

GSA

Question no 4:-

Discuss different methods of solid waste management?

Solid waste management basically is a method that is used to minimize the hazardous impact on environment and maintaining public health and also conserving natural resources.

There are methods which follow a step by step process.

Recycling:-

Recycling is the process of reusing those things that are usable after converting into new products.

Example:-

Those things that reuseable such as shopping bags, paper, plastic, glass and metal.

- plastic import every year around 40 tons to reuse and make other new product with it.

Compositing:-

Compositing is the process of decomposition of all organic waste.

Incineration:-

Burning waste material on high temperature to reduce volume.

Landfilling:-

Landfilling is a method of solid waste disposal where waste is buried in a landfill to reduce health risks and prevent from contaminating environment.

Waste to energy:-

It is a benefit process where waste converting into energy such as biogas.

Segregation:-

Segregation is the process in which do separation of waste material such as biodegradable and non-biodegradable at source.

(a)

Chlorophyll

Chlorophyll is a pigment that present in the plants.

It is very important for the plant, during photosynthesis it gives colour to plant which is green.

Without this pigment, photosynthesis can not takes place in plants because chlorophyll takes radiation from the sunlight.

Chlorophyll takes blue and red wavelength and make green colour. And also without chlorophyll plants cannot survive on the earth.

DATE: _____ DAY: _____
(b)

Ribosomes in protein synthesis :-

Ribosomes:-

Ribosomes are complex molecular machines found in cell, which responsible for translating mRNA into specific sequence of amino acids, that then fold into protein. ribosomes attached with rough endoplasmic reticulum.

Role of ribosomes in protein synthesis

Translation:-

Ribosomes read the sequence of nucleotides in mRNA, then formed amino acids into

DATE: _____ DAY: _____
polypeptide chain.

Assemble amino acids:-

Assemble amino acids
converting into polypeptide
chain of protein.

Poly peptide chain formed:-

Poly peptide chain formed after
assembling amino acid. At last
chain fold into functional
protein.

(d)

Define terms:

Biofuel:-

Biofuel is a type of

renewable energy. This energy
make from waste material
through the process of transester-
fication.

Examples-

Ethanol and biodiesel.

Adulteration:-

Harmful substances adding
into pure food called
adulteration.

Hydrosphere:-

All the water bodies on
the earth called hydrosphere.
such as ocean, rivers, lakes,
ground water.

Troposphere:-

Troposphere is the first layer of atmosphere, which has distance from earth is 50 km. It is a cold layer, and also protect from harmful gases.

Isotopes:-

Isotopes which has same atom of element with same proton but different neutrons.

Examples-

C^{12} , C^{14}

Question no 3:-

(a)

Why cell form organelles?

Cell form organelles because of, it perform their function accurately and with efficiency such as a factory has different department to do work with efficiency and accurately.

Mitochondria in human cell:-

Mitochondria is a "power house" make energy in the form of **ATP** (Adenosine triphosphate) through cellular respiration.

Structure:-

Mitochondria has double membrane. Outer membrane and inner membrane.

Outer membrane:-

outer membrane protective and smooth shaped.

Inner membrane:-

Inner membrane folds cristae to increase surface area.

Inside of mitochondria has fluid called "matrix" including ribosomes, DNA.

Mitochondria in human cell:-

mitochondria gives energy in human body where needed such as

- muscles (for movement)
- Brain (for nerve cell)

(b)

Doping:-

Adding impurities in pure semiconductor such as (silicon, Germanium), to increase their conductivity, is known as doping.

Example:-

If add 3 and 5 group elements in 4 group to increase conductivity.

Types of semiconductor:-

There is a two type of semiconductor.

N - type

P - type.

N-type:-

It is negative type of semiconductor. Doped pentavalent impurities. Having five atoms in their valence shell, such as Arsenic (As), Antimony (sb), phosphorous (P).

It has extra electrons that freely move, and minor holes.

P-type:-

It is positive type of semiconductor. Doped trivalent impurities. Having three atoms in valence shell which two bonds, one incomplete. such as Boron (B), Barium (Ba) and indium (In).

It has extra holes but

minor electrons.

(C)

Volcanic eruption:-

Volcanic eruption is a ash and lava that break down and escape from a volcano onto the Earth's surface

Merits:-

Fertile soil:-

Due to volcanic eruption where minerals in rich like potassium and calcium to make fertile soil.

Landforms:-

Land formed new because of volcanic eruption like

Iceland.

Geothermal energy:-

Geothermal energy generates from volcanic eruption provides water through pipes. For example Iceland generates energy from this process.

Demerits:-

Loss of life and property:-

Destruction of property and loss of life where volcanic erupted due to molten rocks which escape from the earth's surface.

Toxic gases:-

Releases toxic gases like sulfur dioxide which

polluted atmosphere and make reason to blocking sunlight, that trigger climate change.

Vegetation and habitats:-

Due to volcanic eruption vegetation destroy and also habitats of animals. then take years to normal.

Section II

Question no 6:-

(a)

Apple candies = 3

Date candies = 5

suppose "x" common

Apple candies exceeds by 35

DATE: _____

DAY: _____

$$3x - 5x = 35$$

$$2x = 35$$

$$x = 35/2$$

$$x = 17.5$$

$$\text{Berry candies} = 6x$$

$$6(17.5) = 105 \text{ Ans.}$$

(b)

$$(\text{Total saving} = 25000\%)$$

$$\text{camera priced at} = 200 \$$$

$$\text{Discount} = 200 \times \frac{25}{100}$$

$$50$$

$$200 - 50 = 150$$

$$\text{tax} = 6\%$$

$$0.06 \times 150 = 9$$

$$\text{total} = 9 + 150 = 159 \text{ Ans.}$$

Paid.

(c)

$$\text{Distance} = 36 \text{ km}$$

$$\text{Speed} = 18 \text{ km/hr}$$

$$t = ?$$

$$t = \frac{d}{s}$$

$$t = \frac{36}{18} = 2$$

$$1 \text{ pm} + 2 \text{ hours} = 3 \text{ pm del.$$

(d)

Statistics

Algebra

Question no 7:-

(a)

$$r = ?$$

$$\text{diameter} = 14 \text{ cm}$$

$$14/2 = 7$$

$$\pi = \frac{22}{7}$$

$$V = \frac{4}{3} \pi r^3$$

$$V = \frac{4}{3} \times \frac{22}{7} \times (7)^3$$

$$V = \frac{4}{3} \times \frac{22}{7} \times 343$$

$$1.33 \times 3.14 \times 343 = 347.17$$

(b)

$$\text{Total saving} = 25000$$

$$\text{ratio} = 1 : 2 : 3 : 4 : 5$$

$$\text{sum of ratio} = 15$$

$$= \frac{25000}{15}$$

$$= 1666.6$$

$$\text{low share} = 1 \times 1666.6$$

$$= 1666.6 \text{ Ans}$$

(C)

Complete series

i- 2, 6, 18, 54, 162, 486

$$2 \times 3 = 6$$

$$6 \times 3 = 18$$

$$18 \times 3 = 54$$

$$54 \times 3 = 162$$

$$162 \times 3 = 486$$

All are correct.

ii-

3, 5, 7, 11, 13, 17

odd numbers.
