

## Science Olympiad Level 5

**Total Marks: 50**

**Q1. Cross the odd one out.**

**(4 mks)**

1. Metallic minerals – haematite, bauxite, pyrite, **coal**, copper
3. Soil conservation – increasing vegetation, **deforestation**, crop rotation, proper drainage system, development of pastures
3. Organs of breathing – **ears**, spiracles, gills, nose, moist body surface
4. Vitamin deficiency – night blindness, beriberi, scurvy, **goiter**, rickets.

**Q2. Match the following.**

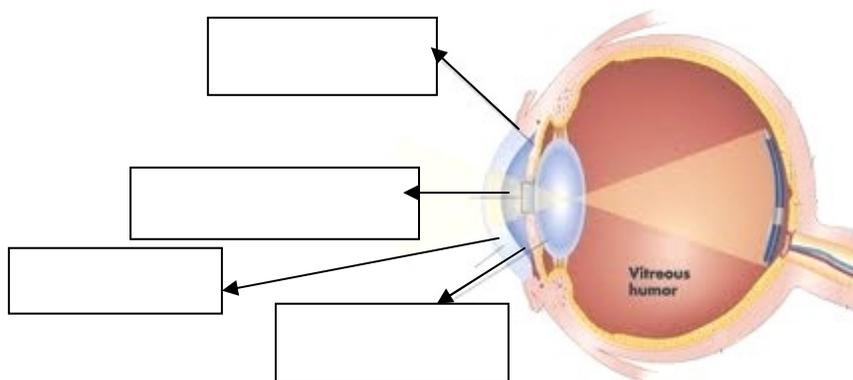
**(4 mks)**

Action	Type of force
1. Slipping on a smooth surface	a. Muscular force
2. Mango falling from the tree	b. Elastic force
3. Stretching a rubber band	c. Frictional force
4. Carrying a bucket of water	d. Gravitational force

cornea, iris, pupil, lens

**Q3. Label the parts of a human eye.**

**(2 mks)**



cornea, iris, pupil, lens

**Q4. Answer the questions based on facts you have learnt? (8 mks)**

1. Can new plants grow from stem? Give an example. **Yes a new plant can grow from a stem. Rose plant grows from the stem of another rose plant.**
2. How does milk food group help us? **Milk food group, provides calcium that helps to build strong bones and teeth. They also provide other important nutrients like proteins and vitamins.**
3. What is a tendon? **Voluntary muscles are attached to bones by strong bands of fibres called tendons.**
4. What is a reflex action? **Some of our actions take place automatically without the involvement of the brain. This is a reflex action, controlled by the spinal cord.**
5. How does light travel? **Light travels in the form of rays (straight line), it does not need a medium to travel through, it can even travel through vacuum.**
6. What is the importance of top soil? **Top soil contains most of the nutrients and water, it is rich in humus, seeds germinate and roots of small plants grow in these layers.**
7. How does the tongue help you to taste food? **The tip, sides and back of your tongue are covered with tiny bumps called taste buds which pick up different tastes.**
8. What is corrosion? Is it a physical or chemical change? **When Iron is exposed to humid air, it rusts and a red layer can be seen on it. This is called corrosion. It is a chemical change**

**Q5. Classify. (4 mks)**

1. Mushroom, roses, ferns, sugarcane, mosses, hibiscus.
  - a. New plant from spores – Mushroom, ferns, mosses
  - b. New plant from stems – Rose, sugarcane, hibiscus
2. Common cold, cholera, typhoid, measles, jaundice, tuberculosis
  - a. Airborne diseases – common cold, measles, tuberculosis
  - b. Waterborne diseases – cholera, typhoid, measles
3. Hand muscles, face muscles, stomach muscles, heart muscles, leg muscles, lung muscles
  - a. Voluntary muscles – hand muscles, face muscles, leg muscles
  - b. Involuntary muscles – stomach muscles, heart muscles, lung muscles

4. Sandstone, quartzite, conglomerate, marble, shale, gneiss.

a. Sedimentary rocks – Sandstone, conglomerate, shale

b. Metamorphic rocks – Quartzite, marble, gneiss

**Q6. Explain.**

**(5 mks)**

1. Rain water flowing down the hill is muddy. **Muddy water flows down the hills. The water is muddy because of the soil which is being washed away.**

2. Communicable diseases can be prevented through vaccination **Vaccines are medicines that can prevent a disease from occurring; it also enables our body to fight away disease-causing germs when they enter the body.**

3. Insects do not have lungs but they still breathe. **Insects breathe through small holes called spiracles, located on the sides of their body, through which oxygen enters.**

4. A tweezer is a third class lever **In a tweezer the effort is in the middle and the load and fulcrum are at the two ends hence it is a third class lever.**

5. The brain is an important part of the nervous system **The brain is the main control and co-ordination centre of the human body. It co-ordinates all the actions and reactions of the body by receiving and sending messages through the nerves.**

**Q7. Choose the correct option.**

**(5 mks)**

1. Beating of the heart and breathing are involuntary actions. The part of the brain controlling them is -

a. the Cerebrum

b. the Cerebellum

**c. the Medulla**

2. When a substance burns it forms smoke, gases and ash. This process is called -

a. Corrosion

**b. Combustion.**

c. Congestion

3. In order to conserve energy we use renewable sources of energy. When energy is derived by burning material derived from living things such as wood, garbage etc it is called -

a. **Biomass energy**

b. Geothermal energy

c. Solar energy

4. Recently China was hit by an earthquake of magnitude 7.3 on the Richter scale. What instrument was used to record this -

a. Hypograph

b. **Seismograph**

c. Epigraph

5. Planting of trees on a large scale on an open land is known as -

a. Deforestation

b. **Afforestation**

c. Development of pastures

**Q8. Give Reasons.**

**(6 mks)**

1. All the seeds produced by a plant do not grow into new plants..**All the seeds produced by a plant do not grow into plants; only the ripe and healthy seeds that get all the favourable conditions grow into new plants.**

2. While playing carom, the striker moves easily when the board is well powdered..**because powder reduces the friction and hence enables the striker to move easily.**

3. Trees should be planted across the direction in which wind blows... **Trees should be planted across the direction of the wind to protect against strong winds. They act like curtains reducing the speed of the wind and preventing soil erosion.**

**Q9. Say what will happen.**

**(6 mks)**

1. If the moon casts its shadow on part of the earth by blocking the light of the sun..**People living in this area cannot see the sun and will experience a solar eclipse which happens only on a new moon day.**
2. If there is lack of rain in rural agricultural areas... **The agricultural areas will experience a period of drought. Wells, lakes and streams will dry up. There will be shortage of drinking water and plants and crops will wither and dry.**
3. If fruits and vegetables are not washed before eating... **If fruits and vegetables are not washed, the dirt, chemicals and pesticides on them will enter our stomachs and make us ill or may even cause intestinal infection.**

**Q10. With the help of activities conducted, pick the correct option. (6 mks)**

1. In beaker A you place few seeds on some dry cotton wool and in beaker B you place few seeds completely submerged in water.  
You will observe that –
  - a. The seeds in beaker B germinate and grow**
  - b. The seeds in beaker A germinate and grow
  - c. The seeds in both beaker A and B germinate and grow
2. A mixture of saw dust and iron nails is on the floor. A magnet can be used to easily separate the two. This is because –
  - a. Saw dust is a magnetic material
  - b. Iron nails are magnetic materials**
  - c. Iron nails are not magnetic materials
3. You have received a new fridge. The delivery man is trying to push the fridge to the desired spot. Watching him struggle dad suggests he use his trolley lying in the backyard, now it is very easy to push the fridge. This is because -
  - a. Muscular force suddenly increase because of the trolley
  - b. Electrostatic force is reduced because of the trolley
  - c. Frictional force is reduced because of the trolley**
4. Two balloons filled with more or less the same amount of air are tied on either sides of a stick. The stick is held with a string in the centre and is perfectly balanced. Your sister comes and pricks the balloon on one side with a pin, the stick immediately tilts towards the side of the blown up balloons. This tells us that –
  - a. Air has weight**
  - b. Air occupies space
  - c. Air exerts pressure