Innovative Science-5



Unit – 1 Our Body

Food, Health and Diseases

Multiple Choice Questions (MCQs) (Based on CCE)

Tick (✓) the correct answer:

Ans. 1. (b) 2. (b) 3. (a)

Section I: Formative Assessment (Based on CCE)

A. Oral Questions:

- **Ans.** 1. Rice and wheat are two energy giving food.
 - 2. Pulses and eggs are two body-building food.
 - 3. Malaria and typhoid are two examples of communicable diseases.

B. Fill in the blanks:

- Ans. 1. A diet that contains all the essential nutrients in the right amount is called **balanced diet**.
 - 2. Carbohydrates contain sugar and starch.
 - 3. Exercise gives our body a good **posture** and better **appearance**.
 - 4. Cholerais caused by infected **food** and **water**.
 - 5. **Goitre** disease is caused due to lack of iodine in food.

C. Unscramble the following:

Ans.	1. RTPSEOSNI	PROTEINS
	2. EGNRYE	ENERGY
	3. NEMLSIAR	MINERALS
	4. DCUJNEAI	JAUNDICE
	5. CRYVSU	SCURVY

D. Circle the odd one. Give reasons for your answer.

- **Ans.** 1. **Protozoa**: Because all are nutrients but the protozoa are animals.
 - 2. **Polio :** Because Polio caused by a virus but all other diseases caused by bacteria.
 - 3. **Dengue:** Because Dengue is spread by the insects like mosquitoes.

E. Give one word for the following:

- Ans. 1. Balanced diet
 - 2. Disease
 - 3. Non-communicable disease
 - 4. Communicable disease
 - 5. Pathogens.

Section II: Summative Assessment (Based on CCE)

F. Match the following:

Ans. Nutrient **Deficiency Disease** Signs of illness 1. Vitamin D Scurvy— → i. Bleeding gums 2. Vitamin A Goitre →ii. Bones break easily iii. Patient cannot see in dim light 3. Iron Rickets -4. Vitamin C d. Beriberi viv. Haemoglobin in blood falls e. Night blindness v. Affects the nervous system 5. Iodine 6. Vitamin B Anaemia vi. A gland in the neck region swells up

G. Write true and false:

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

H. Answer the following questions:

Ans. 1. A diet that contains adequate amounts of different nutrients, required for the healthy functioning of the body is called a balanced diet. A balance diet contains these nutrients, proteins, carbohydrates fats, vitamins, minerals and roughage.

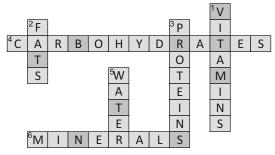
- 2. The name of five nutrients which our body needs to stay healthy and their contribution to keep us healthy are as follows:
 - (i) **Proteins:** Proteins are essential for growth and body building. Our body needs proteins for muscle building and repairing worn out tissues.
 - (ii) Carbohydrates: Carbohydrates provide energy to the body. These contain sugar and starch.
 - (iii) Fats: Fats also provide energy to the body. This energy can be stored. Fats also help to keep our body warm.
 - (iv) Vitamins: Vitamins keep our body fit, improve appetite and increase the body's ability to fight diseases.
 - (v) Minerals and Roughage: Minerals help in keeping our body healthy. They strengthen the bones and maintain a normal heart beat. Roughage helps the body to get rid of undigested food.
- 3. Vaccination is the act of injecting vaccine to protect against a disease to get rid of something completely. It is another way of protecting ourselves by aquiring immunity against certain diseases like diphtheria, cholera, typhoid, tetanus, polio, measles, mumps, meningitis and hepatitis. We must get ourselves vaccinated as a protection against these diseases.
- 4. Diseases which spread from a sick to a healthy person through direct or indirect contact are called communicable diseases. They are spread by microbes or germs called pathogens. Microbes and germs can be classified as bacteria, protozoa and viruses. The name of three such diseases and the germs that cause them are as follows:
 - (i) Tuberculosis cause by bacteria.
 - (ii) Malaria cause by protozoa.

- (iii) Polio cause by virus.
- 5. Some diseases are caused when the body does not get the adequate amount of the nutrients required by the body. These are called deficiency diseases. Thus, the diseases which are caused due to lack of nutrients like carbohydrates, fats, proteins, vitamins or minerals in our diet are called deficiency diseases.

Scurvy and Rickets are the two examples of deficiency diseases.

I. Identify the nutrient groups and complete this crossword:

Ans.





Bones and Muscles

Multiple Choice Questions (MCQs) (Based on CCE)

Tick (✓) the correct answer:

Ans. 1. (c) 2. (a) 3. (b)

Section I: Formative Assessment (Based on CCE)

A. Oral Questions:

- Ans. 1. If our backbone was made of one long bone without no joints then we can only stand straight like a scarecrow. We can not change our posture.
 - 2. Femur is the longest bone in our body.
 - 3. We can keep our bones and muscles healthy by taking a balanced diet which is full of various nutrients. It should be rich in calcium and phosphorus because these two minerals are essential for the growth of bone. Correct posture, regular exercise and proper rest is also required for the growth of muscles and bones.

B. Fill in the blanks:

- Ans. 1. A group of organs together make up on organ system.
 - 2. The skeleton protects the internal organs such as the **brain** the **heart** and the **lungs**.
 - 3. The **lower jaws** is the only bone in the skull which is movable.
 - 4. The last two pairs of ribs which are the front end are called **floating ribs**.

5. Muscles are attached to the bones by strong fibres called **tendons.**

C. Tick the correct answer:

- **Ans.** 1. The framework of bonoes is known is joint/**skeleton.**
 - 2. Movable/**Immovable** joints do not allow any movement between the bones.
 - 3. **Pivot**/Gliding joint allows the skull to be moved fro side to side.
 - 4. The muscles of stomach are **involuntary**/voluntary muscles.
 - 5. There are about 650/206 muscles in our body.

D. Tick the correct answer:

Ans.	1. Swimming,	Sleeping,	Yoga,	Aerobics
	2. Elbows,	Fingers,	Wrist,	Knees
	3. Tongue,	Stomach,	Arms,	Legs
	4. Spine,	Rib cage,	Tendons,	Skull

Section II: Summative Assessment (Based on CCE)

E. Write true and false:

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

F. Match the following:

Ans.	1. Ligament	(a)	Connective tissue
	2. The skull	(b)	22 bones
	3. The backbone	(c)	33 small bones
	4 The wile as as	(4)	10 main of have about duth

4. The rib cage
5. Cardiac muscles
(d) 12 pair of bow-shaped ribs
(e) Present only in the heart

G. Answer the following questions:

- **Ans.** 1. The three functions of the skeleton are as follows:
 - (i) The skeleton gives shape and strength to our body.
 - (ii) It also protect our internal organs such as the brain, the heart and the lungs.
 - (iii) It also allows us to move.
 - 2. (i) Skull protects our brain and eyes.
 - (ii) Rib cage protects the heart and lungs.
 - (iii) The backbone protects the spinal cord.
 - 3. A joint is the point where two bones meet. A special type of connective tissue called ligament is present at the joint. Ligaments help to attach one bone with another. The parts of the body move or bend at the joints.
 - 4. The different kinds of movable joints in our body are as follows:
 - (i) The hinge joint: It can move the bones only in one direction. The knees, elbows, fingers and toes have hinge joints.

- (ii) The ball and socket joint: It allows maximum movement. Hips and shoulder joints are ball and socket type of joints.
- (iii) The pivot joint: It is found between the skull and the first two vertebrae of the spine. This joint allows the skull to be moved from side to side and up and down.
- **(iv)** The gliding joint: This joint allows movement in wrist, ankle and between any two vertebrae of the spine. It allows our back to bend, twist and turn at each joint.
- 5. Vuluntary muscles are under our control but the involuntary muscles are not under our control.
- 6. Cardiac muscles are found in the heart. They are involuntary in function but structured like voluntary muscles. They make our heart beat.
- 7. We can keep our muscles and bones healthy and strong by the following ways:
 - (i) Balanced diet: We should take a balanced diet. It is rich in all necessary nutrients which are essential for healthy bones and muscles. We should eat those food items which are rich in calcium and phosphorus because these two minerals makes the bones firm and strong.
 - (ii) Correct posture: It is very necessary to walk erect or sit straight. Because our posture affects our backbone.
 - (iii) Exercise: Regular exercises keep our muscles strong and firm. we should take exercise daily. It is also necessary for the development of our bones.
 - **(iv) Proper rest:** After doing work our muscles get tired. So we should take proper rest to avoid over straining of our muscles.
- 8. (i) Hinge joint found in the knees, elbows, fingers and toes.
 - (ii) Ball and socket joint found in the hips and shoulders.
 - (iii) Pivot joint is found between the skull and the first two vertebrae of the spine.



Nervous System

Multiple Choice Questions (MCQs) (Based on CCE)

Tick (✓) the correct answer:

Ans. 1. (c) 2. (b) 3. (a)

Section I: Formative Assessment (Based on CCE)

A. Oral Questions:

- **Ans.** 1. The brain has three main parts, the cerebrum, the cerebellum and the medulla.
 - 2. Pinna is the outer part of the ear. It is also called outer ear or external ear.

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3. Nervous system controls all other system of our body.

B. Tick (\checkmark) the correct answer:

- 1. The **brain**/skull controls most of the functions of our body. Ans.
 - 2. The medulla/cerebrum is the longest part of the brain.
 - 3. Nerves/Bones are made of bundles of fibres.
 - 4. **Eves**/Ears have the sense of vision.
 - 5. The sensory nerves/spinal cord links several parts of the body to the brain.

C. Unscramble the following:

1. NEURONS Ans.

2. TONGUE

3. CEREBRUM

4. CEREBELLUM

(a) Reflex action

(b) Pupil

5. MEDULLA.

D. Tick the correct answer:

Ans.	 Medulla, 	Liver,	Cerebellum,	Cerebrum
	2. Eye,	Nerves,	Spinal,	Cord
	3. Iris,	Pupil,	Retina,	Ear drum

Section II: Summative Assessment (Based on CCE)

E. Write true and false:

1. T 2. T 3. T 4. T 5. T. Ans.

F. Match the following:

Ans. 1. Spinal cord

2. Eye

3. Tongue

4. Medulla

(c) Taste buds (d) Controls involuntary action

(e) Controls muscular action 5. Cerebellum

G. **Answer the following questions:**

- 1. Our nervous system consists of the brain, the spinal cord and the nerves. Ans. Brain is the centre of the nervous system. Brain sends and receives messages through the network of nerves. This network of nerves allows the brain to communicate with every part of the body.
 - 2. **Cerebrum :** The cerebrum is the longest part of the brain. It helps us to remember and learn. It also controls the functions of sense organs. It also controls our voice. It is the centre of the intelligence. We can think, learn, remember and recall because of the cerebrum.

Cerebellum: Below the cerebrum is the cerebellum. It controls the muscles activity and maintains balance of our body and keeps it in an upright position. If the cerebellum does not function property our body movements becomes jerky.

Medulla : Beneath the cerebellum lies the bulb-shaped medulla. It connects the brain to the spinal cord. It controls the involuntary actions like the movements of the lungs and the heart. The medulla is active even when we are asleep.

- 3. There are three types of nerves. They are as follows:
 - 1. Sensory nerves 2. Motor nerves 3. Mixed nerves.

Sensory Nerves: They carry messages from the sense organs i.e., eyes, nose, tongue, ears and skin to the brain and spinal cord.

Motor Nerves: They carry messages from the brain and spinal cord to the different parts of the body.

Mixed Nerves: They carry messages in both ways. They are present in the brain and the spinal cord.

- 4. Reflex action is the action which takes place automatically as a response to a stimulus. At times, the body needs to respond quickly to avoid any damage. At such times message is taken to the spinal cord which immediately sends a message back. An auto movement in response to a stimulus is called a reflex action. For example, when our finger comes close to a hot object, then we pull our hand away from the hot object even before we feel the pain. Blinking of the eyes and watering of the mouth are two other examples of reflex actions.
- 5. (i) Eyes: We must try to avoid any kind of injury to our eyes. Remember the following rules to keep eyes safe and healthy.
 - Sit 6-9 feet away from the television set.
 - Do not work in a dim light or very bright light. This tries the eyes. Let the light fall from the left side of the reading material.
 - Do not read in a moving vehicle.
 - Wash our eyes regularly with clean water.
 - Do not play games on the computer for long period.
 - Never touch our eyes with dirty hands, handkerchiefs or towels.

(ii) Ears:

- Do not put any sharp or pointeed things like pin etc. into the ear for cleaning.
- Avoid to hear loud sounds. The may damage our ears.
- Visit a doctor, if we have an ear ache.
- Do not let water enter our ears while swimming. Use earplugs. Dry them with the end of a soft clean towel.

(iii) Nose:

- Keep our nose clean by blowing it gently.
- Do not pick our nose with our fingers or nails.
- If we have a cold, inhale steam to clean the nose.

(iv) Skin:

• Dry ourself thoroughly after washing and wear clean and comfortable clothes. Clothes should be loose enough to allow fresh air in during warm weather.

- A scratch or cut on the skin should be treated with an antiseptic to stop the growth of germs.
- Use a good quality soap, and water to remove dust and sweat.

Formative Assessment-1

Formative Assessment-1 (CCE Pattern)

A. Oral Questions:

Ans. 1. Plague and Pneumonia are two examples of communicable diseases.

- 2. If our backbone was made of one long bone without no joints then we can only stand straight like a scarecrow. We cannot change our posture.
- 3. Femur is the longest bone in our body.
- 4. Nervous systems controls all-other systems of our body.

B. Tick (3) the correct answer:

Ans. 1. (a) 2. (c) 3. (a) 4. (b).

C. Fill in the blanks:

Ans. 1. Carbohydrates contain **sugar** and **starch**.

- 2. Goitre disease is caused due to lack of iodine in food.
- 3. The **lower jaw** is the only bone in the skull which is movable.
- 4. The **cerebrum** is the longest part of the brain.
- 5. **Sensory** nerves carry messages from the sense organs to the brain or the spinal cord.

D. Tick (\checkmark) the correct option:

Ans. 1. There are about 650/206 muscles in our body.

- 2. The cool circle in the eye is called the **iris**/pupil.
- 3. Voluntary/Involuntary muscles are not under our control.
- 4. Beri beri/**Nightblindness** is caused by the deficiency of **Vitamin A**/ Vitamin D.

E. Unscramble the following:

Ans. 1. VITAMIN

2. SCURVY

3. CARDIAC

4. MEDULLA.



Unit – 2 Plants and Animals

Reproduction in Plants

Multiple Choice Questions (MCQs) (Based on CCE)

Tick (✓) the correct answer:

Ans. 1. (c) 2. (a) 3. (c)

Section I: Formative Assessment (Based on CCE)

Α. **Oral Ouestions:**

- 1. The seeds begin to germinate only under favourable conditions. Seeds Ans. need air, water and warmth for germination. Only some seeds found these favourable conditions and that is the reason that all seeds not grow as new plants.
 - 2. Rabi crops grow in winter season while kharif crops grow in summer season.

B. Fill in the blanks:

- 1. Petals are the **outer** coloured part of the flower. Ans.
 - 2. The top of the stamen contains **pollen** sacs.
 - 3. Seeds leaves are known as **cotyledons**.
 - 4. Rice and jute grow well in **clayey** soils.
 - 5. The method of obtaining new plants from other part is called **vegetative** propagation.

C. Tick the correct answer:

- 1. Embryo grows into a seed/new plant. Ans.
 - 2. Stamen is the **male**/female part of the flower.
 - 3. Sepals are also the inner/outer part of a flower.
 - 4. The growing of a baby plant from a seed is known as fertilization/ germination.
 - 5. Wheat is **rabi**/kharif crop.

Section II: Summative Assessment (Based on CCE)

D. Write true and false:

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

E. Match the following:

1. Rabi crops Ans.

(a) Wheat and gram 2. Kharif crops

(b) Rice, maize, jowar and bajra

3. Coconut treees (c) Salty soil

4. Sandy soil (d) Jowar and bajra

F. **Answer the following questions:**

- 1. An adult plants grow flowers. The flower turns into a fruit after Ans. fertilization. The fruit has seeds. If the seeds get suitable conditions, they germinate and grow into new plant. When this plant becomes an adult, it bears flowers. The cycle repeats itself.
 - 2. The plants cannot move on their own. Nature has, therefore arranged some methods by which the seeds of plant get scattered to large distances. The scattering of seeds away from the mother plant is called dispersal of seeds. It is necessary for the germination of seeds. It producers the new

- plants. Seeds are dispersed by wind, water, birds, insects and animals. These are called agents of dispersal.
- 3. The transfer of pollen grains from the another to the stigma of flower is called pollination. After some time when pollen grains have fallen on stigma, a small tube known as pollen tube comes out of a pollen grain and grow through the style to reach the ovary. When the pollen tube reaches the ovary, fertilization takes place. (The cells in the pollen tube fuse with the ovules). After fertilization, the ovules start growing into seeds and the ovary, as a whole, becomes a fruit. As the fruit matures, the petals dry by up and fall off.
- 4. 1. The seeds absorbs water through the seed hole.
 - 2. The root starts growing first. It grows downwards.
 - 3. Then the shoot starts growing upwards.
 - 4. As the seed becomes a seedling, the food in the seed leaves is used up.
 - 5. The seeding grows green leaves. It starts making its own food. It soon grows into an adult plant.
- 5. We should take the following measures for the protection of crops:
 - Irrigation of plants should be done properly.
 - Insects damage the plants and crops by eating up green leaves and shoots. Pesticides and insecticides should be added to keep the crop disease-free.
 - Land should be well prepared before sowing. Tilling helps to loosen the soil.
 - Grass-eating animals like cows, buffaloes, goats, horses, etc. should not be allowed to enter the fields. We can prevent their entry by making proper fencing around the field.
 - Healthy and best quality of seeds should be selecteed for sowing.
 - Weeds should be removed from time-to-time.
 - Manure and fertilizers should be added to the soil to make it richer to grow good crop.
 - Animals like birds, squirrels, rats, etc., should be kept away from the fields.
 - Fungi, viruses and bacteria cause serious diseases of crops. We can protect our crops from such diseases by using better seeds spraying chemical to destroy these microbes.



Habitats and Life Styles of Animals

Multiple Choice Questions (MCQs) (Based on CCE)

Tick (✓) the correct answer:

Ans. 1. (a) 2. (c) 3. (c)

Section I: Formative Assessment (Based on CCE)

A. Oral Questions:

- **Ans.** 1. Bat is the only flying mammal.
 - 2. Man is that mammal which has the most developed brain.
 - 3. Dog and crow are two omnivorous animals.

B. Tick (\checkmark) the correct option in each:

- **Ans.** 1. Most of the animals have **four**/two limbs.
 - 2. Ducks/**Birds** are the only animals with feathers.
 - 3. Humming bird is the largest/**smallest** bird.
 - 4. **Ostrich**/Albatross is the biggest flightless bird.
 - 5. **Red**/White blood cells carry the oxygen in the blood.

C. Unscramble the following:

- **Ans.** 1. MIGRATION
- 2. SEAHORSE
- 3. INVERTEBRATES

- 4. AMPHIBIANS
- 5. REPTILES.

D. Write true and false:

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

E. Match the following:

Ans. 1. Giraffe

(a) Largest mammal on the land

2. Bat

(b) A flying mammal

3. Penguin

(c) Flightless birds of polar region

4. Fish

(d) The simplest group of vertebrates

5. Reptiles

(e) Well-developed lungs

F. Answer the following questions:

Ans. 1. Migration is a periodic movement of animal from one place to another and back to their original homes when the favourable conditions return. Migration actually takes place in search of food or because of unfavourable climate changes.

Fish and birds also migrate from one place to another in search of food and for breeding purpose.

- 2. The mammals has well developed breathing organs. The lungs are the main breathing organs in mammals. They breath through their lungs.
- 3. Adaptation is the set of unique characteristics which an animal develops according to their habitat. Habitat of an animal is the environment in which it lives. So when an animal adopt or develop some characteristics which are suitable for its environment, are called adaptation. An adaptation is helpful for an animal to survive in its environment.
- 4. Frogs are the good examples of Amphibians. Amphibians can live both on land and in water. They have all the features of a fish like gills and fins when they live in water. So, they live in water like a fish. After a few days, lungs and limbs develop. Then they cannot live any more in water and

come on to land. They go to the water only for protection and laying eggs. Frog has adaptation to breathe both on land and in water. On lead it uses its lungs to breathe and inside water it breathes through its moist-skin. Frogs have webbed feet, short fore-limbs and long hind-limbs. Hind limbs help in swimming and for leaping on the ground.

- 5. Snakes are reptiles that do not have limbs. Instead the scales on the undesirable of its body help it to move. They grip uneven ground and help the snake move forward. Snakes can even climb trees easily. They are able to do this by means of the broad plates on the lower sides of their body. To allow free movement the backbone of the snake is flexible and body is provided with strong muscles.
- 6. Migration is a periodic movement of animal from one place to another and back to their original homes when the favourable conditions return. Migration actually takes place in search of food or because of unfavourable climate changes.

Fish and birds also migrate from one place to another in search of food and for breeding purpose.



Unit – 3 Safety

Safety and First Aid

Multiple Choice Questions (MCQs) (Based on CCE)

Tick (✓) the correct answer:

Ans. 1. (a) 2. (b) 3. (c)

Section I: Formative Assessment (Based on CCE)

A. Oral Questions:

Ans. 1. We should obey safety rules on the road because these rules help us in reducing the risk of accidents.

- 2. A fracture is the breaking of a bone. The affected body part becomes very painful and swells up.
- 3. We should not throw water on the fire caused by electric fault because it may give us a shock. It may be harmful for us.

B. Fill in the blanks:

Ans. 1. Never use **water** to put out fire caused by electricity.

- 2. Never wear **synthetic** clothes while bursting crackers.
- 3. A **fire extinguishers** can be used to put out a small fire.
- 4. A **tornignet** is a tight bandage that stops bleeding by applying pressure.
- 5. **Fracture** is a crack in the bone.
- 6. The main reason for fire in our homes is our carelessness.

C. Unscramble the following:

- **Ans.** 1. SAFETY
 - 2. FRACTURE
 - 3. SPLINT

Section II: Summative Assessment (Based on CCE)

D. Write true or false:

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

E. Match the following:

Ans. 1. Fire (a) Electric short circuit

Fire extinguisher
 Hand fracture
 Broken blisters
 Putting off fire
 Triangular sling
 Cause infection

5. Rabies (e) **Dogbites**

F. Give reasons for the following:

- Ans. 1. We should always wash our hands before giving first aid because if our hands are dirty, they cause infection to the injured person. So, for avoiding the risk of infection, we wash our hands before giving first aid. Dirty hands may contain various types of germs which can entre the wound of the victim and may cause infection.
 - 2. We should keep a broken arm in a sling because it gives support to the broken arm.
 - 3. Always swim in the presence of a guide or a teacher because it is necessary for our safety. Do not go out for swimming alone, it may be harmful for us.
 - 4. Wash all vegetables and fruits before eating them because they may have been sprayed with harmful insecticides and pesticides. If we eat them without washing, it may cause poisoning.
 - 5. Electric switches should not be touched with wet hands because we may get a shock.

G. Answer the following questions:

- **Ans.** 1. The immediate help given to the person before the arrival of a doctor is called the first aid. First aid is only given when the injury is small.
 - 2. This is very common among children during summer when the days are very hot. It is due to the rupturing of the walls of the blood vessels.
 - Nose bleeding can be stopped by pressing the nose on the bleeding side between the thumb and the forefinger for few minutes.
 - 3. In case of an animal bite we should give the following first aid:
 - Wash the bitten part with soap and water.
 - Take the victim to the doctor for antirabies injection.
 - In case of a snake bite:
 - Do not move the person.

- Apply a tourniquet just above the bite to slow down the poison flow towards the heart.
- 4. Fire can easily be prevented by following some simple safety rules:
 - Generally fire can be controlled by throwing water or sand.
 - If fire occurs because of an electric short-circuit, we should immediately put off the man switch to stop the electric supply.
 - Never use water, if the fire is caused by electricity.
 - A fire extinguisher can be used to put off a small fire.
 - If fire occurs and the situation is beyond the control, we should immediately inform to the nearest fire station.
- 5. The very first help we can give is to make sure that the body part where there seems to be a fracture is not moved. After that we can:
 - Apply splint long enough to extend well beyond the joints above and below the fracture.
 - Padding in the form of cotton, towel, handkerchiefs, etc. should be placed between the fractured part and the splint.
 - Tie the splint with the help of bandage or handkerchief.
 - Keep the victim still till the doctor comes.
 - Make sure that the broken limb is in as a natural a position as possible.
 - Use a triangular piece of cloth to make a sling for supporting the broken limb.
 - Get an X-ray taken.

Formative Assessment-2

A. Oral Questions:

- **Ans.** 1. The seeds begin to germinate only under favourable conditions. Seeds need air, water and warmth for germination. Only some seeds found these favourable conditions and that is the reason that all seeds not grow as new plants.
 - 2. Bat is the only flying mammal.
 - 3. We should not throw water on the fire caused by electric fault because it may give us a shock. It may be harmful for us.

B. Tick (\checkmark) the right option:

Ans. 1. (c) 2. (c) 3. (c) 4. (c).

C. Fill in the blanks:

- **Ans.** 1. Animals without backbones are called **invertebrates.**
 - 2. **Frogs, toads** and **salamanders** are good examples of amphibians.
 - 3. **Fracture** is a crack in the bone.
 - 4. Petals are the **outer** coloured part of the flower.
 - 5. Rice and jute grow well in **clayey** soils.

D. Unscramble the following:

- Ans. 1. EMBRYO
 - 3. HEALTHY

- 2. COTTON
- 4. FOOTPATH

E. Tick (\checkmark) the correct answer:

- **Ans.** 1. Herbivores/carnivores eat flesh of other animals.
 - 2. One should not play with toys/sharp objects.
 - 3. First aid is very useless/**useful** in saving one's life.
 - 4. Bat is a flying amphibian/mammal.
 - 5. **Reproduction**/Pollution is a process by which the living organisms produce more of their own kind.

Summative Assessment-1

A. Write true or false:

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

B. Match the following:

Ans. 1. Tongue

- 2. Rabies
- 3. Giraffe
- 4. Iron
- 5. Rabi crops

- (a) Taste buds
- (b) Dog bites
- (c) Longest mammal on the land
- (d) Anaemia
- (e) Wheat and gram

C. Give reason for the following:

- **Ans.** 1. Seeds kept in a refrigerator do not germinate because the temperature of the refrigerator makes the cell of the embryo inactive so that they cannot start growing. For the germination of seeds proper temperature and warmth is necessary.
 - 2. Doing physical exercise is essential for a healthy body. It helps to tone and develop our muscles. It gives our body a good posture and better appearance. It improves our blood circulation. Through exercises our joints become more flexible. We also feel fresh and active. Thus physical exercises makes us strong and healthy.
 - 3. We should worn a helmet while we travel in a two-wheelar vehicle because if an accident may happen then it protect our head and brain, and save our lives.
 - 4. We should not touch electric switches with wet hands because it may gives us a shock. It may be harmful for us.

D. Answer the following questions:

Ans. 1. Our ears help to hear sounds. It is one of the our sensory organs. The ear can be divided into the external ear (pinna), the middle ear and the internal ear. The middle ear is a narrow canal. At the end of his canal is the ear drum which is made up of a thin membrane. When sound enters the middle ear, it vibrates the ear drum. The vibrations are converted into

messages in the inner ear. The nerves present in the inner ear pick up these messages and carry them to the brain. The brain then helps us to recognise the sound.

- 2. Communicable disease are passed on form one person to another by the following ways:
 - (i) Through infected food and water.
 - (ii) Through insects like mosquitoes, fleas, bugs and sandflies.
 - (iii) Through air we breathe.
 - (iv) Through carriers of germs.
 - (v) Through direct contact.
 - (vi) Through damaged skin.
- 3. The immediate help given to the person before the arrival of a doctor is called the first aid. First aid is only given when the injury is small.
- 4. The plants cannot move on their own. Nature has, therefore arranged some methods by which the seeds of planet get scattered to large distances. The scattering of seeds away from the mother plant is called dispersal of seeds. It is necessary for the germination of seeds. It produces the new plants.
- 5. A diet that contains adequate amounts of different nutrients, required for the healthy functioning of the body is called a balanced diet. A balance diet contains these nutrients, proteins, carbohydrates, fats, vitamins, minerals and roughage.



Unit – 4 Our Resources

Our Environment

Multiple Choice Questions (MCQs) (Based on CCE)

Tick (\checkmark) the correct answer:

Ans. 1. (a) 2. (c) 3. (a)

Section I: Formative Assessment (Based on CCE)

A. Oral Questions:

- **Ans.** 1. Recycling is an effective measure to reduce pollution. In it, new useful things are made from waste things.
 - 2. We think that vehicles are the major source of air pollution because they run on petrol or diesel release smoke, soot and harmful gases into the air. These pollute the air in a large scales.
 - 3. Bicycle is the most common mode of transport and it does not create pollution.

B. Fill in the blanks:

- **Ans.** 1. Human beings cannot live without **air** and **water.**
 - 2. The harmful substances are called **pollutants**.

- 3. **Man** is the only organism that interferes with the environment.
- 4. All buses run on non-polluting **fuel CNG**.
- 5. Excess of **carbon-di-oxide** gas causes global warming.

C. Unscramble the following:

Ans. 1. HEALTHY

2. NATURAL

3. GARBAGE

4. POLLUTION

5. OZONE.

D. Circle the odd one. Give reasons for your answer:

- **Ans.** 1. **Dust**: Because dust is not the constituent of the air and the rest three are the constituent of air.
 - 2. **Oxygen:** Because oxygen is a useful gas and the rest are harmful substances.
 - 3. **Van Mahotsave :** Because Van Mahotsava is the programe of planting more and more trees and the rest are shows the physical discomfort.

Section II: Summative Assessment (Based on CCE)

E. Write true and false:

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

F. Match the following:

Ans. 1. WWF

- (a) World Wild fund
- 2. Loudspeakers
- (b) Sound pollution

3. Oxygen

- (c) Supports life
- 4. Environment
- (d) The surroundings in which we live

5. Pollutants

(e) Harmful substances

G. Answer the following questions:

- Ans. 1. Our surroundings in which we live is called our environment. Thus our environment is everything that is around us. Our environment has an effect on us and we also have an effect on the environment. Plants and trees, soil and land, buildings, air, water, temperature, living beings etc. are the components of the environment.
 - 2. Pollution is the release of substances in air, water or soil that are harmful to living beings. These harmful substances are called pollutants. Pollution is an environmental problem. It leads to diseases and many other problems. The main kinds of environment pollution are as follows:

 (i) Air pollution (ii) water pollution (iii) soil and land pollution (iv) noise pollution.
 - 3. (i) Air pollution: The main sources and reasons of air pollution are given below:

Deforestation takes place when man cuts down trees and forests for wood or residential purposes. It is the main cause of air pollution because plants and trees purify the air and also release oxygen.

Vehicles which run on petrol or diesel release smoke, soot and harmful gases into the air. These pollute the air in cities and large towns.

During wars, chemical compounds are released into the air when explosion of different kinds of bombs take place. These harmful gases pollute the atmosphere.

There is an increase in gases and particles from factories and industries such as sulphur dioxide and oxides of carbon and nitrogen.

(ii) Water pollution:

- **1. Fertilizers, insecticides and pesticides:** Often farmers add fertilizers to the soil to increase the crop yield. These fertilizers may be carried to the rivers. Insecticides and pesticides which are used to kill insects and pests that harm the crops are also carried to rivers and lakes which pollute the water.
- **2. Industrial wastes :** Poisonous substances from factories flow into the drains which empty into water bodies such as lakes and rivers.
- **3. Sewage :** The drains of the towns, cities and large villages empty out their contents in rivers and lakes.
- **4. Chemical compounds :** Dissolved chemical compounds are present in the ground water which affect human health.
- **5. Oil :** Sometimes oil spills from tankers into the sea, thereby destroying marine life.
- (iii) Soil pollution: Our soil can get polluted by using excessive amounts of chemicals in it for agriculture. Soil also gets polluted when people bury various wastes in it.
- **(iv) Noise pollution :** Loud and noisy sounds from loudspeakers, vehicles, machines, etc. disturb the quietness of our environment and cause noise pollution which is very harmful for us. They may cause irritation, sleeplessness, headache, etc. Some serious diseases like deafness or high blood pressure may also be caused by it. It affects our work efficiency and mental ability badly.
- 4. The three activities of human beings that have damaged the environment are as follows:
 - (i) Cutting down the trees and forests for wood and residential purposes.
 - (ii) Increasing the number of vehicles which run on petrol or diesel.
 - (iii) Poisonous substances from factories flow into the drains which empty into water bodies such as lakes and rivers.
- 5. Our environment provides us some important things which are essential for our survival on the earth. These things are air, water, soil, food, fuels etc. These are known as natural resources. Conservation is the wise and careful use of these resources. Conservation involves not only preventing wastage of resources but also maintaining their quality. We should use our natural resources very carefully and conserve them as much as possible because unlimited and indiscriminate use of natural resources will make them get exhausted soon.



Soil Erosion and Soil Conservation

Multiple Choice Questions (MCQs) (Based on CCE)

Tick (✓) the correct answer:

Ans. 1. (b) 2. (c) 3. (a)

Section I: Formative Assessment (Based on CCE)

A. Oral Questions:

- **Ans.** 1. If forests are destroyed then our ecosystem is also became destroyed. It also increase the rate of soil erosion. There will no air to breathe and no food to eat. It also destroy the life on the earth.
 - 2. Cutting down of trees on a large scale is called deforestation while planting of more and more trees is calle afforestation.

B. Fill in the blanks:

- **Ans.** 1. Soil is the **outer** layer of the earth.
 - 2. We depend on **soil** for all food requirements.
 - 3. Over grazing by cattle leads to the destruction of plants.
 - 4. Excessive cutting of trees in a forest is called **deforestation**.

C. Tick the correct answers:

- 1. Plants/Animals are called producers.
- 2. Lowermost/uppermost layer of the soil is called topsoil.
- 3. Deforestation leads to **soil erosion**/soil conservation.
- 4. Terrace farming is adopted on plains/hills.

D. Circle the odd one. Give reasons for your answer:

Ans. 1. Strong winds, Deforestation, Volcanic eruption, Over-grazing Because all of these are the agents of the soil erosion but the volcanic eruption is not included in them.

2. Snow. Wind, Heavy rains, Running water Because all of these are the main cause of soil erosion. They can remove the topmost of soil. But the snow is not included in them.

(a) Afforestation

Section II: Summative Assessment (Based on CCE)

E. Write true and false:

Ans. 1. T 2. F 3. T 4. T.

F. Match the following:

Ans. 1. Planting more trees

- 2. Protection of soil (b) Soil conservation
- 3. Cutting down trees (c) **Deforestation**
- 4. Loss of soil (d) Soil erosion

G. **Answer the following questions:**

- Ans. 1. Soil is formed by the weathering and breaking of rocks. The wind, water and living beings cause the rocks to break. Due to cooling, heating and drying, the rocks crack and break up into small pieces to form soil. The process of soil formation is a slow, long and continuous process.
 - 2. The uppermost layer of the soil is called topsoil. It contains humus which is very fertile. Carrying away of this topsoil by wind, water and other elements is called soil erosion. It reduces the fertility of the soil. Many factors are responsible for soil erosion. These are known as the 'Agents of Erosion' and are as follows:
 - (i) Strong winds and flowing rain water.
 - (ii) Deforestation
- (iii) Over grazing.
- (iv) Ploughing of hill sides.
- 3. Soil erosion makes the land infertile and useless for farming because plants can grow well only in fertile soil. Though we cannot stop natural force like wind and water but we can take steps to slow them down. The protection of soil against erosion is called soil conservation. This can be done in the following ways:
 - (i) Through cover crops.
- (ii) Through Terrace farming.
- (iii) Through Shelter belts.
- (iv) Through Building bunds.
- (v) Through Afforestation.
- 4. Heavy rain cause soil erosion. Flooded rivers erode soil from the banks. When river flow down the hills they carry a lot of soil with them. When the water flows slow down, a part of that soil is deposited on the way on reaching the plains. This process is called silting and it goes on and on. Sometimes, it changes the direction of flow of the river and causes a flood in the area alongside. Floods cause heavy loss of life and property.
- 5. Cutting steps in the slopes of hills also helps to reduce the soil erosion. When water flows down, these steps reduce the speed of water. As the water flows down, the soil of one step settles down at the next step. This reduces the amount of soil erosion. Its advantages are as: It reduces the force of rain water and prevents soil from being washed away.

Rain water fills up each step and the plants are able to absorb water.



Unit – 5 Matter and Materials

Rock and Minerals

Multiple Choice Questions (MCQs) (Based on CCE)

Tick (\checkmark) the correct answer:

Ans. 1. (c) 2. (c) 3. (c)

Section I: Formative Assessment (Based on CCE)

A. Oral Questions:

- **Ans.** 1. The three groups of rocks are as follows:
 - (i) Igneous rocks

- (ii) Sedimentary rocks
- (iii) Metamorphic rocks.
- 2. Granite and Pumice are the two igneous rocks.
- 3. Sandstone and Shale are the two sedimentary rocks.

B. Fill in the blanks:

- **Ans.** 1. **Minerals** are building blocks of rocks.
 - 2. The molten material deep inside the earth is known as **magma**.
 - 3. Three main minerals present in granite rocks are quartz, mica and feldspar.
 - 4. Pumice is mainly used as **body scrubber**.
 - 5. **Sandstone** is a common sedimentary rock.
 - 6. Marble is widely used for making **statues**.
 - 7. Crude oil is also called **petroleum**.

C. Tick the correct answers:

- Ans. 1. Basalt is a fine-grained and glassy sedimentary/igneous rock.
 - 2. Granite/Coal is a most important sedimentary rock.
 - 3. Limestone consists of mainly a mineral called conglomerate/calcite.
 - 4. Marble is a igneous/metamorphic rock.
 - 5. Slate/**Gneiss** is a metamorphic rock that is formed from granite.

D. Unscramble the following:

- **Ans.** 1. METAMORPHIC
- 2. IGNEOUS

3. PUMICE

4. GRANITE

5. SANDSTONE

Section II: Summative Assessment (Based on CCE)

E. Write true and false:

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

F. Match the following:

Ans. 1. Igneous rock

(a) Basalt

2. Sedimentary rock

(b) Coal

3. Metamorphic rock

(c) Quartzite

4. Natural resource

(d) Mineral

G. Answer the following questions:

Ans. 1. Rock is made up of small grains. A single rock my contain grains of different colours. These are particles of minerals. They are the building blocks of rocks. Each rock is a mixture one one or more different minerals.

- 2. Deep inside, the core of the earth is so hot that rocks melt. This molten material is known as magma. The high pressure pushes magma (lava) upwards near the surface of the earth. This magma flows out and fills up cracks in other rocks slowly while solidifying. The hot lave flows out and cools down quickly. It forms Igneous rocks. Granite, Pumice and Basalt are the three examples of Igneous rocks.
- 3. Metamorphic rock means the rock that has changed. Most metamorphic rocks were once either igneous or sedimentary. Strong forces like heat and pressure bring about changes in rocks. In some rocks, the minerals are stretched into flat particles while in some, the cementing materials are replaced. The intense heat and extreme pressure affect the appearance and properties of the rocks. Marble, slate, Gniess are the three examples of metamorphic rocks.
- 4. Minerals are chemical substances that occur in nature. They form due to natural processes within the earth. They may be simple substances or very complex ones. Some are common while others are rare. Rocks are formed of minerals. Calcite, gypsum, mica, etc. are some of the common minerals.
- 5. Sometimes the remains of dead organisms may be buried in sediments that later become sedimentry rock. The hard parts of the organism such as shells and bones either get preserved in the sediments, or leave behind on impression. These impressions left behind in sedimentary rocks are known as fossils.
- 6. Coal is formed from the remains of plants that grew in swampy forests millions of years ago. When they died, they got buried in the swamps. Layers of mud, sand and more dead plants deposited on them. As more and more layers deposited, the heat and pressure in the layer below, gradually changede them to form coal. It is used as a fuel (a) at home for cooking and heating, (b) in factories to run furnaces, (c) in power plants to generate electricity.

Crude oil is also called petroleum and is a dark sticky liquid. It was formed over millions of years from dead remains of plants and animals in the sea. When these plants and animal died, they sank to the bottom of the sea. As the sediments built up on top, the heat and pressure changed the remains into petroleum.

Petroleum is also called black gold. We use it mainly as fuel in various forms such as petrol, diesel, kerosene, etc. It also used in dry cleaning, to manufacture lubricating oil and medicines.

Formative Assessment-3

Multiple Choice Questions (MCQs) (Based on CCE)

Tick (\checkmark) the correct answer:

Ans. 1. (a) 2. (b) 3. (c) 4. (a)

(Science-5

Section I: Formative Assessment (Based on CCE)

A. Oral Questions:

- **Ans.** 1. Recycling is an effective measure to reduce pollution. In it, new useful things are made from waste things.
 - 2. If forests are destroyed then our ecosystem is also became destroyed. It also increase the rate of soil erosion. There will no air to breathe and no food to eat. It also destroy the life on the earth.
 - 3. Sandstone and Shale are the two sedimentary rocks.

B. Tick (\checkmark) the correct answer:

Ans. 1. (a) 2. (b) 3. (c) 4. (a).

C. Fill in the blanks:

- **Ans.** 1. **Over grazing** by cattle leads to the destruction of plants.
 - 2. **Quartzite** is formed by the metamorphosis of sandstone.
 - 3. The hardest substance found on the earth is **rock**.
 - 4. Cutting down of trees in large numbers is called **deforestation**.
 - 5. Soil is the **outer** layer of the earth.

D. Unscramble the following:

Ans. 1. XYGNEO OXYGEN 2. VERSNIUE UNIVERSE

3. SUESRERCO **RESOURCES** 4. REGNEY **ENERGY**

5. NRLMEISA MINERALS.

E. Tick (\checkmark) the correct answer:

Ans. 1. Afforestation/**Deforestation** leads to soil erosion.

- 2. Water/**Soil** has many layers.
- 3. Limestone consists of mainly a mineral called conglomerate/calcite.
- 4. Slate/**Gneiss** is a metamorphic rock that is formed from granite.
- 5. There is air above the soil/water.

Unit – 2 Our Climate



Force, Energy and Simple machines

Multiple Choice Questions (MCQs) (Based on CCE)

Tick (✓) the correct answer:

Ans. 1. (a) 2. (c) 3. (b)

Section I: Formative Assessment (Based on CCE)

A. Oral Questions:

Ans. 1. When a force, in the form of a push or pull, acting on an object and change its direction according to the direction of force, then work is said to be done on an object.



- 2. Movement across smooth polished surface produces less friction.
- 3. Knife, needle, nutcracker, tongs, scissors, bottle opener, screw, bolt etc. are some simple machines which we use at our homes.

B. Fill in the blanks:

- **Ans.** 1. **Frictional** force prevents the things from sliding across each other.
 - 2. **Mechanical** energy can be either kinetic or potential energy.
 - 3. **Geothermal** energy is a **renewable** source of energy.
 - 4. **Light** is nature's way of transferring energy through space.
 - 5. Coal is the **Non-renewable** source of energy.

C. Unscramble the following:

Ans. 1. ENERGY

2. MACHINE

3. FRICTION

4. ELECTRIC

5. MAGNET

Section II: Summative Assessment (Based on CCE)

D. Write true or false:

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

E. Match the following:

Ans. 1. Lever

(a) Seesaw, crowbar and scissors

2. Pulley

(b) Crane, curtain rod

3. Wheel-axle

(c) All kinds of wheels including knobs

4. Screw

(d) Jar lid, bolt and drill

5. Wedge

(e) Knife, pin and nail

F. Answer the following questions:

- **Ans.** 1. A push or pull acting on a thing is called force. A force can be used to:
 - (i) moving a thing.
 - (ii) change the shape or size of a thing.
 - (iii) stop a thing from moving.
 - (iv) Speed up a moving thing and change the direction of it.
 - 2. The earth exerts a force on all the objects on or near its surface. This force is termed as gravitational force. Through this force earth attracts all the things towards its. This attractive force of the earth is called gravity.
 - 3. Friction is the force that tries to stop the things from sliding across each other. Friction slows down their sliding or stops them from moving. It opposes motion.
 - 4. Energy is the capacity to do work. It is the ability to do work. Energy is everywhere in nature-sunlight, wind, water, plants and animals are all sources of energy. We use energy in our daily life.

Name of the four types of energy are as follows:

- 1. Heat energy 2. Light energy 3. Mechanical energy 4. Electrical energy.
- 5. A machine is something that makes our work easier. A machine that has only one or two parts is called a simple machine. It makes our work easier

by letting us use a smaller force. But this does not reduce the amount of work we have to do. For example:

- (i) An inclined plane moves the things up or down easily.
- (ii) A liver lifts or moves loads by applying a smaller force.
- 6. A liver is a simple machine in which a bar moves freely about a fixed point. This fixed point is called the fulcrum. The force we apply is called the effort. The weight to be moved is called the load. Tongs, scissors and bottle opener are the three examples of livers which we use in our daily life, everyday.
- 7. A pulley is a kind of wheel with a rope going arond it. This simple machine does not reduce the force that has to be used. It helps by changing the direction in which the force has to be applied. For example, when a labourer uses a pulley to lift building materials, he pulls down on the rope hanging from the pulley. Without the pulley, he would have to pull the load up.
- 8. An inclined plane is just a sloping surface. An inclined plane reduces the force we have to use to lift something. But the distance we need to cover along the plane is greater than the distance we would cover to lift the load straight up.



Our Neighbour : Moon

Multiple Choice Questions (MCQs) (Based on CCE)

Tick (✓) the correct answer:

Ans. 1. (c) 2. (a) 3. (b)

Section I: Formative Assessment (Based on CCE)

A. Oral Questions:

- **Ans.** 1. The space far away from us is called the sky. It is a wide and silent place.
 - 2. Because the surface of the moon is more rough and uneven in the comparison of the earth.
 - 3. If a body weights 6 kg on earth, then its weight on the surface of the moon will be 1.5 kg.

B. Fill in the blanks:

- **Ans.** 1. **Lunar eclipse** occurs when the moon is completely in the dark shadow of the earth.
 - 2. The moon is the only natural **satellite** of the earth.
 - 3. Tides are caused in the oceans due to the gravitational pull of the **moon.**
 - 4. The **tides** are the cyclic rising and falling of the ocean water.
 - 5. The first artificial satellite was **Sputnik-1**.

C. Tick the correct answer:

- **Ans.** 1. The **moon**/sun is about 3,84,400 km away from the earth.
 - 2. There is no life on the surface of the **moon**/earth.
 - 3. The smallest/largest crater on the moon is the south pole.
 - 4. The earth/moon is about 4,500 million years old.
 - 5. Neil Armstrong/**Yuri Gagarin** was the first man to go into the space.

D. Circle the odd one. Give reasons for your answer:

- **Ans.** 1. **Universal eclipse:** Because there is no any type of universal esclipse.
 - 2. **Michael Collins :** Because all of these are those men who walk on the moon.
 - 3. **Moon:** Because all of these are planets but the moon is a satellite of the earth.

Section II: Summative Assessment (Based on CCE)

E. Match the following:

Ans. 1. The moon

2. Full moon

3. Lunar eclipse

4. Solar eclipse

5. Artificial satellite

(a) Earth's natural satellite

(b) Brightest heavenly body

(c) Moon-Earth-Sun

(d) Earth-Moon-Sun

(e) Sputnik-1

F. Write true and false:

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

G. Distinguish between the following:

Ans. 1. When the moon casts a shadow on the earth then people in the shadow of the moon can not see the sun. It is called solar eclipse. In solar eclipse moon is in the between of the sun and the earth.

When earth costs a shadow on the moon then it does not receive any sunlight. Then it can not be seen. It is called lunar eclipse. In lunar eclipse earth is in between the sun and the moon.

2. Satellites are those objects which rotates around the planet. Natural satellites are made by nature. Moon is the natural satellite of the our planet earth. It moves around the earth.

Artificial satellites are the man-made objects, equipped with scientific instruments sent into space to orbit the earth or another planet.

H. Answer the following questions:

Ans. 1. There is no layer of atmosphere surrounding the moon's surface, so there is no protection from the strong rays of the sun. The side of the moon facing the sun is extremely hot and the side away from the sun is far too cold to support any life. Moreover, there is no air or water on the moon.

2. The changes in size of the moon while revolving around the earth, are called phases of the moon.

- 3. The moon is continuously revolving around the earth. At times during this journey the moon moves into the dark shadow of the earth and does not receive any sunlight. Then it cannot be seen. We call this an eclipse of the moon or the lunar eclipse. It occurs only at night.
- 4. When the moon is in complete dark shadow of the earth, it is a total lunar eclipse. At this time there is completely dark and the whole moon cannot be seen.
- 5. Tides are the cyclic rising and falling of the ocean water on the earth due to the moon's pull. The gravitational pull of the sun and the moon together exert a pull on the earth's water bodies and cause tides in the sea. Since the moon is much closer to the earth than the sun, the moon's pull on the water is much more than that of the Sun.
- 6. An artificial satellite is a man-made object, equipped with scientific instruments sent into space to orbit the earth or another planet. It revolves around the planet just as the moon does. Like the moon, artificial satellites reflect the sunlight and can be clearly seen in the night sky. Aryabhatta, Bhaskara and Rohini are the three examples of artificial satellites.

7. Uses of Artificial Satellites

They help in telephonic communication and in the live telecast of programmes on TV. INSAT 3E is a communication satellite.

They are used to forecast weather. They give early warnings of forthcoming storms, cyclones, etc.

They help to study outer space and galaxies.



Natural Disaters

Multiple Choice Questions (MCQs) (Based on CCE)

Tick (✓) the correct answer:

Ans. 1. (c) 2. (c) 3. (a)

Section I: Formative Assessment (Based on CCE)

A. Oral Questions:

- **Ans.** 1. We cannot produce an earthquake because it is a natural phenomenon. It is a natural disaster and we have no control over this.
 - 2. We think that earthquake can also lead to fires because earthquakes demolish the buildings and electric poles or electrical fittings. Due to this short circuit may be possible and it creates the fire.
 - 3. Richter scale is used to measure the magnitude of an earthquake.

B. Fill in the blanks:

- Ans. 1. Disasters that occur due to natural **forces** are called natural disaster.
 - 2. Earthquakes are measured on a **Richter** scale.
 - 3. The instrument used to detect the earthquakes is called a **seismograph**.
 - 4. A **cyclone** is a severe storm with strong winds.
 - 5. Tidal waves as high as **20 to 30** metres have been recorded.

C. Tick (✓) the correct answer:

- 1. A natural/artificial calamity is a disaster caused by nature. Ans.
 - 2. The Richter scale was invented by Charles Richter in 1935/1937.
 - 3. An **cyclone**/earthquake is a severe storm strong wind.
 - 4. Flood/**cyclone** causes strong winds.

D. Circle the odd one. Give reasons for your answer:

- Ans. 1. **Earthquakes:** Floods, cyclones and Tsunami are related to water bodies. But earthquakes are not relate to the water bodies. It is a vibrating motion of the ground surface.
 - 2. **Security Council:** Security council works only for peace and security of the people while Red Cross Society and World Health Organization work to serve the mankind and also against the natural disasters.
 - 3. Tsunami: Focus, Epicentre and Aftershocks are the words which use during an earthquake or these are the words which related to an earthquake. While Tsunami is an another natural disaster. Tsunamis are caused by undersea earthquakes, volcanic eruptions etc.

Section II: Summative Assessment (Based on CCE)

E. Write true and false:

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

F. **Matching the following:**

1. Mount St. Helens Ans.

2. Volcano

3. The Barren Island

4. Tidal waves

5. Sichuan earthquake

(a) erupted in 1980

(b) Mount Vesuvius

(c) Andaman & Nicobar

(d) 15 m

(e) China

G. Answer the following questions:

Ans. 1. Effects of an Earthquake

- An earthquake always cause destruction of lives and property.
- The undersea earthquakes can cause disasters like tidal waves. They cause harm to the lives in the water.
- The earthquakes also cause landslides and fires. They disrupt the transport and communication system.
- Due to an earthquake cracks can develop on the walls of buildings. These cracks may lead to the collapsing of the buildings.

- 2. According to the nature of their eruption, there are three types of volcanoes: active, dormant and extinct. Mount Vesuvius, Mount Fuji, and Mount Erebus are some well-known active volcanoes.
- 3. 'Tsunami' is a Japanese word meaning harbour wave. Tsunamis are caused by undersea earthquakes, volcanic eruptions, etc. The waves in a tsunami can be as high as 20 to 30 metres. They travel very fast up to 1000 kilometres per hour. They strike suddenly and cause great damage.

4. (i) Effects of floods

- Flood cause destruction on the land by damaging buildings and houses, uprooting trees and other structures.
- Belongings of people get washed away. People becomes homeless and so also the animals.
- Shortage of drinking water and food affects all living beings.
- Due to unhygienic conditions germs spread, and there is an outbreak of diseases such as jaundice, malaria and cholera.
- Field get immersed in water and crop is destroyed.
- Electric lines, communication networks and water supply get affected.

(ii) Effect of Drought

- Crops dry up, resulting in a severe shortage of grains, vegetables and fruits.
- Livestock perish due to shortage of fodder and water resulting in shortage of milk and animal products.
- Soil erosion increases because the crops die and the land becomes barren.

5. (i) Preventive Measures During Flood:

- Dams should be built across the rivers to check the flow of water into lands.
- A good drainage can prevent water logging thereby controlling flooding to some extent.
- Trees should be planted in large numbers as they slow down the flow of water.

$(ii) \ \textbf{Preventive Measures During Earth quake:} \\$

- Earthquake prone areas should have wooden houses. They stand a chance of remaining upright during an earthquake.
- If we feel the ground shaking, move out of the building or from our house to an open space, away from trees, buildings, etc.
- If we are not able to move out, take refuge under a table to avoid getting hurt.
- Avoid entering a building for some time even after the earthquake stops, as damaged portions may continue to fall, later on also.

(iii) Preventive Measures During Drought:

- Afforestation or planning of trees reduces the chances of drought.
- Rainwater harvesting can be done to store water. This can be used during drought.

Formative Assessment-4

A. Oral Questions:

- Ans. 1. When a force, in the form of a push or pull, acting on an object and change its direction according to the direction of force, then work is said to be done on an object.
 - 2. If a body weights 6 kg on earth, then its weight on the surface of the moon will be 1.5 kg.
 - 3. We think that earthquake can also lead to fires because earthquake demolish the buildings and electric poles or electrical fittings. Due to this short circuit may be possible and it creates the fire.

B. Tick (\checkmark) the correct answer:

Ans. 1. (a) 2. (c) 3. (c) 4. (a).

C. Fill in the blanks:

- **Ans.** 1. The area of force around a magnet is called **magnetic force.**
 - 2. Coal is the **Non-renewable** source of energy.
 - 3. The first artificial satellite launched was **Sputnik-1**.
 - 4. Earthquakes are measured on the **Richter** scale.

D. Tick (\checkmark) the correct answer:

- Ans. 1. An/An cyclone/earthquake is caused by the movements deep inside the earth.
 - 2. Absence of rains can cause floods/droughts.
 - 3. Most simple machines make use of **mechanical**/elastic force.
 - 4. Aryabhatta satellite was launched in 1935/1975.

E. Unscramble the following:

Ans. 1. SATELLITES

2. FRICTION

3. GRAVITY

4. VOLCANOES

Summative Assessment-2

A. Write True or False:

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

B. Match the following:

Ans. 1. Oxygen

2. Natural resource

3. Moon

4. The Barren Island

5. Loss of soil

(a) Supports life

(b) Mineral

(c) Our nearest neighbour

(d) Andaman & Nicobar

(e) Soil erosion

C. Give reasons for the following:

- Ans. 1. When an earthquake occurs, one should stay away from buildings or poles if one is outdoors because It may fall down and person can be injured or died. The person should go away from such places to save his life.
 - 2. Communication networks are affected after earthquake because due to the earthquake buildings may fall down. It also cause landslides and fires. They disrupt the transport and communication system.
 - 3. When there is less or no rain at all in a particular area for a long time period, it is called drought. Due to the effects of drought, crops dry up, resulting in a severe shortage of grains, vegetables and fruits. Livestock perish due to shortage of fodder and water.

D. Answer the following questions:

Ans. 1. The uppermost layer of the soil is called topsoil. It contains humus which is very fertile. Carrying away of this topsoil by wind, water and other elements is called soil erosion. It reduces the fertility of the soil.

Many factors are responsible for soil erosion. These are known as the 'Agents of Erosion' and are as follows:

- (i) Strong winds and flowing rain water
- (ii) Deforestation
- (iii) Overgrazing
- (iv) Ploughing of hill sides.
- 2. (i) Floods: In some parts of India we have very heavy rainfall during monsoon. Due to this, the water in the rivers overflows onto the nearby lands causing floods. Floods in a region depend on various conditions of the region like the climate, soil, vegetation cover and overfall rainfall. Floods can be controlled on to extent by afforestation.
 - (ii) Earthquakes: An earthquake is a vibratory motion of the ground surface. It ranges from a mild tremor to a wild motion. The point under the ground where these vibrations originate is called the focus of the earthquake. The point of the earth's surface directly above the focus is called the epicentre of the earthquake. The earthquake waves are recorded by an instrument known as seismograph. The magnitude of an earthquake is measured on Richter scale.
 - (iii) Cyclones: In coastal areas, heavy rain is accompanied with very strong winds. This is called cyclone. Strong cyclonic winds cause

- destruction on the land by damaging buildings and houses, uprooting trees and other structures.
- 3. Deep inside, the core of the earth is so hot that rocks melt. This molten material is known as magma. The high pressure pushes magma (lava) upwards near the surface of the earth. This magma flows out and fills up cracks in other rocks slowly while solidifying. The hot lave flows out and cools down quickly. It forms Igneous rocks. Granite, Pumice and Basalt are the three examples of Igneous rocks.
- 4. Pollution is the release of substances in air, water or soil that are harmful to living beings. These harmful substances are called pollutants. Pollution is an environmental problem. It leads to diseases and many other problems. The main kinds of environmental pollution are as follows:
 - (i) Air pollution
 - (ii) Water pollution
 - (iii) Soil and land pollution
 - (iv) Noise pollution.
- 5. 'Tsunami' is a Japanese word meaning harbour wave. Tsunamis are caused by undersea earthquakes, volcanic eruptions, etc. The waves in a tsunami can be as high as 20 to 30 metres. They travel very fast up to 1000 kilometres per hour. They strike suddenly and cause great damage.
- 6. There is no layer of atmosphere surrounding the moon's surface, so there is no protection from the strong rays of the sun. The side of the moon facing the sun is extremely hot and the side away from the sun is far too cold to support any life. Moreover, there is no air or water on the moon.

Notes

Science-5)

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