

NEW BHARATH MATRIC HR SEC SCHOOL, THIRUVARUR

Class: V

Sub: Science

ORGAN SYSTEMS

1. Choose the correct answer:

1. What is the length of the alimentary canal?
6 - 9 m
2. Which organ is involved in respiration?
Lungs
3. How many kidneys do we have?
2
4. Functional unit of brain is _____
Neuron
5. Blood is pumped by _____
Heart

II. Fill in the blanks:

1. A group of organs together make up an **organ** system.
2. The process by which the body removes waste is called **Excretory System**
3. The number of chambers in human hearts is **4**
4. The functional unit of kidney is **nephron**
5. The human nervous system is divided into **two** parts.

III. Say true or false:

1. In human respiratory system, length of trachea is 8-10 cm. **False**
2. The circulatory system is made up of the heart, blood and blood vessels. **True**
3. Important function of the heart is to transport blood with nutrients, oxygen, waste and hormones. **True**
4. The brain is protected by the ribcage. **False**
5. The functional unit of kidney is neuron. **False**

IV. Circle the odd one:

- | | | | |
|----------------|------------------|----------------------|-------------------|
| 1. a) mouth | b) Buccal cavity | c) pharynx | d) <u>lungs</u> |
| 2. a) nostrils | b) nasal cavity | c) pharynx | d) <u>stomach</u> |
| 3. a) mouth | b) Esophagus | c) stomach | d) <u>kidney</u> |
| 4. a) Taste | b) Hear | c) <u>Think</u> | d) smell |
| 5. a) cerebrum | b) cerebellum | c) medulla oblongata | d) <u>nephron</u> |

V. Match the following:

- | | | |
|-----------------------|---|------------------|
| 1. Digestive system | - | Alimentary canal |
| 2. Respiratory system | - | Lungs |
| 3. Circulatory system | - | Heart |
| 4. Excretory system | - | Kidney |
| 5. Nervous System | - | Brain |

VI. Answer in briefly:

1. Name the salivary glands in our mouth?
The three pairs of salivary glands parotid, sublingual and submandibular gland.
2. What is respiration?
The respiratory system provides oxygen to the tissues of the body and removes carbon dioxide from the tissues.
3. What is the function of pericardial fluid?
The pericardial fluid protects the heart from shock.
4. Name the chambers in human heart?
The heart is divided in to four chambers. Two upper chambers are called atria or auricles (Singular -atrium). Two lower thicker chambers are called ventricles.
5. Arrange the excretory system in correct sequence.
(Urinary bladder, ureter, urinary bladder, urethra)
Kidney, ureter, urinary bladder, urethra)
6. What are the two parts of peripheral nervous system?
Peripheral nervous system consists of nerves extending from the spinal cord to all parts of the body. It is made of two parts.
It is made of two parts
Somatic nervous system
Autonomous nervous system
7. What are the functions of blood?
Blood transports nutrients, oxygen, wastes and harmones. The volume of blood in human adults is 4-5 litres. It regulates water level and the body temperature.

VII. Detail:

1. List out the functions of the digestive system.

The food we eat, consists of complex compounds like carbohydrates, proteins and fats. They have to be converted into simpler molecules like glucose, amino acids, fatty acid and glycerol respectively.

These simpler molecules are then assimilated either by blood or lymph in order to give us energy. The process of conversion of complex food molecules into simpler molecules is called digestion.

2. Explain the main parts of the circulatory system.

In this system blood is circulated to transport oxygen and nutrients to every part of the body. circulatory system consists of the following :

1. Heart
2. Blood
3. Blood vessels

Heart:

The right side of the heart receives deoxygenated blood from various parts of the body and pumps it to the lungs for oxygenation. The left side of the heart receives oxygenated blood from the lungs and pumps it in to different parts of the body.

Blood:

Blood transports nutrients, oxygen, wastes and hormones.

Blood Vessels:

Blood vessels consists of arteries and veins. Arteries carry oxygenated blood except pulmonary artery which carries deoxygenated blood from the heart.

3. Explain three major parts of human brain.

Human brain is divided into three major parts.

- # Fore brain (Cerebrum)
- # Mid brain (Cerebellum)
- # Hind brain (Medulla oblongata)

Fore brain (Cerebrum):

- * It is the largest part of the brain
- * It is the centre of human memory
- * It is responsible for intelligence imagination and reasoning.

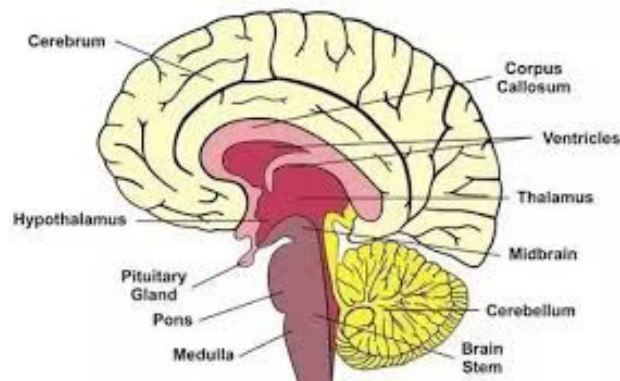
Mid brain (Cerebellum):

- # It lies behind the cerebrum
- # It co-ordinates the movements of the muscles of the body.
- # It helps to maintain the balance of the body.

Hind brain (Medulla oblongata):

- * The hind brain comprises of Pons and medulla oblongata.
- * It is also called the brain stem.
- * It is called 'vital knot' because it controls breathing heart beat and other involuntary muscles.
- * It connects the brain to the spinal cord.

4. Label the diagram given below:



Human Brain

VIII.

1. Why it is important to wear helmet while riding a bike?

It is important to wear helmet while riding a bike. Because it acts as a shield to protects our head and brain while we fall or meet an accident.

2. Eating fast food and junk food affects our health justify.

Eating fast food and junk foods frequently will leads to many health problems in young age.

Junk food contain excess calorie, sodium, salts, fats and artificial chemicals. It leads to several health problems such as diabetes, blood pressure, knee pain etc.,

ACITIVITY-1:

Sit quietly and count how many times you breath per minute.

On an average we breath 16-18 time per minute in a day.

We breath more than 20,000 times in a day.

ACTIVITY-2:

Locate your pulse points either on wrist or neck. place your right index and middle finger on the palm side of your left wrist. on the neck the pulse point is located beneath the ear and jaw bone.

Count the number of beats for 15 seconds. Multiply this by four (15*4=60) this shows how many times the heart beats in one minute.

ADDITIONAL QUESTION:

1. The digestive system can be divided into **two** types.
2. The digestive tract is **6-9 meter** long in our human body.
3. Tape worm lives in the **human intestine.**
4. Smoke contains large amount of **carbon monoxide.**
5. We breath **16-18 times** per minute.
6. The **Lungs** are paired **cone shaped** organs.
7. **Air pollution** causes many respiratory diseases.
8. Smoking can cause **lung cancer**
9. The heart is a **hollow, muscular** organ.
10. **Heart** is placed inside the thoracic chamber (ribcage) in between the two lungs.
11. The heart is divided into **four** chamber
12. The volume of blood in human adults is **4-5 liters**
13. Blood vessels consists of **arteries and veins**
14. Cockroach has **colourless or white blood.**
15. Lobsters and crabs that have **blue blood.**
16. The average weight of human brain is **1.300kg**
17. **Autonomous nervous system** controls nerves of the inner organs of the body.

2.MATTER AND MATERIALS

1. Choose It:

1. Which of the following are the states of matter?
Solid, Liquid, Gas
2. Which of the following is a solid?
Apple
3. Jute fibre is obtained from
stem

II. Fill in the blanks:

1. **Black soil and alluvial** soil is suitable for growing cotton.
2. The process of making cotton yarn from fibres is **spinning**
3. Ginning is done to separate **fibre** from the seeds.
4. Synthetic fibre is also called **manmade** fibre.
5. Woollen clothes are manufactured from **animals**

III. Match the following:

- | | | |
|------------|---|-----------|
| 1. Yarn | - | spinning |
| 2. lint | - | ginning |
| 3. fabrics | - | weaving |
| 4. rayon | - | wood pulp |
| 5. jute | - | stem |

IV. True or False:

- | | | |
|--|---|-------|
| 1. Coir is the outer covering of coconut | - | True |
| 2. Beans and peas are pulses | - | True |
| 3. Table is a house hold good | - | True |
| 4. sweet corn not a product of maize | - | False |
| 5. Cotton balls contain jute fibre | - | False |

V. Complete the given analogy:

1. Solid : Table : **liquid** : water
2. Cotton seed : **spinning** : lint : spinning
3. coir fibre : **coconut** : cotton fibre : cotton plant
4. black pepper : spice : sweet corn : **sweetener**

VI. Answer in brief:

1. What is known as ginning?
The raw fibres are separated from the seeds by a process known as ginning.
2. Give two examples for food products made from wheat.
Breads, cakes, pasta, wheat germ and cracked wheat.
3. What are synthetic fibres?
Synthetic fibres are made by human beings with the help of chemical process. Hence they are called synthetic fibres or manmade fibres.
4. What is known as up thrust?
When object is immersed in a liquid the liquid exerts an upward force on the object. It is known as up thrust.
5. Name the list of whole grains.
Wheat, maize, rice, beans, peas, barley and millets are some of the whole grains.

VII. Answer in Detail:

1. Discuss briefly about three states of matter.

Matter can exist in three physical states: Solid, Liquid and Gas.

Solid:

In Solids molecules are very closely arranged solids are incompressible. They have definite shape, size and volume.

Liquid:

In liquids molecules are loosely packed. Hence liquids are negligibly compressible. They have definite volume, but no definite shape and size.

Gas:

In Gases molecules are very loosely packed. Hence gases are highly compressible.

2. Draw a flow chat to indicate the process of making fabrics from cotton ball.

Ginning:

There are two process to make cotton yarn from cotton fibre. The raw fibres are separated from the seeds by a process known as ginning. The fibre material left after separating cotton seeds is called lint.

Spinning:

The process of making yarn from lint (Fibre) is called spinning. Spinning is done on a large scale with the help of spinning machines.

Yarn to fabrics:

Weaving and knitting are the two most important processes used for making fabric from the yarn. The process of making two sets of yarns together to make fabric is called weaving it is done by weavers on a machine called loom.

VIII. Give Reason:

1. Why umbrellas are made up of synthetic clothes?

Synthetic fibres are do not absorb the water. so umbrellas are made up of synthetic fibres.

2. What determines whether an object floats or sink in a fluid?
 - * Whether an objects floats or sink is determined by its density.
 - * If the density of the object is greater than the liquid density. it is sink.

Activity:

1. Look at your surrounding give some examples for solids, liquids and gases.
2. Classify the following natural fibres polyester, jute, silk, nylon, cotton, wool, acrylic, rayon, synthetic fibres, natural fibres.
3. Take water in a bucket and drop the following items in the water. Apple, scissors, silver fork, marbles, plastic ball

Additional Questions:

1. **Solid** molecules are very closed packed.
2. Jute fibre is called **golden fibre**.
3. Grain is a small, hard, dry **seed**
4. Pet bottles are used to make **Polyester**
5. **90%** of the worlds rice production is in Asia.
6. A fish can control the **up thrust on its body**.
7. A cotton plant is a bushy plant of **5 to 6 feet** high
8. smoke contains large amount of **carbon monoxide** a toxic gas.
9. Smoking can cause **lung cancer**.

3. ENERGY

I. Choose the correct answer:

1. When diesel is burnt chemical energy is converted into _____
Heat energy
2. Running water possesses _____
Kinetic energy
3. Unit of energy is _____
Joule
4. Which one of the following requires wind energy?
parachute
5. cow dung possesses _____
Chemical energy

II. Find out the energy conversation that takes place in the following:

- | | | | | |
|-------------------------|---|-------------------|---|-------------------|
| 1. Iron Box | : | Chemical energy | : | Heat energy |
| 2. Electrical Iron box: | : | Electrical energy | : | Heat energy |
| 3. Electric fan | : | Electrical energy | : | kinetic energy |
| 4. Speaker | : | Electrical energy | : | sound energy |
| 5. Generator | : | Kinetic energy | : | Electrical energy |

III. Find out the energy possessed by the following things:

- | | | |
|------------------------------|---|------------------|
| 1. A rock on the top of hill | - | potential energy |
| 2. a rolling ball | - | kinetic energy |
| 3. charcoal | - | chemical energy |
| 4. waterfalls | - | kinetic energy |
| 5. Battery | - | chemical energy |

IV. Match the following:

- | | | |
|--------------------|---|-------------------|
| 1. Electrical bell | - | Sound energy |
| 2. water in dam | - | potential energy |
| 3. solar heater | - | solar energy |
| 4. wind mill | - | electrical energy |
| 5. torch light | - | light energy |

V. Say True or False:

1. An apple falling from a tree is an example for kinetic energy. **True**
2. Electrical energy is used to run electrical trains. **True**
3. Heat energy cannot be produced by friction . **False**
4. Potential energy and heat energy are the two forms of mechanical energy. **False**
5. The unit of energy is joule. **True**

VI. Answer in brief:

1. What is energy?

Energy is defined as capacity to do work.

2. What are the different forms of energy?

Mechanical energy, heat energy, light energy, wind energy, and so on.

3. What are the uses of mechanical energy?

In hydro electrical plants, kinetic energy of water is converted into electrical energy.

Wind mills converts kinetic energy of winds into electrical energy

4. State law of conservation of energy?

- * Law of conservation of energy states that energy can neither be created nor be destroyed.
- * One form of energy is converted into another form of energy.

5. Mention the uses of light energy.

- # We are able to see objects with the help of light energy.
- # Plants use light energy to synthesis their food.
- # With the help of light energy our skin is able to synthesis vitamin D.

VIII. Answer in detail:

1. Explain the types of mechanical energy.

- * Energy possessed by an object due to its position is called mechanical energy.

Mechanical energy can be classified into two

- # Kinetic energy
- # potential energy

Kinetic energy:

- * Energy possessed by moving object is known as kinetic energy. It is also known as energy of motion.
- * Example : moving car, bullet coming out of a gun.

Potential energy:

- * Energy possessed by an object which is at rest is known as potential energy. It is also known as stored energy of position.
- *Example: object lifted above, stone in the stretched rubber

2. Explain conservation of energy.

Energy cannot be created and it cannot be destroyed also. It is changed from one form to another form or transferred from one object to another object. We can say many examples for conservation of energy in our daily life.

Water stored in water dams possesses potential energy. When water falls down, potential energy of water is converted into kinetic energy.

Kinetic energy of water rotates the turbines and electric energy is generated.

Additional Questions:

1. Wind mills convert kinetic energy of winds into **electric energy**
2. **Tamil nadu** stands first in generating electricity from wind mills.
3. Wind mills are located in places like **Aralvaimozhi, Kayatharu and Gudimangalam**
4. **Temperature** is a measure of heat in a body.
5. Study of light is known as **optics**.
6. Light is a form of **energy**.
7. Light travel at a speed of **3,00,000km/s**
8. **Electric** bell generates electrical energy.
9. Photosynthesis changes solar energy into **chemical energy**.
10. Write the uses of electrical energy.
 - * Electric iron box, electric stove and electric water heater work by electrical energy.
 - * It is used to run cars and trains
 - * It is used in factories to produce materials.

Activity:

1. Take a small amount of lime powder in a glass, add some water and stir well, touch the glass outside. How do you feel?
2. Mention few places where electric energy is generated in plants.

Nuclear plant	Hydroelectric plant	Thermoelectric plant

4.SCIENCE IN EVERYDAY LIFE

I. Choose the correct answer:

1. Blue appearance of the sky is due to _____ of light.
Interference
2. Who is known as missile man of India?
Dr. A.P.J. Abdul kalam
3. An example for reversible change is _____
melting of ice
4. Chemical reactions are example for _____
Irreversible change
5. Which of the following is not an organic waste?
Battery

II. Fill in the blanks:

1. The book 'wings of fire' was written by Dr. A.P.J. Abdul kalam
2. A stretched rubber band comes back to normal shape. It is an example for reversible
3. Most of the physical changes are reversible changes
4. News paper is a recyclable waste.
5. Wastes from house and apartments are called household waste.

III. Match the following:

- | | | |
|----------------------|---|------------------------|
| 1. Bud to flower | - | Irreversible change |
| 2. Reversible change | - | melting of ice |
| 3. India 2020 | - | Dr. A.P.J. Adbul kalam |
| 4. Paper | - | Recyclable waste |
| 5. Vegetables | - | organic waste |

IV. Circle the odd one:

- | | | | |
|------------------|-------------|------------|--------------------|
| 1. a) Melting | b) freezing | c) boiling | d) cooking |
| 2. a) Boiling | b) burning | c) cooking | d) rusting of iron |
| 3. a) vegetables | b) flowers | c) fruits | d) chemicals |
| 4. a) paper | b) glass | c) metals | d) paints |

V. Answer briefly:

1. Sky appears blue in colour why?
* The white light we see is composed of different colours such as white, indigo, blue, green, yellow, orange and red (VIBGYOR)
* Among these colours blue is scattered more because of this reason sky appears blue most of the time.
2. What is reversible change?
Changes which can be reversed are called reversible change.
3. Differentiate reversible and irreversible changes.

Reversible	Irreversible
A substance can turn to its original state	A substance cannot change to its original state
The chemical properties of the substance do not change	The chemical properties of the substance will change
Most of the physical changes are reversible	All chemical changes are irreversible

4. What are the different types of wastes?

Organic wastes, toxic wastes, recyclable wastes

Solid wastes, e-wastes

5. Write a note on e-waste:

* 40 million tons of electronic waste is generated every year world wide

* E-waste compresses 70% of our overall

* E-waste contains hundreds of substance of which many are toxic

6. Name the scientists from Tamil nadu?

Dr. M.S. Swaminathan

Srinivasa Ramanujan

Venkata raman Radha krishnan

Dr. A.P.J. Abdul kalam

Sir. C.V. Raman

VI. Answer in detail:

1. Write about different household wastes:

The house hold wastes as below:

Organic wastes:

Kitchen wastes, vegetables, flowers, leaves, fruits

Toxic wastes:

Old medicines, paints, chemical, bulbs, spray cans, fertilizers, pesticide containers, Batteries, shoe polish

Recyclable wastes:

Paper, glass, metals, plastics

Solid wastes:

Cloth soiled with blood and other body fluids.

e-wastes:

computer parts, electronic materials, cell phoneparts

2. Explain the need for waste disposal.

To control pollution:

Various pollutions like water pollution, air pollution and soil pollution can be avoided.

To conserve natural resources:

Waste disposal is important for the conservation of our environmental resources like forest, minerals and water.

To control spread of diseases:

Spread of infectious diseases can be controlled.

Recycle for further use:

Wastes can be recycled to get products for further use.

3. How can you reduce wastes in your school environment.

* Segregate wastes into biodegradable and non biodegradable items and hand over them to the municipal and corporation people who collect them

* Do not throw away your wastes everywhere, put them in dust bins and dispose them properly.

* Waste food in schools can be collected and used to feed cattles.

* Organic wastes can be converted in to manures.

Additional Questions:

1. National science day is celebrated on **28th February**.

2. Raman effect is invented by **Sir Chandrasekhara Venkata Raman**

3. Sir C.V.Raman won the Nobel prize in physics in the year **1930**.

4. Dr. A.P.J. Abdul kalam was written many books like **wings of fire**
India 2020 and Ignited minds