: Sulphur dioxide and nitrogen dioxide emitted from exhaust pipes of vehicles, factories, etc into the air. These gases react with oxygen and water vapours present in the air to form sulphuric acid (H$_2$SO$_4$) and nitric acid (HNO$_3$) respectively. These acids dissolve in rain water and fall on the earth in the form of acid rain.

**Effects of Acid Rain:**
1. It can contaminate lakes, rivers etc.
2. It can cause damage to leaves of plants etc.
3. It can cause damage to buildings, monuments, etc.
4. It corrodes the metal work.

Green house effect: The warming of the earth’s surface due to the trapping of heat by CO$_2$ present in the earth’s atmosphere is called green house effect.

Infra red radiations have heating effect. When these radiations strike earth, they are sent back and in atmosphere they are trapped by the green house gases like CO$_2$ making atmosphere hot. This is called green house effect.

**Q1** What is ozone layer? What are its advantages?
**Ans.** The thin layer of O$_3$ molecule in the upper part of atmosphere is called ozone layer. It shields our earth from harmful ultra violet rays of the sun.

**Define the following:**
1. **Transpiration:** - The process of loss of water by plants in the form of water vapour is called transpiration.
2. **Smog:** - It is a combination of smoke and fog. It makes breathing difficult.
3. **Global warming:** - It is the increase of earth’s average surface temperature due to green house effect.

S.St Subject :- History (7th) NEW KINGDOMS

**Q1:** Who were the Rajputs?
**Ans.** Rajputs were descendents of Central Asian groups such as the Sakas, Huns, Kushans who had settled in India in the early common era.

**Q2:** Why did the struggle for Kanauj take place? What happened in the end?
**Ans.** The struggle for Kanauj took place because it was located on the bank of the river Ganga and its conquest meant control over the rich resources of the upper Ganga valley, trade and agriculture. All the three kingdoms finally weakened while fighting for Kanauj.

**Q3:** What was the main achievement of the Pratihara king Mihir Bhoja?
**Ans.** The Pratihara dynasty reached its peak under the rule of Mihir Bhoja. He expended his kingdom to the east and made conquests in Punjab, Awadh, Malwa, Gujarat. He established his capital at Kanauj.

**Q4:** Why did Mahmud of Ghazni attack India?
**Ans.** Mahmud of Ghazni attacked India because he wanted to capture the wealth of the country.

**Q5:** Who assumed the title of ‘Gangaikonda’? What does it mean?
**Ans.** Rajendra Chola assumed the title of Gangaikonda. It means the conqueror of the Ganga.

**Q6:** Who was Muhammad Ghori? What is his significance in the history of India?
**Ans.** Muhammad Ghori was a great warrior who came from Ghazni after the death of his brother Ghiyasuddin in 1202 CE. He had a great significance in the history of India. He fought two battles of Tarian. After the death of Prithviraj Chauhan he became the master of Delhi region and eastern Rajasthan and laid the foundation of Turkish rule in India.

**Q7:** What happened at the First and Second Battles of Tarian?
**Ans.** In the first battle of Tarian Muhammad Ghori was defeated by Prithviraj. In the Second Battle of Tarian Muhammad Ghori reassembled his troops and launched an attack against Prithviraj. He suffered a crushing defeat and was taken as a prisoner and killed. Muhammad Ghori took all the wealth in the form of gold and silver.
Q8: Discuss the main achievements of Rajaraja I and Rajendra Chola?
Ans. Rajaraja I was a powerful ruler. He defeated the Cheras at Thiruvananthapuram, the Pandyas at Madurai and the Chalukyas in the Deccan and expended his kingdoms. With the help of a strong navy he captured most of Srilanka and several small islands in the Bay of Bengal.
   Rajendra Chola crossed the river Ganga and defeated Mahipala the ruler of Bengal. He assumed the title of ‘Gangaikonda’ means Conqueror of the Ganga. He laid the foundation of a new city called Gangaikondacholapuram to commemorate his victory in North India.

Q9: Why did the life of the people revolve around temples during Chola rule?
Ans. The life of the people revolved around temples during Chola rule because of the following reason:-
   (i) Its construction and maintenance offered jobs to a number of people.
   (ii) Religious, social and cultural functions were held in the temple provinces.
   (iii) Schools, colleges and hospitals also grew around these temples.

Q10: What measures were taken to develop agriculture during the Chola period?
Ans. Following measures were taken to develop agriculture during the Chola period:-
   (i) Advanced irrigation technology was used to make irrigation canals.
   (ii) Wells were dug.
   (iii) Tanks were built to collect rain.
   (iv) A great dam was built.

INSTITUTIONAL REPRESENTATION OF DEMOCRACY

Q1: What do you understand by the term universal adult franchise?
Ans. In India all citizens above the age of 18 irrespective of their caste, creed, religion or gender are given the right to vote. This is called the universal adult franchise.

Q2: What is the composition of Election Commission?
Ans. The Election Commission is a three-member body headed by the Chief Election Commissioner. He is assisted by two Election Commissioners.

Q3: What is a constituency?
Ans. A body of voters who elect a representative is called constituency.

Q4: Name the two houses of the Parliament?
Ans. The two houses of the Parliament are Lok Sabha and Rajya Sabha.

Q5: What do you understand by the term manifesto?
Ans. A written statement of a political party’s programs and policies is called a manifesto.

Q6: What are the functions of the Election Commission of India?
Ans. The Election Commission announces the dates of the Elections. It also announces the results of the Elections. The Election Commission also prepares the voters list before the elections take place.

Q7: Briefly explain the electoral process followed in our country?
Ans. The electoral process begins as soon as the Election Commission announces the dates for the elections. All political parties are required to be registered with the Election Commission. Political parties select candidates who would contest elections on behalf of the party from each constituency. The candidates then file their nomination papers for scrutiny. Their nomination papers are either accepted or rejected.

Q8: What are political parties? What is the difference between a national party and a regional party?
Ans. A political party is an organization that has a common ideology and aims to form the government. Political parties that have a significance presence throughout the country are called national parties. While as political parties whose influence is limited to a certain region or state are called regional parties.

Q9: What do you understand by the term opposition party? What is its function in a democracy?
Ans. The party which fails to get the majority in election sits in opposition. It keeps a check on the working of the government by questioning the policies and working of various departments.

Q10: What is a coalition government? Give suitable examples.
Ans. When no political party secures a absolute majority, a group of political parties come together and form a coalition government e.g. In the general election of 2009, a coalition of parties called the United Progressive Alliance came together to form the government.
THE STORY OF DEMOCRACY

Q6: What do you understand by the term democracy?
Ans. Democracy means the rule of the people. Ibrahim Lincoln describes democracy as ‘government by the people, for the people and of the people’. Democracy offers people the choice of how they want to be governed and by whom they want to be governed.

Q7: In what way is democracy today different from that followed in the Greek city states?
Ans. The democracy followed in Greece city-states is quite different from today. In these city-states all the citizens accept slaves, women and foreigners directly participated in the governance. They took part in the political decisions and could speak and vote in the assembly, which frames laws for the city-states.

Q8: What is the significance of Magna Carta?
Ans. The Magna Carta has a great significance. It was passed in 1215 CE in England. It paved the way for the creation of a law-making body called the Parliament. The powers of the monarch were curtailed by the Petition of Rights (1628) and the Bill of Rights (1689). The former ensured that the king could not impose taxes without the permission of the Parliament. The later expanded the scope of the freedom of speech and expression.

Q9: How did the French Revolution play an important role in the evolution of democracy?
Ans. The French revolution of 1789 marked a turning point in the journey of democracy. The people of France were divided into three estates clergy, nobles and common people. The clergy and the nobles enjoyed all the privileges but the common people were deprived from their rights. The revolution with its slogan of liberty, equality and fraternity was directed against the clergy and the nobles. In August 1789, the Declaration of the Rights of Man and Citizens were adopted, which declares all men are born free and have equal rights.

Q10: What were the main developments in the journey of democracy in the 19th and 20th centuries?
Ans. A series of revolutions swept Europe in the 19th century as people demanded greater rights and participation in the government. By the end of the 19th century, almost all governments had adopted various forms of constitutions that limited the power of monarchs. As the voice for the democracy grew louder, more developments took place worldwide in the 20th century. The colonized countries began nationalist struggles to throw off the chains of colonialism. Constitutions were adopted in these countries that prescribed the powers of the government and enshrined the rights of the people.

GEOGRAPHY 7th

Q1) What do you know about plate tectonics?
Ans) It is a theory of global dynamics in which lithosphere is believed to be broken into a series of separate plates that moves in response to convection in the upper mantle.

Q2) What causes the formation of block mountains?
Ans) The rocks can bend up to a certain limit before they crack or fracture along the lines of weakness called faults. Sometimes the land between the cracks is uplifted by internal forces. So, a mountain is formed called block mountain.

Q3) What do you understand by the focus of an earthquake?
Ans) The point where from the shock waves reach the surface of the earth is termed as focus of an earthquake or epicenter.

Q4) What is a fold mountain?
Ans) When a part of crust pushes other part of it then the upliftment of sedimentary rocks gives rise to a fold mountain. They are the youngest mountains of the world.

Q5) Explain the formation of a block mountain?
Ans) When an old rock breaks it is called faulting. Sometimes due to this fault the land between the cracks is uplifted by internal forces, forming a block mountain which is also called horst.
Q6) How is a rift valley formed?
Ans) Due to faulting, a part of the crust between the cracks may sink down and a valley will be formed. Such a sunken valley is called a rift valley or graben.

Q7) Describe a volcano with a suitable diagram.
Ans) A volcano is an opening in the earth’s crust through which molten material is thrown out. The internal pressure pushes the magma to the surface through vent.

Q8) What is an earthquake? What causes it?
Ans) A sudden and violet trembling of the crust is called an earthquake. Earthquakes are caused due to colliding or rubbing of plates against each other or due to volcanic eruptions.
س٣: نسب کی ایکی پھلوں کے ساتھ کیا سلوک کر چکے ہیں؟
ج: نسب کی ایکی پھلوں کو معاف کر کے قبضہ اور پانی سمجھ کر طرح پچھ کو بھگوارا سمجھ کر پہنچتا ہے۔
س٣: الگول اعداد :
اسجدہ نفس کر کے 1 آسان زنگ ۔
س٢: جوتے بیج ۔
س١: اور دوسرے کور
س: غرب 8 عورت مرد

اسلامیات
س١: اسلام کے سارے منہ کی تعلیم دینیہو؟
ج: اسلام کے سارے منہ تعلیم دینیہو کہ جہاں اپنے کو مسلمان باہمی اور تعلیم کرے۔
س٢: اسلام کے ایکم کر کا رن جا کر کہاں؟
ج: اسلام کے ایکم کر کا رن جا کر کہاں کرے۔
س٣: اسلام کے سلسلہ میں سلام کے سلسلہ میں کوئی دلیل دینا ہے؟
ج: اسلام کے سلسلہ میں سلام کے سلسلہ میں کوئی دلیل دینا ہے۔
س٤: سلام کے سوپسی رن جا کر کہاں؟
ج: سلام کے سوپسی رن جا کر کہاں۔
س٤: لفظ سلام کے معنی کا کس طرح دینا ہے؟
ج: لفظ سلام کے معنی کا کس طرح دینا ہے۔
س٥: مصافحہ کو کس طرح کیاں کرسکتا ہیں؟
ج: مصافحہ کو کس طرح کیاں کرسکتا ہیں۔
اسلام کرنے میں اسلام کا کیا طریقہ تھا؟
ج: اسلام کرنے میں ا حضرت کا طریقہ یہ تھا کہ ا حضرت دے رہے کو سلام کرنے میں پہلے کرتے تھے اور جب مسجد میں داخل ہوئے تو کو سلام کرتے تھے۔

اسلامیات

س: اسلام کا مطلب کچھ ہے؟
ج: اسلام کا مطلب ہے کہ تمام انسانوں کو سلامتی کیا جا سکے۔
س: ا للہ کے خاص بندے کون ہیں؟
ج: جو مسلمان اور غریب کی خبر گیری کرتے ہیں اور تفریح کے لئے ا للہ کے خاص بندے ہیں۔
س: حضرت عبدا اللہ بن عمر کی روا بات ہے؟
ج: حضرت عبدا اللہ بن عمر کی روا بات یہ ہے کہ ا للہ نے فرمایا: "تم لوگوں پر حمایت کرو، تتم لوگوں کو معاف کرو، ا للہ تمہارے غلطیوں کو معاف کرے گا۔"
س: نوکرو ن سے متعلق مسلمان کیا روا بات ہوی چاہیے؟
ج: مسلمان نوکرو ن کے ساتھ تمام غلطیوں کو معاف کرو۔
س: حضرت انس کے حضرت مسجد کے خاموش کے ساتھ کیا کہا؟
ج: حضرت انس نے بیان کیا کہ کہ کسی بھی حال حور سے کوئی بھی نہیں کہتا کہ جب اس کو مسجد کو نشان داتا کر دیا جائے تو کسی کو نہیں کہتا کہ جب اس کو مسجد کو نشان داتا نہیں کیا جا کر جب کوئی بھی نہیں کہتا کہ وہ مسجد کو نشان داتا ہے۔