

Part - II

(Section - A)

Q. No: 3

a) Role of kidney in
Urine formation

Ans: Kidneys have many jobs from filtering blood and a hormone that controls the production of red blood cells.

The kidneys filter unwanted substances from the blood and produce urine to excrete them.

There are three main steps of urine formation:

- i) glomerular filtration
- ii) reabsorption
- iii) secretion

These processes ensure that only waste and excess water are removed from the body.

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Urine is made in the renal tubules and collects in the renal pelvis of each kidney. The urine flows from the kidneys through the ureters to the bladder. The urine is stored in the bladder until it leaves the body through the urethra.

b) Remote Sensing

Remote sensing is the process of detecting and monitoring the physical characteristics of an area by measuring its reflected and emitted radiation at a distance. Special cameras collect remotely sensed images. These images help researchers "sense" things about the Earth.

Application of remote sensing in the environment

Remote sensing help in these ways in the environment

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preserve the environment by providing information that may be used in decision making to save the environment

c. Green house effect

Green house effect is a process that occurs when gases in the Earth's atmosphere trap the Sun's heat. This process makes Earth much warmer than it would be without an atmosphere. The greenhouse effect is one of the things that makes Earth a comfortable place to live.

Benefits of Green house effect

without any greenhouse gases, Earth would be an icy wasteland. Greenhouse gases keep our planet livable by holding onto some of Earth's heat energy so that it doesn't all escape into space.

b. Methods to deal with water scarcity

Water scarcity is a predominantly man-made problem, which needs a man-made solution. Methods to overcome water scarcity are as following:

Reducing water use :

Reducing water use help in preservation of water. Taking shorter showers, installing low-flow toilets and collecting rainwater for garden use at home are some of the methods by which water use can be reduced.

Developing water filtration system

Effective water filtration systems help ensure freshwater is safe to use. Water filtration systems produce purified water free from

1. Monitoring of forests

on site observations of forests is not possible because of wild animals and thick bushes, and therefore remote sensing technique provides an alternative method of monitoring these areas.

2. Management of natural resources

Natural resources are valuable and thus they are prone to theft and misuse, remote sensing technique is used to reverse these activities. The satellite sensor records all the ongoing activities within the site, which greatly helps to minimize cases related to misuse and theft.

3. Environmental preservation

Remote sensing technique is widely used to protect and

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4) Artificial Intelligence has revolutionized the world

Artificial Intelligence (AI) is the term to describe a machine's learning, logic, reasoning, perception and creativity which were once considered unique to humans. But now it is replicated by technology and use in every industry.

Examples :

The latest developments in Artificial Intelligence are chatbots, smart cars and IoT devices. The healthcare, banking, logistics and travel sectors all use artificial intelligence to provide a superior experience.

d. Food preservation methods

Food preservation methods are as following:

- i) Drying
- ii) Refrigeration
- iii) Fermentation

Modern methods include:

Canning

Pasteurization

Freezing

Irradiation

Addition of chemicals

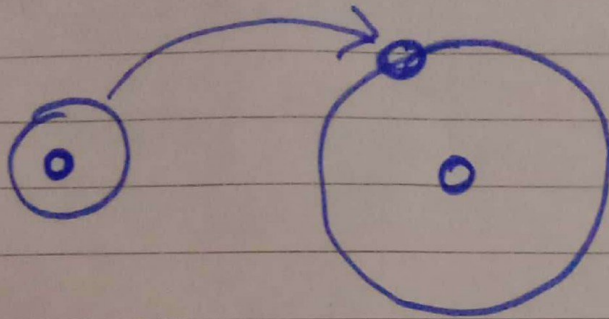
Advances in packaging materials have played an important role in modern food preservation

bacteria, microbes and other contaminants. It helps in having access to water that is safe to drink.

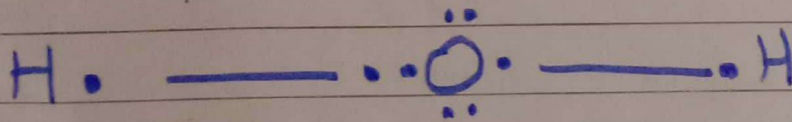
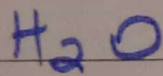
C. Vaccines :

Vaccines reduce risks of getting a disease by working with your body's natural defense to build protection. Vaccines teach the immune system how to create antibodies that protect the individual from diseases. It is much safer for the immune system to learn this through vaccination than by catching the diseases and treating them.

d. Ionic bond :-



Electron transferred



Covalent bond

Electron shared

