SCIENCE CLASS FOUR TO EIGHT

*****..... Class FOUR .....*****

Chapter 1. Our Body

1. Which is central control system of the body? _____ **Brain**
2. A headache is not a pain of? _____ **Brain**
3. Most headaches happen in the? _____ **Nerves**
4. Which part of body stores the food? _____ **Stomach**
5. Stomach passes liquid mixture to which part of body? _____ **Small Intestine**
6. Which part absorbs all nutrients of the food? _____ **Small Intestine**
7. How many primary teeth are there? **20**
8. How many permanent teeth do adults have? _____ **32**
9. Which part of body helps elephants to control their temperature? _____ **Ears**
10. Which elephants have larger ears than Asian elephants? _____ **African**
11. The part of ear which is visible called? _____ **External Ear**
12. Which are the breathing centers of body? _____ **Lungs**
13. Where lungs of humans are located? _____ **Chest Cavity**
14. Lungs are protected by? _____ **Ribcage**
15. Where does the inhaled air enter? _____ **Lungs**
16. Wind pipe where clean air enters is known as? _____ **Trachea**
17. In how many small tubes Trachea is divided? _____ **Two (Bronchial Tube)**
18. Each Bronchial tube is joined with? _____ **Lungs**
19. Asthma is main disorder of? _____ **Lungs**
20. Which is the pumping station of the body? _____ **Heart**
21. The average human heart beats about how many times in a minute? _____ **72**
22. How many bones are there in human body? _____ **206**
23. Places where two bones meet are called? _____ **Joints**
24. Outer layer of the body is called? _____ **Skin**
25. Largest outer part of body is? _____ **Skin**
26. What is thickness of human skin? _____ **2 millimeters**
27. The part of body that gives you shape is? _____ **Skelton**

Chapter 2. Characteristics and Needs of Living Things

28. The characteristics that an organism inherits from its parents are called? _____ **Traits**
29. Life cycle of butterfly is? _____ **Eggs-larva-pupa-adult**
30. Larva of butterfly is also called? _____ **Caterpillar**

31. Pupa of butterfly is also called? _____ **Chrysalis**
32. Life cycle of frog is? _____ **Spawn-Tadpole-frog**
33. Frog eggs are also called? _____ **Spawn**
34. Spawn of frog develops into? _____ **Tadpole**
35. Tadpole develops into? _____ **Frog**

Chapter. 3 Food and Health

1. Which are the major sources of quick energy for body? _____ **Carbohydrates**
2. Which are main source of body growth? _____ **Minerals**
3. Which main sources protect body from diseases? _____ **Vitamins**
4. Vitamins are mainly found in? _____ **Fruits and vegetables**
5. Minerals are mainly found in? _____ **Sea food**
6. What do Milk, meat, eggs and pulses provide? _____ Protein
7. Fats are found in? _____ **Oil, Butter and margarine**
8. Vitamin A prevents disease called? _____ Night **Blindness**
9. Vitamin B complex prevents disease called? _____ **Beriberi**
10. Which vitamin strengths immune system? _____ **Vitamin C**
11. Vitamin C prevents a disease called? _____ **Scurvy**
12. Which Vitamin strengths bones and teeth? _____ **Vitamin D**
13. Vitamin D prevents disease called? _____ **Rickets**
14. Which are the building blocks of body? _____ **Proteins**
15. Flash of body is made up of? _____ **Protein**
16. What makes the red blood cells? _____ **Iron**
17. Which disease is caused by deficiency of iron? _____ **Anemia**
18. Deficiency of calcium causes? _____ **Rickets**
19. Deficiency of copper causes? _____ **Kidney problems**
20. Deficiency of magnesium causes? _____ **Osteoporosis**
21. Deficiency of protein causes? _____ **Marasmus**
22. Weight loss of children is due to? _____ **Marasmus**
23. Marasmus develops due to lack of? _____ **Nutrients**
24. Kwashiorkor disease is caused by deficiency of? _____ **Iron**
25. Keeping oneself clean is called? _____ **Hygiene**

Chapter 4. Living Things and Their Environment

1) The natural world that surrounds a living and non-living things is called? _ **Environment**
2) What do Herbivores eat? _____ **Plants**
3) What do Carnivores eat? _____ **Animals**
4) What do Omnivores eat? _____ **Plants and Animals**
5) Human beings are? _____ **Omnivores**

6) Organisms that eat the producers are called? _____ **Primary Consumers**
7) Which are the only primary consumers? _____ **Herbivores**
8) Organisms that eat primary consumers are called? _____ **Secondary Consumers**
9) Which are the only secondary consumers? _____ **Carnivores**
10) Which are the consumers that eat both herbivores and carnivores? _____ **Omnivores**
11) Animals that eat primary secondary consumers are called? _____ **Tertiary Consumer**
12) Organisms that eat all the dead and waste products of producers and consumers are called? _____ **Decomposers**
13) Which is the correct order of levels in a food chain? __ **Producer-consumer-decomposer**
14) Which best describes the frog? _____ **Consumer**
15) Which animal is considered as decomposer? _____ **Mold**
16) What is key role of decomposers? _____ **breaking down dead animals**

Chapter 5. Matter and its State

1) Anything that occupies space and has mass is called? _____ **Matter**
2) How many states of matters are there? _____ **Three (Solid, liquid and gas)**
3) The amount of space a material object occupies is called it? _____ **Volume**
4) State of matter that has fixed shape and fixed volume is called? _____ **Solid**
5) Volumes of solids do not change with? _____ **Pressure**
6) State of matter that hast fixed volume but not fixed shape is called? _____ **Liquid**
7) State of matter that has no fixed shape and fixed volume is called? _____ **Gas**
8) Solids, liquids and gases mix together to form? _____ **Mixture**
9) Solution is a kind of? _____ **Mixture**
10) The process of separation of solute and solvent from the mixture is called? _ **Filtration**
11) Solid can be converted into liquid by? _____ **Heating**
12) Liquid can be converted into gas by? _____ **Heating**
13) Gas can be converted into liquid by? _____ **Cooling**
14) Liquid can be converted into solid by? _____ **Cooling**
15) Water is a? _____ **Compound**

Chapter 6. Heat and its Measurement

1) Heat is a form of? _____ **Energy**
2) In what heat energy is measured? **Joules**
3) What is unit of energy? _____ **Joule**
4) How many scales are there to measure temperature? _____ **Two**
5) Degrees of hotness are measured by? **Thermometer**

6) The lowest temperature in laboratory thermometer is? _ **10 Centigrade**
7) The highest temperature in laboratory thermometer is? **110 Centigrade**
8) Which liquid is used in the clinical thermometer? _____ **Mercury**
9) The freezing point of water at Fahrenheit scale is? _____ **32 F**
10) The freezing point of water at Fahrenheit scale is? _____ **212 F**
11) How many divisions does Fahrenheit have? _____ **180**
12) Fahrenheit scale on thermometer is marked from 95 F to? **108 F**

Chapter 7. Force and Machine

- A pull or push is called? _____ **Force**
- Speed of any object can be changed by? _____ **Force**
- Speed can be measured in? _____ **Kilometers per hour**

Chapter 8. Sound

- Sound is produced by? _____ **vibrating objects**
- Sound cannot travel through a? _____ **Vacuum**
- Which animals do not have ears? _____ **Snakes**
- Snakes feel vibrations by their? _____ **Tongue**
- Sound is described in terms of? _____ **Intensity in decibels**
- Sounds travel faster through? _____ **Solids**
- Unit of Decibel is denoted by? _____ **dB**
- According to World Health Organization, dB must be of? _____ **75 dB**
- More than 115 dB is considered as? _____ **Noise**

Chapter 9. Electricity and Magnetism

- The flow of electricity is called? _____ **Current**
- Materials through which electricity can pass are called? _____ **Conductors**
- Materials through which electricity cannot pass are called? _____ **Insulators**
- The path through which current pass is called? _____ **Circuit**
- Matter is made up of? _____ **Atoms**

- Which are fundamental particles of atom? _____ **Electron, Proton and Neutron**
- Which particles of atom are negatively charged? _____ **Electrons**
- Which particles of atom are positively charged? _____ **Protons**
- Which particles of atom are not charged and called neutral? _____ **Neutrons**
- How many kinds of circuit are there? _____ **Two (open and close)**
- How many poles does magnet have? _____ **Two (south and north)**
- How many types of magnets are there? _____ **two (natural and artificial)**
- The magnets which are made with help of electricity are called? __ **Electromagnets**
- Natural magnets are also called? _____ **Permanent magnets**
- Artificial magnets are also called? _____ **Temporary magnets**
- The end of magnetic is called? _____ **Magnetic pole**
- The property of magnet to attract things is called? _____ **Magnetism**

Chapter 10. Movements of the Earth

- Earth rotates from the west to? _____ **East**
- The rotation of earth on its axis is called? _____ **Axial rotation**
- Rotation of earth causes? _____ **Day and night**
- Earth is traveling around the sun called? _____ **Revolution**
- Revolution of earth causes? _____ **summer and winter**
- The earth is tilted at an angle of? _____ **23.5 degree**

***** ..... Class FIVE ..... *****

Chapter 1. Classification of Living Things

- Kingdom Animalia deals with? _____ **Animals**
- Kingdom Plantae deals with? _____ **Plants**
- Kingdom Monera deals with? _____ **Bacteria**
- Kingdom Protista deals with? _____ **Eukaryotic organism (single cells)**
- Kingdom Fungi deal with? _____ **Prokaryotic organisms (mushroom)**
- Who proposed the five-kingdom classification in 1969? _____ **Robert H. Whittaker**
- What is eukaryotic cell? _____ **Single cell**
- What is prokaryotic cell? _____ **Multicellular**
- Study of Algae is called? _____ **Phycology**
- Study of Fungi is called? _____ Mycology
- Plants, animals and fungi are? _____ **Multicellular organisms**
- Bacteria and fungi are? _____ **Unicellular organisms**

- Plants make their own food by? _____ **Photosynthesis**
- A process that does not take place in fungi is? _____ **Photosynthesis**
- Algae make their own food by? _____ **Photosynthesis**
- Cutleria, Ulva and Volvox are diseases caused by? _____ **Algae**
- The word Animal comes from a Latin word meaning? _____ **Soul or Breathe**
- Animals are further divided into two groups called? _ **Vertebrates and invertebrates**
- Animals with backbone are called? _____ **Vertebrates**
- Fish, amphibians, reptiles, birds and mammals are example of? _**Vertebrate animals**
- Animals without backbone are called? _____ **Invertebrates**
- Worms, spiders and insects are example of? _____ **Invertebrate animals**
- Vertebrates animals that take on the temperature of their surrounding are called? _____ **Cold-blooded**
- Vertebrates animals that maintain a constant body temperature are called? _____ **Warm-blooded**
- Birds and animals are? _____ **Warm-blooded**
- Fishes, amphibians and reptiles are? _____ **Cold-blooded**
- How many kinds of fishes are there? _____ **30,000**
- The body of fish is covered with? _____ **Scales**
- A fish swims in the water by it's? _____ **Fins**
- Fishes take breath through their part called? _____ **Gills**
- Animals that live in land as well as water are? _____ **Amphibians**
- Amphibians lay their eggs in? _____ **Water**
- Frogs, toads, newts and salamanders are example of? _____ **Amphibians**
- Animals that spend most of their life on land but do often live in water are? **Reptiles**
- Reptiles lay their eggs on? _____ **Land**
- Lizards, snakes, crocodiles, turtles, and tortoise are example of? _____ **Reptiles**
- How many kinds of birds are there? **9,000**
- Which is biggest bird in the word? **Ostrich**
- Animals that give birth to their babies and feed them with milk are? **Mammals**
- Which is the only mammal that can fly in air? **Bat**
- How many kinds of insects are there? **80,000**
- Which insects are environment friendly? **Earthworms**
- Heaviest insect found in Africa is? _____ **Goliath Beetle**
- How many pairs of jointed legs do insects have? _____ **Three**
- How many species of plants have been discovered? _____ **380,000**
- A process in which plants make their own food is called? _____ **Photosynthesis**
- Plants are divided into two main groups called? **Flowering plants and Non-flowering plants**
- Plants that do not produce flowers are called? **Non-flowering plants**

- Seed germination in which the cotyledons emerge above the ground is called? **Epigeal germination**
- In which type of seed the process Epigeal germination takes place? **Dicot seed**
- Seed germination in which the cotyledons remain inside the soil is called? **Hypogeal germination**
- In which type of seed the process hypogeal germination takes place? **Monocot seed**
- A part of seed that contains stored food is called? **Endosperm**
- Most seeds germinate between the temperatures? **16 to 24 Centigrade**
- Which three conditions are necessary for seed germination? **Water, oxygen and proper temperature**

Chapter 4. Environmental Pollution

- Which is main causes of ozone depletion? **Air pollution**
- Air pollution is caused by? **Solid, liquid and gases pollutants**
- Water borne diseases are caused by? **Water pollution**
- Cholera, diarrhea and typhoid diseases are caused by? **Microbial pollutants**
- Asthma is due to the exposure to a type of environment pollution called? **Air Pollution**

Chapter 5. Matter and Changes in its State

- What is melting point of ice? 0 Centigrade
- A process in which liquid changes into gas without boiling is called? **Evaporation**
- A process in which water vapor changes into liquid on cooling is called? **Condensation**
- In water cycle, water is available in how many states of matter? **Three (all)**
- Drops of water that form on cool surfaces at night due to condensation is called? **Dew**
- A thick cloud of water droplets on the earth's surface is called? **Fog**
- Tiny droplets of water are called? **Moisture**

Chapter 6. Force and Machine

- A force that stops things from moving easily is called? **Friction**
- Fraction is a force which always opposes? **Motion**
- Friction forces are larger on? **Rough surfaces**
- Fraction forces are smaller on? **Smooth surfaces**
- Fraction forces between the air and moving object cause? **Resistance**
- Force that opposes any object moving through the air is called? **Air resistance**
- A force of attraction between two objects is called? **Gravity**

- Ferns and mosses are example of? **Non-flowering plants**
- instead of seeds what non-flowering produce? **Spores**
- Flowering plants are further divided into two main types called? **Monocot plants and dicot plants**
- Seeds of monocot plants contain of how many cotyledons (seed leaf)? **One cotyledon**
- Seeds of dicot plants contain of how many cotyledons (seed leaf)? **Two cotyledons**
- Which plants have parallel leaf venation? **Monocot plants**
- Which plants have netted venation of leaves? **Dicot plants**
- Flowers of which plants have three or multiple of three floral leaves? **Monocot plants**
- Flowers of which plants have four or multiple of four floral leaves? **Dicot plants**
- Spider is an insect **(False)**
- Mushrooms belong to plant kingdom **(False)**
- Leech is an example of invertebrate **(True)**
- All insects have two pairs of wings **(False)**

Chapter 2. Microorganisms

- Microorganisms are grouped as? **Virus, bacteria and fungi**
- How many cells do bacteria have? **One**
- Escherichia is an example of? **Bacteria**
- Common cold is caused by? **Flu virus**
- Influenza is an example of? **Virus**
- Which are largest microbes among bacteria, virus and fungi? **Fungi**
- Yeast is an example of? **Fungi**
- Which are the non-cellular organisms? **Virus**
- Penicilium is fungus that produces antibiotic called? **Penicillin**
- Any disease caused by presence of microbial organisms in the body is called an? **Infection**

Chapter 3. Seeds, their Structure and Germination

- What types of seeds are there? **Monocot and Dicot**
- Seed coat is known as? **Testa**
- The opening of the seed is called? **Micropyle**
- Mini plant inside the seed is called? **Embryo**
- Which part of seed develops into new plant? **Embryo**
- What emerges first in new plant? **Roots**
- Structure that emerges from the soil of new plant is called? **Hypocotyl**

- Quantity of matter in an object is? **Mass**
- Mass is measured in? **Kilogram**
- Weight is the pull of? **Gravity**
- Weight is measured in? **Newton's**
- A lever is a long bar which moves around a fixed point called? **Fulcrum**
- Lever is a kind of? **Simple machine**
- How many kinds of lever are there? **Three (first, second and third kind of lever)**
- In first kind of lever, fulcrum is between? **Effort and load**
- In second kind of lever, load is between? **Effort and fulcrum**
- In third kind of lever, effort is between? **Load and fulcrum**
- A type of simple machine with two slanting sides ending in a sharp edge is called? **Wedge**

Chapter 7. Properties and Behavior of Light

- Light is a form of? **Energy**
- Light travels in a? **Straight line**
- A object which produces and emits its own light is called? **Luminous**
- A object that does not produce light but it reflects light that comes from luminous object is called? **Non-luminous**
- How many seconds does sun take to convert over 657 million tons of hydrogen into 653 million tons of helium? **One second**
- The missing 4 billion tons of mass are discharged into? **Space**
- How much heat and light does earth receive from four billion tons of mass? **Two billionths**
- When lights rays bounce back, it is called? **Reflection**
- Objects that allow light to travel through them are called? **Transparent objects**
- Objects that allow some light to travel through them are called? **Translucent objects**
- Objects that do not allow light to travel through them are called? **Opaque objects**
- Speed of light in a vacuum is? **300 million meters per second**
- When light is blocked by opaque objects, what is formed on opposite side of object? **Shadow**
- Solar eclipse occurs when moon is between? **Earth and sun**
- Lunar eclipse occurs when earth is between? **Moon and sun**
- How many phases of moon are there? **Eight**
- The phase of New Moon is called? **Waxing Crescent Moon**
- Last phase of moon when it disappears is called? **Waning Crescent Moon**

Chapter 8. Electricity and magnetism

- Flow of negative electric charges through an electronic path is called? **Electric current**
- What things are used to draw a circuit diagram? **Symbols**
- A safety device used in circuit to protect the appliances and its wiring from damage is called? **Fuse**
- What is the inside the fuse? **Wire**
- Wire of fuses stops the flow of? **Current**
- A fuse can also be called as a? **Circuit breaker**
- Electrons of atom revolve outside the? **Nucleus**
- Protons and neutrons are present inside the? **Nucleus**
- Protons and neutrons are made up of? **Quarks**
- Electron was discovered by? **J. J Thomas in 1897**
- Proton was discovered by? **Ernest Rutherford in 1920**
- Neutron was discovered by? **James Chadwick in 1932**
- What happens when oppositely charged clouds interact with each other? **Lightening**
- Who were the discovers of magnetite? **Chinese**
- Who is father of magnet? **William Gilbert**
- Electromagnetic has a? Temporary magnetic field Bar magnet has a? **Permanent magnetic field**
- Electromagnetic always needs? **Electricity**
- What happens when two opposite poles of magnets are brought close to each other? **They attract**
- What happens when balloons are rubbed with the wool cloth? **They will repel each other**
- The buildup of electric charges is called? **Static electricity**

Chapter 9. Soils

- The surface layer of land is called? **Soil**
- The organic matter in soil is called? **Humus**
- Sandy, silty, clay and loam are the types of? **Soil**
- A soil which is mixture of sand, silt and clay is referred as? **Loam**
- A process which soil is displaced from the earth surface by agents is called? **Erosion**
- A process in which a dead organism is broken down into simple nutrients is called? **Decomposition**

Chapter 10. Our Solar System

- Which is national space of Pakistan? **SUPARCO**
- SUPARCO stands for? **Pakistan Space and Upper Atmosphere Research Commission**
- Sun weighs as much as? **330,000 earths**
- How many earths can fit inside the sun? **1,300,000**
- How many earths can be equal to sun in terms of size? **109 earths**
- What is distance between sun and earth? **150 million km**
- What is age of sun? **4.5 billion years**
- Closest planet to sun is? **Mercury**
- Smallest planet in solar system is? **Mercury**
- Mercury is mostly made up of? **Iron**
- Brightest and hottest planet in solar system is? **Venus**
- Which is sister planet of earth? **Venus**
- Which is the biggest of all the terrestrial planet? **Earth**
- Which planet is called red planet? **Mars**
- How many moons does mars has? **Two**
- Name of moons of mars are? **Deimos and Phobos**
- Largest planet in solar system is? **Jupiter**
- Name the biggest moon of Jupiter? **Ganymede**
- Ganymede was discovered by? **Galileo**
- Which is least dense planet of solar system? **Saturn**
- Most well-known moon of Saturn is? **Titan**
- Which is second largest moon in solar system? **Titan**
- Which is known as green planet? **Uranus**
- How many moons does Uranus have? **27**
- The largest moon of Uranus is? **Titania**
- Which is farthest planet from sun? **Neptune**
- How many rings of Neptune are there? **Six**
- How many moons does Neptune have? **13**
- Meteoroids are known as? **Shooting stars**
- Asteroids are found between? **Mars and Jupiter**
- Asteroids are sometimes called? **Planetoids**
- Vesta is an example of? **Asteroid**
- Comets are bodies made up of? **Ice, dust and rock**
- Comets are also known as? **Dirty snowballs**
- Center of comet is known as? **Nucleus**
- Which bodies produce a long tail due to the heat from the sun? **Comets**

- The longest volcano of solar system "Olympus Mons" lies in? **Mars**
- How many minutes does light of sun take to reach the earth? **8 minutes**

***** .....Class SIX..... *****

Chapter 1. Cellular Organization of Plants and Animals

- Which part of microscope contains the lens? **Eyepiece**
- Which part of microscope magnifies the image of the object for the observer? **Eyepiece**
- Eyepiece is also called as? **Ocular lens**
- A tube that extends from eyepiece to the objective lens is called? **Body tube**
- Which part of microscope revolves the circular structure containing the objective lens? **Nosepiece**
- Which part of microscope receives light from object to form a magnified image? **Objective Lens**
- Which object holds the microscope? **Arm**
- Which part supports the microscope slide? **Stage**
- Which part of microscope provides light? **Light source**
- Which part controls the amount of light entering the objective lens? **Diaphragm**
- Which part supports microscope in a stable position? **Base**
- Who discovered the cell in 1665? **Robert Hooke**
- Which is basic unit and building block of life? **Cell**

Animal Cell

- A thin partially preamble layer around the animal cell which controls the substances that enter and exit is called? **Cell Membrane**
- A jelly like substance which contains all the cell organelles is called? **Cytoplasm**
- Many chemical reactions occur in which area of? **Cytoplasm**
- Which part of cell controls all the chemical reactions of the cell? **Nucleus**
- Which part of cell contains DNA and other genetic materials? **Nucleus**
- Nucleolus, nucleosomes and chromatins are present in? **Nucleus**
- Nucleus of animal cell is surrounded by? **Nuclear Membrane**
- Nuclear Membrane is also referred to as? **Nuclear envelope**
- Thread-like materials that are passed down from parents to their offspring are called? **Chromosomes**
- Chemical instructions are stored by? **Chromosomes**

- A flat sac-like organelle located near nucleus and involved in manufacturing, storing, packing and transporting the particles throughout the cell is called? **Golgi apparatus**
- Power house of cell is called? **Mitochondria**
- An organ of cell that stores water, food and wastes is called? **Vacuole**

Plant Cell

- Plant cells also consist of? **Cell Membrane**
- Cell wall is absent in animal cell but present in? **Plant cell**
- Cell wall of plant cell is found outer the? **Cell Membrane**
- Cell wall of plant cell is made up of? **Cellulose**
- Which organelle of plant cell forms the biggest part of the cell? **Large Vacuole**
- Tiny discs present in plant cell are called? **Chloroplast**
- Chloroplasts contain? **Chlorophyll**
- Plant cells have three extra following components? **A vacuole, Chloroplast and Cell wall**
- Which cells have a definite shape because of their rigid cell wall? **Plant Cells**
- Which cells have only one large vacuole? **Plant Cell**
- Microorganisms usually contain of how many cells? **Single Cell**
- Paramecium and Amoeba are? **Unicellular Animals**
- Chlamydomonas and Euglena are? **Unicellular Plants**
- A group of cell doing the same function forms a? **Tissue**
- Which tissues bring movement in an animal's body? **Muscle Tissue**
- Which tissues protect all of body surfaces? **Epithelial Tissues**
- Epithelial and Muscle tissues are tissues of? **Animals**
- Which tissues protect a plant from injury and prevent it from dying? **Epidermal Tissues**
- Which tissues make food for the plant through photosynthesis? **Photosynthetic Tissues**
- Different tissues that perform the same function form an? **Organ**
- Which organ of human body stores the digested food? **Liver**
- Which organs of human body purify the blood? **Lungs**
- Food factory of plants are referred to as? **Leaves**
- Which part transports food from the leaves to all other parts of the plant? **Stem**
- Which parts absorb the water with dissolved minerals from the soil? **Roots**
- Which parts help in reproduction of the plant? **Flowers**
- Several organs carrying out the same function form a? **System**
- The whole plant is divided into two main systems namely? **Root system and shoot system**
- Which system involves those parts that grow below the soil? **Root system**
- Which system involves those parts that grow above the soil? **Shoot system**
- Different systems in a body make up an? **Organism**

Chapter 2. Sense Organs

- How many sense organs do human beings have? **Five**
- The different parts of the eye work to form an? **Image**
- The clear outer layer at the front of the eye is called? **Cornea**
- The white part of the eye is called? **Sclera**
- The colored part of the eye is called? **Iris**
- Iris has central opening which allows the light to enter the eye is called? **Pupil**
- The black dot at the center of the eye is called? **Pupil**
- What does lie behind the iris? **Lens**
- Single point where all light rays entering the eye meet is called? **Lens**
- Which is known as the screen of the eye? **Retina**
- All light rays at lens move to? **Retina**
- How many types of light does retina have? **Two (Rods and Cones)**
- Nerve that transfers the visual information from the retina to the brain is called? **Optic Nerve**
- Optic nerve is made up of thousands of? **Sensory Neurons**
- When person's vision is impaired, which part of eye does not work properly? **Lens**
- How many parts of ear are there? **Three (outer, middle and inner)**
- Which part of ear collects sound? **Outer ear**
- Outer ear is also referred to as? **Pinna**
- Ear canal is present in? **Outer ear**
- Which part of outer ear transfers sound to middle ear? **Auditory canal**
- Ear drum is present in? **Middle ear**
- Which part of middle ear converts sound waves into mechanical vibrations? **Ear drum**
- How many bones of middle ear? **Three (Malleus, incus and stapes)**
- Three bones of middle ear together called? **Ossicles**
- The main function of Ossicles is to increase the? **Sound Pressure**
- Inner ear is mostly made up of? **Liquid**
- Cochlea is present in? **Inner ear**
- Which nerves carry sound information from Cochlea of the inner ear to the brain? **Cochlea (Auditory) nerves**
- The inside of the nose is a cavity called? **Nasal cavity**
- Special receptors that are sensitive to odour molecules are located at? **Roof of the Nasal Cavity**
- Which is part of brain that receives signals from odour receptors? **Olfactory bulb**
- How many tests tongue receptors can smell? **Four**
- The tongue is a? **Muscular organ**
- The rough structure of the tongue is due to structures called? **Papillae**
- Taste buds containing taste receptors are present between the? **Papillae**

- Which nerves carry an electrical signal from taste receptors to the brain? **Sensory nerves**
- Outer layer of skin is called? **Epidermis**
- Second layer of skin is called? **Dermis**
- Which is third layer of skin? **Hypodermis**
- Which layer can sense pain, heat and cold? **Hypoderms**
- Which layer is sensitive to light and touch? **Hypodermis**
- Sense receptors are present in? **Hypodermis**
- Skin receptors are connected to the brain via? **Sensory neurons**

Chapter 3. Photosynthesis and Respiration in Plants

- Stalk between leaf and branch is called? **Leaf stalk**
- What divides the leaf into two parts? **Mid rib**
- Flat part of leaf is called? **Lamina**
- Upper layer of leaf is? **Waxy (waterproof)**
- Upper skin of leaf contains? **Chloroplast**
- What is present in chloroplast? **Chlorophyll**
- Leaves of plants are also called? **Food factories**
- Lower skin of leaf has more pores called? **Stomata**
- Exchange of gases takes place in? **Stomata**
- Leaf veins are full of tubes which transport water and food from and to the? **Leaf**
- What is meaning of "synthesis"? **Putting together**
- Which part of cell allows carbon dioxide and water to react? **Chlorophyll**
- Reaction in Chlorophyll takes place between? **Carbon dioxide and water**
- The products of the reaction between carbon dioxide and water are? **Glucose and oxygen**
- Which is useful product for plants? **Glucose**
- Which gas is transported out of the leaf into the air? **Oxygen**
- Photosynthesis is a? **Chemical reaction**
- What is the photosynthesis equation in plant? **$6CO_2 + 6H_2O + C_6H_{12}O_6 + 6O_2$**
- What is chemical formula of carbon do-oxide? **CO_2**
- What is chemical formula of water? **H_2O**
- What is chemical formula of glucose? **$C_6H_{12}O_6$**
- What is chemical formula of oxygen? **O_2**
- What is the respiration equation in plant? **$C_6H_{12}O_6 + 6O_2 + 6CO_2 + 6H_2O$**

Chapter 4. Environment and Interactions

- Living things in an environment are called? **Biotic components**
- How many types of biotic component are there? **Three**
- Name the three biotic components? **Producers, consumers and decomposers**

- The green plants, algae and some bacteria are called? **Producers**
- The animals that get their food by eating plants and other animals are called? **Consumers**
- The animals that only eat plants are called? **Primary consumers**
- The animals that that eat primary consumers are called? **Secondary consumers**
- The small animals that feed on dead bodies of plants and animals are called? **Decomposers**
- Non-living components surrounding the environment are called? **Abiotic components**
- How much earth's surface is covered by forests? **6%**
- The community of biotic and abiotic components and their interactions for survival make up an? **Ecosystem**
- The study of the relationship between biotic and abiotic factors in environment is called? **Ecology**
- How many kinds of interactions between organisms are there? **Three**
- Name the three interactions between organisms? **Parasitism, predator-prey and mutualism**
- The organism which feeds in and lives on part of another organism (host) is called? **Parasitism**
- Mosquito is an example of? **Parasite**
- When predator feed directly on another living organism is called? **Predator-prey**
- Lion is an example of? **Predator-prey**
- When two organisms interact in such ways that benefits both is called? **Mutualism**
- Tapeworms are? **Parasites**
- Which is integral part of ecosystem? **Carbon**

Chapter 5. Atoms, Molecules, Mixture and Compounds

- Elements are made up of? **Atoms**
- Which is the simplest element? **Hydrogen**
- Most common element found on earth is? **Oxygen**
- Two are more atoms combine together to form? **Molecule**
- Two atoms of hydrogen element and one atom of oxygen form? **Water**
- Which is the simplest particle of compound and is made up of groups of atoms? **Molecule**
- How many elements are there in nature? **120**
- Which are the simplest form of substance? **Element**
- All elements are represented by a? **Symbol**
- What is the symbol of element Hydrogen? **H**
- What is the symbol of element Helium? **He**
- What is the symbol of element carbon? **C**

- What is the symbol of element Nitrogen? **N**
- What is the symbol of element Oxygen? **O**
- What is the symbol of element Fluorine? **F**
- What is the symbol of element Calcium? **Ca**
- What is the symbol of element Sulphur? **S**
- What is the symbol of element Phosphorous? **P**
- What is the symbol of element Aluminum? **Al**
- What is the symbol of element Magnesium? **Mg**
- What is the symbol of element Iron? **Fe**
- What is the symbol of element Neon? **Ne**
- What is the symbol of element Sodium? **Na**
- What is the symbol of element Chlorine? **Cl**
- Which gas is used in advertisement balloons? **Hydrogen**
- Which are two important groups of elements on earth? Metals and Non-metals
- Metals are usually? **Solid**
- Non-metals are often? **Gaseous**
- Which have high point of melting and boiling? **Metals**
- Which have low point of melting and boiling? **Non-metals**
- Which are good conductor of heat and electricity? **Metals**
- Which are poor conductor of heat and electricity? **Non-metals**
- What are formed by combination of two or more elements? **Compounds**
- Water is an example of? **Compound (hydrogen and oxygen)**
- Common salt is chemical combination of? **Sodium and chlorine (NaCl)**
- Washing soda is compound of? **Carbon and Oxygen**
- Combination of substances which is not combined chemically called? **Mixture**
- A mixture can be separated into components by? **Physical methods**
- A compound can be broken down into its components by? **Chemical method**
- Components of mixture are not mixed in? **Fixed ratio**
- Components of compound are mixed in a? **Fixed ratio**
- Air is a mixture of? **Gases**
- How much percentage nitrogen is present in air? **78%**
- How much percentage oxygen is present in air? **21%**
- How much percentage carbon di-oxide is present in air? **0.037**
- Steel made of iron and carbon is an example of? **Mixture**
- A process of separating insoluble solids from a mixture is called? **Filtration**
- A process of separating a salt solution to obtain crystal is called? **Crystallization**
- Which process is used to get back the solid substances from a solution? **Crystallization**
- A process in which liquid is purified is called? **Distillation**
- A process in which solid is purified is called? **Sublimation**

- A method that is used to separate coloured chemicals or substances is called? **Paper Chromatography**
- Carbon dioxide consists of how many atoms of carbon? **One**
- Carbon dioxide consists of how many atoms of oxygen? **Two**
- Chemical formula of carbon d-oxide is? **CO2**

Chapter 6. Air

- Who discovered oxygen in 1774? **Joseph Priestley**
- Excessive heat from sun is prevented by? **Ozone**
- What is percentage of oxygen in air? **21%**
- Which gas is found in the greatest amount in air? **Nitrogen**
- Which gas is found in the greatest amount in universe? **Hydrogen**
- What plants absorb from air and make their food? **Carbon dioxide**
- A process of burning is called? **Combustion**
- Which gas is required for combustion? **Oxygen**
- Excessive carbon do-oxide causes? **Global warming**
- What is old name of Nitrogen? **Azote (without life)**
- Moving air is called? **Wind**
- What happens when oil is burnt? **Carbon dioxide and energy will be released**

Chapter 7. Solution and Suspensions

- A process in which two components are mixed and form? **Solution**
- How many components of solution are there? **Two (Solute and solvent)**
- A component of solution which gets dissolved is called? **Solute**
- A component of solution that dissolves the solute is called? **Solvent**
- Pure water is called? **Universal solvent**
- When solutions use water as a solvent, it is called? **Aqueous solution**
- Solution is always? **Transparent**
- If the ratio of solute to solvent is high, the solution is said to be? **Concentrated solution**
- If the ratio of solute to solvent is low, the solution is said to be? **Dilute solution**
- A solution that cannot dissolve any more solute in it, at a given temperature is called? **Saturated solution**
- A solution that can dissolve solute at a given temperature is called? **Un-saturated**
- Mixtures in which solute particles are larger and remain suspended in the solvent are called? **Suspensions**
- Muddy water is an example of a? **Suspension**
- A solution is a? **Homogenous mixture**
- A solution is a? **Heterogeneous mixture**

- The suspension is a? **Opaque**
- The solubility of a solute substance increases? **As liquid heats up**

Chapter 8. Energy and its Forms

- Energy is measured in? **Joules (J)**
- Stored form of energy in any object is called? **Potential energy**
- Which form of energy is dependent upon the mass of the object and height of object above ground? **Potential energy**
- A form of energy which comes from motion is called? **Kinetic energy**
- Which form of energy is dependent upon the mass of the object and the speed at which it travels? **Kinetic energy**
- A form of energy which is the flow of negatively charged electrons in the electric circuit is called? **Electrical energy**
- A form of energy formed by vibration of particles is called? **Sound energy**
- A form of energy which is received from heat is called? **Thermal energy**
- Who was first person to state the law of conversion of energy? **Julius Mayer in 1842**
- The machines that convert one form of energy to another are called? **Energy converters**
- Energy sources that can only be used once in life time and cannot be replenished are called? **Non-renewable sources**
- Fossils fuels are example of? **Non-renewable sources**
- Energy sources that can be constantly replenished are called? **Renewable sources**
- Water, solar and wind are example of? **Renewable sources**

Chapter 9. Forces and Machines

- A pulley is a type of? **Simple machine**
- When a pulley is hanged to a fixed support, it is called? **Fixed pulley**
- When a pulley is free to move up and down along with the load, it is called? **Movable pulley**
- Double pulley system consists of two? **Pulleys**
- Two or more pulley reduces the amount of? **Effort**
- Wheel and axles are example of? **Simple machine**
- Gears are also important? **Simple machines**
- Gear sometimes is called a? **Cog**
- Area where two gears meet each other is called? **Meshed area**
- Bottle opener is an example of? **Lever**
- Seesaw is an example of? **Lever**
- A car steering is an example of? **Wheel and axle**
- Knife is an example of? **Wedge**
- A movable pulley can? **Increase the input force**
- Flags use? **Moveable pulleys**

Chapter 10. Properties of Light

- When a ray of light reflects off a surface, the angle of incidence is equal to the angle of reflection is called? **Law of reflection**
- A mirror which has a reflecting surface that curves inwards is called? **Concave mirror**
- Which mirrors are uses in vehicles? **Concave mirror**
- A mirror which has a reflecting surface that bulges outwards is called? **Convex mirror**
- Dentist mirror is which type of mirror? **Concave mirrors**
- Which mirrors are used as security mirrors? **Convex mirrors**
- Which mirrors have wider viewpoint of smaller space? **Convex mirrors**

Chapter 11. Investing Sound

- A region in a longitudinal wave where the air particles are closest together is called? **Compression**
- A region on a longitudinal wave where the air particles are furthest apart is called? **Rarefaction**
- Who was first to measure the speed of sound? **Marin Mersenne**
- What is speed of sound in air? **332 m/s**
- Speed of sound is maximum in? **Gold (diamond)**
- The sensation of sound persists in human brain for about? **0.1s**

Chapter 12. Space and Satellites

- The vacant area that exists between all celestial objectives of the universe is called? **Space**
- Study of celestial bodies in the universe is called? **Astronomy**
- How many types of satellites are there? **Two (natural and artificial)**
- How many known natural satellites are there in our solar system? **173**
- Natural satellites of planets are called? **Mons**
- When comet was first observed? **240 BC**
- Artificial satellites are monitored by setups called? **Ground stations**
- National Aeronautics and Space Agency (NASA) is space agency of? **USA (1958)**
- Russian Federal Space Agency (RKA) is space agency of? **Russia (1992)**
- China National Space Administration (CNSA) is space agency of? **China (1993)**
- National Center for Space Studies (CNES) is space agency of? **France (1961)**
- Japan Aerospace Exploration Agency (JAXA) is space agency of? **Japan (2003)**
- Indian Space Research Organization (ISRO) is space agency of? **India (1969)**

- Space and Upper Atmosphere Research Commission (SUPAROC) is space agency of? **Pakistan (1961)**
- Korea Aerospace Research Institute (KARI) is space agency of? **South Korea (1989)**
- European Space Agency (ESA) is space agency of? **Europe (1975)**
- HST is a scientific satellite which stands for? **Hubble Space Telescope**
- ISS is a scientific satellite which stands for? **International Space Station**
- GPS is a navigation satellite which stands for? **Global Positioning System**
- GIS stands for? **Geographic Information Systems**
- AIU stands for? **International Astronomical Unit**
- CMB stands for? **Cosmic Microwave Background**
- COBE stands for? **Cosmic Background Explorer**
- Which theory describes the origin of the universe? **Big Bang**
- Who gave the Big Bang theory? **George Lemaitre**
- Which is fastest thing in universe? **Light**
- Light year is a unit of? **Distance**
- Classification of galaxies based on their shapes is called? **Hubble Sequence**
- Which instrument gathers light from distant sources in such a way that an image can be produced? **Telescope**

*****..... Class SEVEN .....*****

Chapter 1. Human Organ Systems

- The process of breaking down food into simple molecules is called? **Digestion**
- How many steps of digestion are there? **Five**
- How many groups of organs compose the digestive system? **Two**
- Which two groups of organs compose the digestive system? **Alimentary canal and Accessory digestive organs**
- Canal that extends from mouth to the anus is the? **Alimentary canal**
- Length of canal tract from mouth to anus is? **Seven meters**
- Mouth, pharynx, oesophagus, stomach, small intestine, large intestine and anus consists of? **Alimentary canal**
- Teeth, liver, gall bladder and pancreas are included in? **Accessory digestive organs**
- Organ in which both chemical and physical digestion takes place is? **Mouth**
- Liquid of the mouth is called? **Saliva**
- Saliva contains the? **Enzymes**
- When food is reduced to semi-solid food in mouth, it is called? **Bolus**
- Food is moved from mouth to? **Oesophagus (Food pipe)**
- Pharynx is a muscular organ that connects? **Mouth to Oesophagus**
- Oesophagus transports the food from pharynx to the? **Stomach**

- What is shape of stomach? **J-shape**
- What is released from walls of stomach? **Gastric juice**
- Gastric juice released from stomach walls contains of? **Hydrochloric acid (HCL), water and enzyme**
- Large protein molecules are converted into small protein molecules by? **Enzymes**
- Food is softened and germs are killed by? **Hydrochloric acid**
- Chemical digestion of protein is started by? **Gastric juice**
- Bolus is converted into food called? **Chyme**
- After many hours (6-8) stomach empties its contents into the? **Small intestine**
- What is average length of small intestine? **Six meters**
- Bile is secreted by? **Liver**
- When Chyme enters in small intestine, it receives pancreatic juice from? **Pancreas**
- Which part of liver stores the bile? **Gall bladder**
- Which thing breaks down large sized fats into smaller pieces so that fats can be digested faster by enzymes? **Bile**
- Pancreatic juice is secreted by? **Pancreas**
- Pancreatic juice is consisted of? **Enzymes**
- All proteins, fats and carbohydrates are digested in small intestine by? **Enzymes**
- Small protein molecules are broken down into? **Amino aids**
- Semi-carbohydrates are converted into? **Sugars**
- Fats are broken down into? **Fatty acids**
- Last part of small intestine is called? **Villi**
- Digested components of food are diffused through the walls of small intestine into the? **Blood stream**
- The process through which walls of small intestine diffuse digested food into blood streams is called? **Absorption**
- Absorption only occurs in? **Small intestine**
- Glucose is used in? **Respiration process**
- Amino acids and fatty acids are used in the formation and growth of? **Cells**
- The undigested components of food move from small intestine to last part of digestive system called? **Large intestine**
- Which things are absorbed in large intestine? **Water and mineral salts**
- Large intestine contains finger like projection called? **Appendix**
- All non-diffusible components of food move from large intestine to? **Rectum**
- Undigested food is converted into faeces in? **Rectum**
- Faeces are removed from the body by an opening called? **Anus**
- What are the disorders of digestive system? **Constipation, Diarrhea, Ulcer, Obesity**
- Fast downwards rhythmic action of digestive tract is called? **Diarrhea**
- Slow downwards rhythmic action of digestive tract is called? **Constipation**
- The disorder when energy input is greater that energy used is called? **Obesity**

- A process in which human beings inhale air through nose is called? **Breathing**
- A biochemical process during which carbohydrates are broken down to release energy is called? **Respiration**
- Breathing is a? **Physical process**
- The Taking in of oxygen is called? **Inhalation**
- The giving out of carbon dioxide is called? **Exhalation**
- Nose consists of how many nostrils? **Two**
- Mucus is secreted by? **Mucus glands**
- The air from nose passes through the pharynx into the? **Trachea**
- Where does larynx (Sound box) lie? **Neck**
- Trachea is supported by incomplete? **Cartilaginous rings**
- Trachea divides into two parts before lungs called? **Bronchi**
- Each bronchi enters the lungs into small? **Bronchioles**
- The bronchioles open in the air sacs called? **Alveoli**
- How many million alveoli are there in lungs? **Seven million alveoli**
- Oxygen from atmosphere comes inside the? **Alveoli**
- Alveoli are surrounded by? **Blood capillaries**
- The oxygen from alveoli diffuses in? **Blood capillaries**
- Carbon dioxide from the blood capillaries diffuse in? **Alveoli**
- Blood transports the oxygen to the? **Cells**
- Which membrane separates the lungs from abdominal cavity? **Diaphragm**
- Name the disorders of respiratory tract? **Asthma, TB, Pneumonia, cough, common cold**
- Which is infectious bacterial disease? **Tuberculosis**
- T.B is causes by? **Mycobacterium**
- Which is inherited disease of respiratory tract? **Asthma**

Chapter 2. Transport System in Human and Plants

- Which system involves the circulation of blood? **Circulatory system**
- The supply of food, water, oxygen and collection of waste materials is called? **Transportation**
- How many kinds of blood vessels are there in human being? **Three (Arteries, capillaries and veins)**
- The blood vessels that carry blood from heart to other parts of the body are called? **Arteries**
- The largest artery in human body is? **Aorta**
- The blood vessels that carry blood from other parts of body to the heart are called? **Capillaries**
- The blood vessels that carry deoxygenated blood towards the heart are called? **Veins**
- Which is the only single vein that carries oxygenated blood? **Pulmonary vein**
- Fluid part of the blood is called? **Plasma**

- River of life is called? **Blood**
- Blood bank in the body is? **Spleen**
- Blood pressure is measured by? **Sphygmomanometer**
- Which organ is located between lungs and behind the sternum? **Heart**
- Which organ pumps the blood? **Heart**
- In how many chambers the heart is divided? **Four**
- Which side of heart receives deoxygenated blood from all parts of body? **Right side**
- Right side of heart pumps the deoxygenated blood towards the? **Lungs**
- Which part of heart receives oxygenated blood from lungs and pumps it to other parts of body? **Left side**
- The two upper chambers receive blood through veins are called? **Atria**
- The two lower receive blood through atria are called? **Ventricles**
- Which cava collects blood from upper parts of the body? **Superior vena cava**
- Which cava collects blood from lower parts of the body? **Inferior vena cava**
- Which atrium receives deoxygenated blood form superior and inferior vena cava? **Right atrium**
- Which atrium receives oxygenated blood from lungs through pulmonary vein? **Left atrium**
- How many valves are found in human heart? **Four**
- Two valves are present between? **Atria and ventricles**
- Two valves are present between? **Ventricles and arteries**
- From where circulation of blood starts? **Right side of heart**
- Which are the disorders of the respiratory tract? **Angina, heart attack, hypertension, hypotension,**
- Hypertension is known as? **High blood pressure**
- Hypotension is known as? **Low blood pressure**
- Main reason of heart attack is? **Cholesterol**
- Who is considered father of heart transplantation? **Norman Shumway**
- The transport system in plants consists of? **Xylem and phloem**
- Which part transports water and mineral from roots to the leaves via the stem? **Xylem**
- Which part transports sugar produced in the leaves to all parts of plants? **Phloem**
- In roots, water absorption take place through the? **Root hairs**
- Water enters the root hair by? **Osmosis**
- A force that is involved in movement in water and dissolved minerals up in the xylem is called? **Root pressure**
- Which is the movement of food materials from leaves to other tissues throughout the plant? **Translocation**

Chapter 3. Reproduction in Plants

- Flowering plants are called? **Angiosperms**
- Non-flowering plants are called? **Gymnosperms**

- The transfer of pollen grains from another of a flower to the stigma of the same of another flower is called? **Pollination**
- How many kinds of pollination are there? **Two (Self-pollination and cross pollination)**
- Pollination in which one plant and flower is involved is called? **Self-pollination**
- Pollination in which more than one plant two flowers are involved is called? **Cross-pollination**
- Varieties of plants are produced in? **Cross-pollination**
- What are the agents of cross-pollination? Water, **wind, insects and animals**
- How many methods of reproduction are there in plants? **Two (Sexual and asexual)**
- When sex cells (male and female) are involved in the production of offspring, then this type of reproduction is called? **Sexual reproduction**
- When sex cells (male and female) are not involved in the production of offspring, then this type of reproduction is called? **Asexual reproduction**
- Roots, stem and leaves also produce their offspring through? **Asexual reproduction**
- Which is important process of sexual reproduction? **Fertilization**
- The process in which fusion of male and female cells occur to develop a new plant is called? **Fertilization**
- When pollen grains are converted into sperm sex cells, what is formed? **Pollen tube**
- Trough pollen tube sperm cells transfer from stigma to? **Ovary**
- What is present in ovules? **Egg sex cell**
- When sperms fuse with the egg cells, what is formed? **Zygote**
- Zygote undergoes repetitive cell division and develops into? **Embryo**
- Embryo is present in? **Ovule**
- Ovule enlarges and develops into? **Seed**
- Ovary enlarges and develops into? **Fruit**

Chapter 4. Environment and Feeding Prelateships

- A place in water or at land where biotic and abiotic components interact with each other called? **Ecosystem**
- An ecological are in which species of animals, plants and all types of organisms live called? **Habitat**
- How many types of habitat are there according to its physical characteristics? **Two (Aquatic land and terrestrial land)**
- Examples of aquatic habitat are? **Lakes, ponds, rivers, streams and sea**
- Examples of terrestrial habitat are? **Forest, grass land, desert and tundra**
- How many types of grass Lands are there? **Two (Temperate and tropical)**
- Areas below ice caps which are very cold regions are called? **Tundra**
- Polar bear, Arctic foxes, Snowy owl are inhabitant of? **Tundra**

- Condition when animals have prosperity to change their colour according to their surrounding in order to hide from enemies is called? **Camouflage**
- Which condition takes place on seasonal basis? **Migration**
- Winter sleep that helps animals to save energy and survive in winter is called? **Hibernation**
- Conditions in which animals slow their activity in hot and dry summer months is called? **Aestivation**
- Conditions that help animals to survive with environmental changes are called? **Body coverings**
- Most organisms are active at temperatures between? **0 centigrade and 45 centigrade**
- The transfer of energy by eating is called? **Food chain**
- Food chain has? **Biotic factors**
- Food chain starts from? **Producers**
- Food chains are linked together to form a complex network called? **Food web**

Chapter 5. Water

- How much percentage of fresh water is used for crop irrigation? **70% (Pakistan 93%)**
- How much percentage of fresh water is used in industries? **20% (Pakistan 5%)**
- How much percentage of fresh water is used in domestic houses? **10% (Pakistan 2%)**
- A way used to remove dissolved physical and chemical impurities from water is called? **Distillation**
- RO stands for? **Reverse Osmosis**

Chapter 6. Structure of an Atom

- Neutrons and protons are present in? **Nucleus**
- How many times protons are heavier than electron? **1836**
- Neutron and proton are collectively known as? **Nucleons**
- Where electrons are arranged in cell? **Shells around the nucleus**
- Which subatomic particles revolve around nucleus? **Electron**
- The specific number of protons present in the nucleus of every atom is called? **Atomic number**
- Atomic number is represented by which symbol? **Z**
- The sum of protons and neutrons in the nucleus of atom is called? **Mass number**
- Mass number is represented by? **A**
- What is atomic number of carbon atom? **6**
- How many protons does carbon atom have? **Six**
- How many neutrons does carbon atom have? **Six**
- What is the mass number of carbon atom? **12**
- Who is father of modern periodic table? **Dmitri Mendeleev (1869)**
- Dimitri Mendeleev was basically? **Russian**

- How many groups are there in periodic table? **18**
- The elements in a group have the same number of? **Electrons**
- How many total elements are there in periodic table? **118**
- How many metals are there in periodic table? **95**
- How many non-metals are there in periodic table? **17**
- How many metalloids are there in periodic table? **6**
- The number shown above the symbol of element is called? **Atomic number**
- The number shown below the symbol of element is called? **Mass number**
- Power of combining of an atom with other atoms to form molecules or compounds is called? **Valency**
- The tendency to gain or loss an electron is also called? **Valency**
- The first orbit which is closest to nucleus is called? **K shell**
- The second orbit around nucleus is called? **L shell**
- The third orbit around nucleus is called? **M shell**
- Atoms of the same element which have same atomic number but different atomic mass are called? **Isotopes**
- Isotopes are represented by the symbol? **X**
- How many isotopes does hydrogen have? **Three**
- Atom that carries net electric due to loss or gain of electron is called? **Ion**
- Atoms which loss electron will become positively charged ion and are known as? **Captions**
- Atoms which gain electron will become negatively charged and are known as? **Anions**
- What is formed when two or more atoms join together chemically? **Molecules**
- A molecule that contains atoms of at least two different elements is called? **Compound**
- Water, carbon dioxide and methane are example of? **Compounds**
- Which compound is composed of two atoms of hydrogen and one atom of oxygen? **Water**

Chapter 7. Physical and Chemical Changes

- How many types of changes in material are there? **Two (physical and chemical)**
- Change in physical appearance or state of a substance is called? **Physical change**
- A change in chemical composition of a substance is called? **Chemical change**
- Chemical fertilizers, banastpati ghee and plastics are products of? **Chemical changes**
- New substances are formed with different properties through? **Chemical changes**
- Burning of fuel is an example of? **Chemical change**
- Compounds made up of hydrogen and carbons are called? **Hydrocarbons**
- Organic compounds are the compounds of? **Carbon**
- Simplest hydrocarbon is? **Methane**
- Fuel, petrol, furnace oil and Sui gas are example of? **Hydrocarbons**
- Burning of any hydrocarbon is? **Chemical change**

- During chemical change, energy is produced in the form of? **Heat and light**
- Chemical process which changes vegetable oil into fat is called? **Hydrogenation**
- Polymers are made up of small identical molecules called? **Monomers**
  Plastics are? **Polymers**

Chapter 8. Transmission of Heat

- The motion of atoms and molecules results in the formation of energy called? **Heat energy**
- Ways in which heat is transferred from one place to another are called? **Modes of heat transmission**
- How many modes of head transmission are there? **Three (Conduction, Convention, Radiation)**
- Transfer of internal energy by collision of particles and movements of electrons within the body is called? **Heat conduction**
- The microscopic particles in the heat conduction can be? **Molecules, atoms and electrons**
- Kinematic and potential energy are jointly known as? **Internal energy**
- Heat conduction only occurs in? **Solids**
- Conduction transfers heat from high temperature to? **Lower temperature**
- The solids that conduct heat are called? **Good conductors of heat**
- The solids that do not conduct heat are called? **Bad conductors of heat (insulators)**
- Which is considered the best conductor of heat? **Copper**
- A mode of heat transfer that occurs by the mass motion of a fluid is called? **Heat convention**
- Heat convention only occurs in? **Liquid and gases**
- Convention occurs due to the movement of? **Fluid molecules**
- How many types of breezes occur along the coastal areas due to convention? **Two**
- Name the two types of breeze that occurs along the coastal areas due to convention? **Land breeze and sea breeze**
- A wind system characterized by a flow from land to water at nigh is called? **Land breeze**
- A wind system characterized by a flow from sea to land in day time is called? **Sea breeze**
- A continuous and directed movement of sea water generated by a number of forces is called? **Ocean current**
- Heat convention occurs between the? **Water and air**
- A transfer of heat through waves is called? **Radiation**
- To radiate means? **To send out**
- The heat received on earth from the sun is the result of? **Radiation**
- A special kind of bottle in which hot liquids remain hot and cold items remain cold for a long time is called? **Vacuum Flask**

Unit 9. Dispersion of Light

- Change in the speed and direction of light rays due to change of medium is called? **Refraction of light**
- The light travels fastest in? **Vacuum**
- How many laws of refraction of light are there? **Two**
- Laws of refraction are also called? **Snell' laws**
- Who discovered laws of refraction of light in 1621? **Willebrord Snell**
- The angle of incidence for which the angle of refraction is 900 is called? Critical angle
- Critical angle is denoted by? **C**
- What is the critical angle of water? **48.8**
- The splitting of light into its constituent components is called? **Dispersion of light**
- Rainbow is the best example of? **Spectrum of white light**
- Rainbow is formed due to the? **Refraction of light**
- White light is composed of? **Seven colors**
- Primary colors of light are? **Red, green and blue**
- Ratio between the speed of light in vacuum and its speed in any other medium is called? **Refractive index (n)**

Chapter 10. Sound waves

- Waves having compressions and refractions with movements of particles parallel to the direction of wave propagation are called? **Longitudinal waves**
- Seismic and sound waves are example of? **Longitudinal waves**
- Waves having crests and troughs with movement of particles perpendicular to the direction of wave propagation are called? **Transverse waves**
- Radio and light waves are example of? **Transverse waves**
- In transverse wave, the distance between crests and troughs is called? **Wavelength**
- Distance between the rest position of moving particles to the top of crest and bottom of the trough is termed as? **Amplitude**
- The number of vibrations produced by a vibrating body in a second is called? Frequency Frequency is measured in? **Hertz (Hz)**
- The distance a sound wave covers in a unit of time is called? **Speed**
- Speed is measured in? **Meter per second**
- What is speed of sound in air? **343 m/s**
- What is speed of sound in diamond? **12000 m/s**
- The highness and lowness of the sound is called? **Pitch**
- High frequency of sound waves Results into? **High-pitched**
- Low frequency of sound waves results into? **Low-pitched**
- The degree of the sensation of sound produced in the human ear is called? **Loudness**

- Loudness depends on of the sound waves? **Amplitude**
- What is audible frequency range of human ear? **20 Hz to 20 kHz**

Unit 11. Circuit and Electric Current

- The rate of flow of charge at certain point is called? Current Electric current is measured in? **Amperes (a)**
- How many types of electric current are there? **Two**
- Name the two electric currents? **Series circuit and parallel circuit**
- If all the components are connected one after another in a single loop, it is called? **Series circuit**
- Which circuit provides only one path for the flow of current? **Series circuit**
- If the components are connected in two or more loops, then it is called? **Parallel circuit**
- When Thomas Edison invented bulb? **1879**
- The first power plant to distribute electricity in New York was developed by? **Thomas Edison**
- Difference of potential between two points in a circuit or battery is called? **Voltage**
- Potential difference (voltage) is measured in? **Volts (V)**
- The hindrance to the flow of current is called? **Resistance**
- Who discovered the relationship between voltage and resistance in 1827? **George Simon Ohm**
- Relationship between voltage and resistance has chemical equation: V=IR
- MCB stands for? **Miniature Circuit Breakers**
- ELCB stands for? **Earth Leakage Circuit Breaker**

Chapter 12. Investing the Space

- How many zeros are there in one billion? **Nine**
- Stars are made up of? **Hydrogen and Helium**
- The closest star to earth is sun, which is next closest star to earth? **Alpha Centauri**
- Which stars are the coolest stars? **Red stars (3,000 C)**
- Which stars are the hottest stars? **Blue stars (25,000 C)**
- Betelgeuse, Arcturus, Polaris and Vega are examples of? **Stars**
- A vast collection of stars, gas and dust which are bound together gravitationally as a unit is called? **Galaxy**
- Our solar system is a part of? **Milky Way galaxy**
- Major types of galaxies are? **Elliptical, spiral, lenticular and irregular**
- Milky Way galaxy and Andromeda galaxy are? **Spiral galaxies**
- How many light years the earth and sun are away from the center of Milky Way galaxy? **25, 000 light years**
- How many years our solar system takes to orbit around Milky Way galaxy? **250 million years**
- Nebulae are made up of? **Hydrogen (97%) and Helium (3%)**

- The first phase of star is known as? **Proto star (1000,000 years)**
- The most stable part of star's life is? **Main Sequence**
- What is third and fourth phase of star? **Red Giant and White Dwarf**
- A region of space where matter has collapsed in on itself is called? **Black hole**
- **Life Cycle of Star- Forming**

  1. Nebula 2. Proto star 3. Main sequence
  4. Massive star 5. Red giant 6. Supernova
  7. Black hole Constellations

  Groups of stars on sky total (88)

*****..... Class EIGHT .....*****

Chapter 1. Human Organ System

- Body system that controls and coordinates for the function of all other organ systems is called? **Nervous System**
- Which system links brain to every part of body? **Nervous System**
- Nervous system is divided into two types? **Central Nervous System (CNS) and Peripheral Nervous System (PNS)**
- Central Nervous System is composed of? **Brain and Spinal Cord**
- Peripheral Nervous System is composed of? **Sensory nerves and Motor nerves**
- Which are the basic functional units of nervous system? **Neurons**
- Brain is enclosed in a hard-bony projective structure called? Cranium (skull)
- How many parts of brain are there? **Three**
- Which is the largest part of the brain? **Cerebrum (forebrain)**
- How many hemispheres are there in cerebrum? **Two**
- Left side of the body is controlled by? **Right hemisphere**
- Right side of the body is controlled by? **Left hemisphere**
- Actions like thinking, feelings, memory, hearing, seeing, speech and decision making are controlled by? **Cerebrum**
- Thalamus lies inside the? **Cerebrum**
- Thalamus controls? **Sensory functions**
- Which is the middle part of the brain? **Mid Brain**
- Mid brain consists of? **Optic lobes**
- Which is smallest part of brain? **Midbrain**
- The last part of the brain is called? **Hind Brain**
- How many parts of hindbrain are there? **Three (pons, cerebellum and medulla)**
- Which part of hindbrain controls the facial expressions, sleeping and breathing? **Pons**

- Which part of hindbrain converts signals from the medulla to the higher parts of the brain? **Pons**
- Which part of hindbrain is responsible for coordinating voluntary movements? **Cerebellum**
- Which part lies below the cerebellum? **Medulla Oblongata**
- Blood pressure, heart beat, rate of respiratory movements and contraction and dilation of blood vessels are controlled by? **Medulla Oblongata**
- A long piece of nerve tissue that runs from the brain through the backbone within the vertebral columns is called? **Spinal cord**
- Which part receives sensory information from back parts of the body? **Spinal cord**
- Which part of brain connects the brain and the spinal cord? **Medulla Oblongata**
- Which system acts as lines of communication between central nervous system and rest of the body? **Peripheral Nervous System**
- How many types of nerves are there? **Two**
- Nerves that carry message from parts of body to brain are called? **Sensory nerves**
- Nervous that carry messages from brain to other parts of body are called? **Motor nervous**
- Which lobe is responsible higher thinking skills, planning, reasoning, movement, organizing and for many aspects of personality? **Frontal lobe**
- Which lobe is responsible for attention, language, recognition of shapes and colors? **Parietal lobe**
- Which lob is responsible for auditory information and short-term memory information? **Temporal lobe**
- Which lobe is responsible for visual information? **Occipital lobe**
- The quick action in which brain is not involved is called? **Reflex action**
- Which actions are performed according to our wishes? **Voluntary actions**
- Which part of brain is responsible for voluntary actions? **Fore brain**
- Which actions are performed without our wish and will? **Involuntary actions**
- Which part of brain is responsible for involuntary actions? **Hindbrain**
- The process of eliminating waste materials from the body is known as? **Excretion**
- Which four parts of body play role in eliminating waste material? **Lungs, kidneys, liver and skin**
- Two kidneys in human body are located below the? **Abdominal region**
- Which artery transports the blood to the kidneys? **Renal artery**
- Each kidney has about a million tiny units called? **Nephrons**
- In nephrons, a chemical exchange takes place between capillaries and urine-carrying tubes where waste material and water leave blood and enter? **Urinary system**
- Excess amino acids are converted into? **Urea**
- The process of filtering and cleaning the blood outside the body is called? **Dialysis**
- SIUT stands for? **Sindh Institute of Urology and Transplant**

- When a single compound breaks down into two or more simpler substances, the process is called? **Decomposition reaction**
- Reactions in which heat energy is absorbed or added are called? **Endothermic reactions**
- Reactions in which heat energy is released off are called? **Exothermic reactions**
- Combustion, neutralization and respiration are examples of? **Exothermic reactions**

Chapter 6. Acids, Alkalis and Salts

- The term acid is derived from Latin word? **Acere (sour)**
- Who defined acids in 1903? **August Arrhenius**
- Those substances which produce hydrogen ion (H) in the aqueous solution are called? **Acids**
- Those substances which produce hydroxyl ion (OH) in the aqueous solution are called? **Bases**
- All alkalis are bases but all bases are not? **Alkalis**
- Process in which acid is mixed with base and resulting solution is neutral is called? **Neutralization**
- Which is the main product of neutralization? **H20**
- Which are sour in taste? **Acids**
- Which are bitter in taste? **Bases**
- Tartaric, critic, lactice and ascorbic are basically? **Natural acids**
- Calcium hydroxide, sodium hydroxide, ammonium hydroxide and magnesium are prepared in? **Laboratory**
- Which acid is used to make carbonated drinks? **Carbonic acid**
- The scale to measure acidity and alkalinity of a solution is called? **pH**
- pH scale ranges between? **1-14**
- What is pH scale of lemon juice? **2**
- What is pH scale of rain water? **5**
- What is pH scale of milk? **6**
- What is pH scale of pure water? **7 (neutral)**
- What is pH scale of bleach? **13**
- What is pH scale of sodium hydroxide? **14**

Chapter 7. Force and Pressure

- Force per unit area is called? **Pressure**
- How a pressure is calculated in formula? **Pressure= ---force (upon) area (below)**
- Pressure depends on which two factors? **Forces acting and surface of area**
- The larger the force, the greater will be its? **Pressure**
- The smaller the surface area, the greater will be? **Pressure**
- In pressure, force is expresses in? **Newtons (N)**
- In pressure, area is expressed in? **Square maters**

- In which cell the complete hereditary material is stored? **Zygote**
- Who is the pioneer among genetics? **Gregory Mendel**

Chapter 3. Biotechnology

- Science that deals with the use of microorganisms, animal cell and plant cells to produce useful products for human is called? **Biotechnology**
- The process of making copies of DNA molecules within the cell nucleus is called? **DNA replication**
- DNA replication is a? **Biological process**
- Insulin produced by bio-technology is being uses to treat? **Diabetics**
- Process of changing the genetic coding of an organism by inserting or replacing a Section of a gene with the new one is called? **Genetic engineering**
- Which organism is used in genetic engineering? **Bacteria**

Chapter 4. Pollution and their Effects on Environment

- What is chemical formula of Sulphur Acid? **H2SO4**
- Asthmatic attacks are due to excess of? **Sulphur acid**
- What is chemical formula of Carbon monoxide? **CO**
- Carbon monoxide can lead to? **Cardiovascular diseases**
- What is chemical formula of nitrous oxide? **N2O**
- Nitrous oxide can lead to which diseases? **Respiratory and lung diseases**
- Which gas is the major cause of ozone depletion? **Chlorofluorocarbon (CFC)**
- Which is major greenhouse gas? **Carbon dioxide**

Unit 5. Chemical Reactions

- Coal and oxygen react chemically to produce? **CO2**
- Vinegar and soda react chemically to produce? **Sodium bicarbonate**
- A chemical change is a? **Chemical reaction**
- Chemical formula of methane is? **CH4**
- Who is father of modern chemistry? **Antoine Lavoisier (French)**
- Who gave "law of conservation of mass" in 1789? **Antoine Lavoisier**
- How many basic types of chemical reaction are there? **Two (addition and decomposition)**
- When two or more reactants combine to form a product, the process is called? **Addition reaction**
- Addition reactions are also called? **Combination or synthesis reactions**

- Pressure is expresses as? **N/m**
- Which is SI unit of pressure? **N/m**
- SI unit of Pressure is also called? **Pascal**
- Branch of science that deal with practical applications of liquid in motion is called? **Hydraulics**
- Aspect of science that is connected with using the energy in compressed gas to make
- something move is called? **Pneumatics**
- A system of particles uniformly distributed in a finely divided state through a gas is called? **Aerosols**
- Force per unit area exerted against a surface by the weight of the air above that surface is called? **Atmospheric pressure**
- Barometer is used to measure? **Air pressure**
- Which barometer is used to measure atmospheric pressure? **Mercury barometer**
- The atmospheric pressure at sea level has a mean value of? **101, 325 Pascal**

Chapter 8. Measurement of Physical Quantities

- The word measurement is derived from Greek word? **Metron (limited proportion)**
- Units whose value does not depend on any other units are called? **Fundamental unit**
- Units whose value depends on other units are called? **Derived units**
- Seven basic units kg, m, s, K, mol, A and cd are included in which system? SI system
- Foot, pound and second units are included in? **FPS system**
- Centimeters, gram and second units are included in? **CGS system**
- Meter, kilogram and seconds units are included in? **MKS system**
- When it was implemented in all countries that SI system of unit be used? **1960**
- **Seven basic units are as follow:**

  Mass = **kilogram**
  Length = **meter**
  Time = **second**
  Temperature = **Kelvin**
  Amount of substance = **mole**
  Electric current = **ampere**
  Luminous intensity = **candela**
  Which are used to form decimal multiples and submultiples of SI units? **Prefixes**

Chapter 9. Sources and Effects of Heat Energy

- Increase of the size of a body due to change in temperature is called? **Thermal expansion**
- Decrease of the size of a body due to change in temperature is called? **Thermal contraction**
- All three states of matter expand upon? **Heating**
- All three states of matter contract upon? **Cooling**

- Which liquid is used in clinical thermometer? **Mercury**

Chapter 10. Lenses

- How many types of lenses are there? **Two (convex and concave)**
- A convex or converging lens is curved outward on? **Both sides**
- A concave or diverging lens is curved inward on? **Both sides**
- The centre of a lens is called? **Optical center**
- A line that bisects lens into two halves is called? **Vertical axis**
- The distance between the optical center and principal focus is called? **Focal length**
- A person who can focus clearly on distant objects but cannot focus on near objects is? **Long-sightedness**
- Long-sightedness defect can be corrected by wearing a? **Convex**
- A person who can focus clearly on near objects but cannot focus on distant objects is? **Short-sightedness**
- Short-sightedness defect can be corrected by wearing a? **Concave**

Chapter 11. Electricity in Action

- AC stands for? **Alternating current**
- Solar cells are also called? **Photo-voltaic cells**
- Which is oldest form of energy? **Biomass**
- DC stands for? **Direct current**
- The current which flows in one direction is called? **Direct Current**
- Group of diodes which converts AC to DC is called? **Rectification**
- CPU stands for? **Central Processing Unit**
- IC stands for? **Integrated circuit**

Chapter 12. Exploring Space

- What does "tele" and "scope" mean? **"Distant" and "to see"**
- How many types of telescope are there? **Two (Refracting and reflecting telescope)**
- A telescope that uses lenses is called? **Refracting telescope**
- A telescope which uses mirrors is called? **Reflecting telescope**
- An optical instrument used to measure the properties of visible light is called? **Spectroscope**
- A vehicle sent into space to carry out a specific task is called? **Spacecraft**
- ISS stands for? **International Space Station**
- Which was first spacecraft landed on the surface of Venus in 1975 by Soviet Union? **Venera-9**
- Which spacecraft landed on surface of Mars? **Opportunity Rover**

- MRI stands for? **Magnetic Resonance Imaging**
- CT stands for? **Computed Tomography**
- Science of obtaining information about objects on earth from space byusing satellites is called? **Remote sensing**
- Which twin brothers spent a year on ISS in space to study long term space travel
- effects? **Mark Kelly and Scoot Kelly**
- SLF stands for? **Satellite Launching Facility**
- GPS consists of how many satellites? **More than 30**