

Part - II

Section - I

Q.2.

(a)

Ans "Dengue also known as break-bone fever is a viral disease which is caused by dengue virus."

(Ref; WHO)

Causes and Transmission:

Dengue is caused by dengue virus. Following are some ways through which dengue spreads;

- (i) Mosquito to man; Dengue can transmit from mosquito to man when a mosquito bites a healthy person. The mosquito which transmit dengue virus to man is known

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as *Aedes Aegypti*.

(ii) **Man to mosquito**; A person who is **viramix** to dengue transmits dengue virus to mosquito. If mosquito is injected with dengue virus, it will remain infected for a lifetime.

(iii) **Other methods**;
Blood transfusion
Organ donation.

SYMPTOMS

The symptoms of dengue include;

- Fever
- Nausea
- Vomiting
- Weakness
- Lack of appetite
- Jaundice.

Ans

(d)

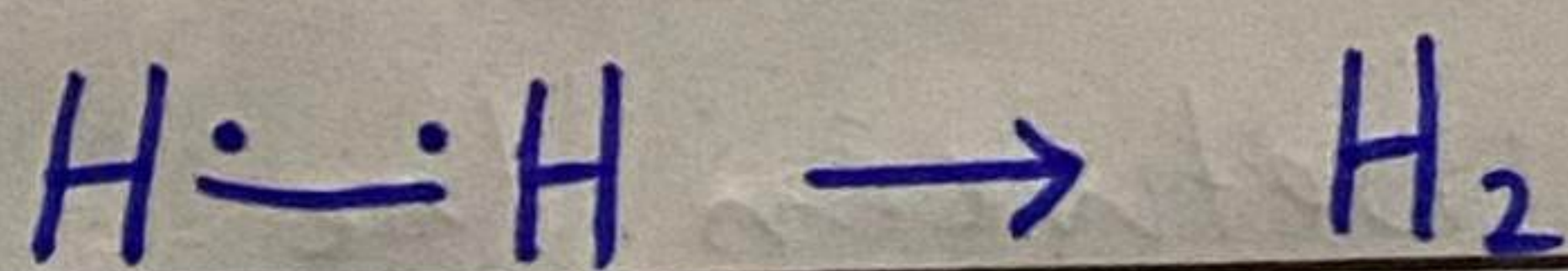
“Covalent bond is a type of bond which is formed by the sharing of electrons between the atoms.”

Types of covalent bond

1- Single covalent bond; $\text{O}::\text{O}$

“A type of covalent bond which is formed by the sharing of one pair of electrons between the atoms.”

e.g. Formation of H_2 molecule.



→ Single covalent bond is represented by single straight bond.

molecule

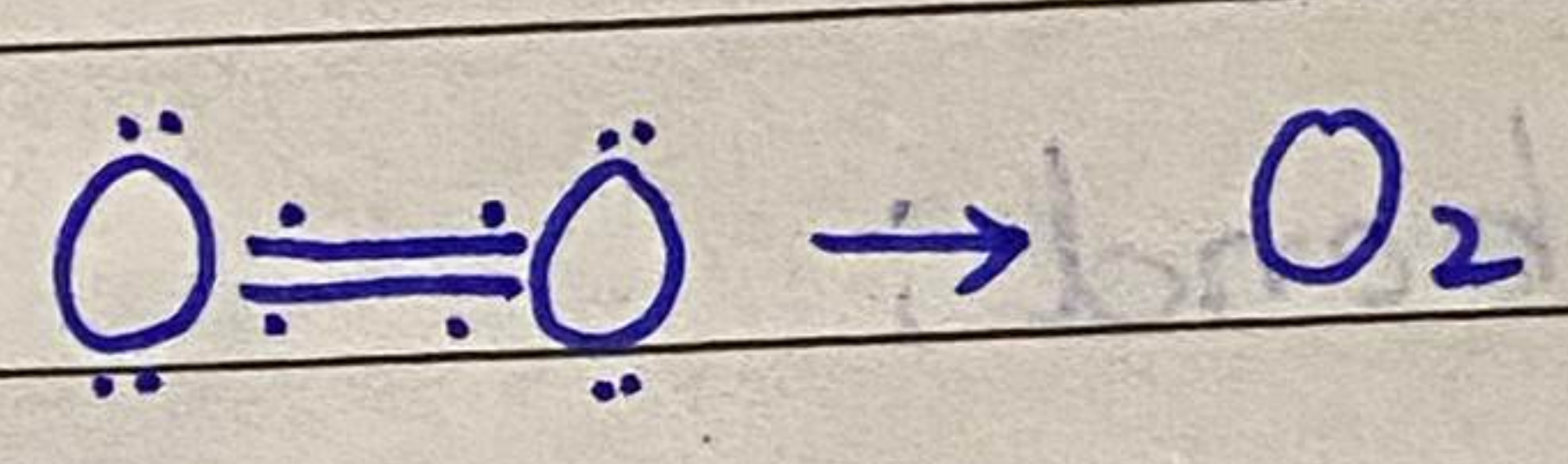
est

2- Double covalent bond ;

(b)

"A type of covalent bond which is formed by the sharing of two pairs of electrons between the atoms."

e.g. Formation of O₂ molecule ;



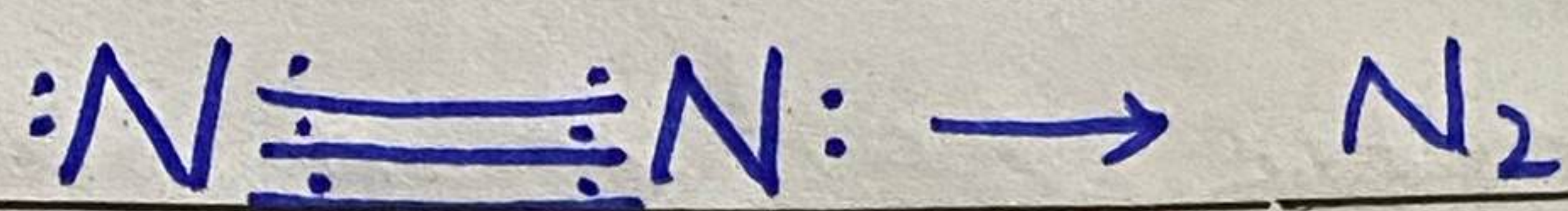
Double covalent bond is represented by double straight lines.

3- Triple covalent bond ;

"A type of covalent bond which is formed by the sharing of three pairs of electrons between the atoms."

e.g. Formation of N_2 molecule

Ans



Triple covalent bond is represented by three straight lines.

4. Co-ordinate covalent bond;

"A type of covalent bond which is formed by the sharing of electrons by one atom only."

Co-ordinate covalent bond is represented by drawing an arrow from donor (atom) to acceptor (atom)

Q. No. 3.

(B)

Ans

ENZYMES

"Enzymes are the biological molecules which speeds up the chemical reactions."

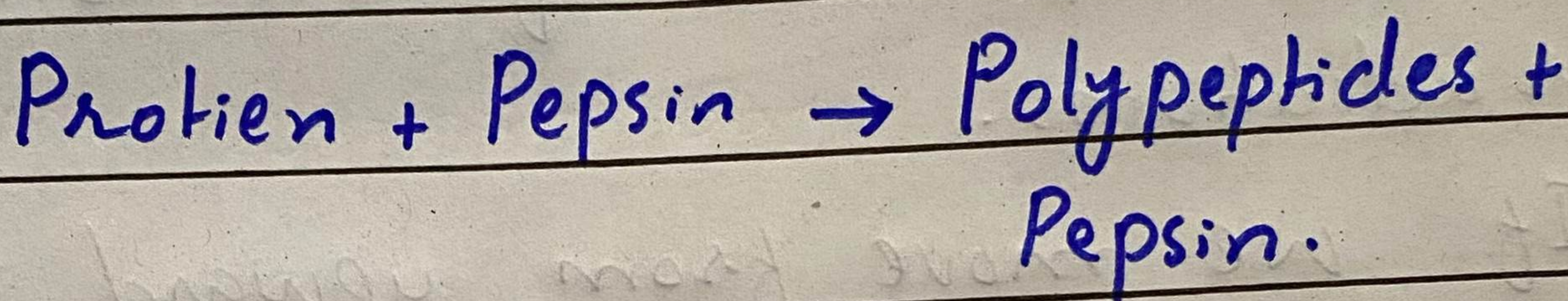
Examples of enzymes.

- Amylase
- Lipase
- Maltase
- Lactase

Functions of enzymes.

Enzymes also known as catalysts are responsible for to speed up the chemical reaction without being used in reaction.

e.g. The enzyme pepsin which is present in stomach speeds up the chemical reaction which is responsible for the breakdown of protein.



(C)

Ans

“Electromagnetic radiations are the radiations which travel with the speed comparable to the speed of light.”

Electromagnetic spectrum (EMR spectrum)

- Electromagnetic radiation spectrum is the spectrum of electromagnetic radiations.

- If we move from upward to downward in electromagnetic spectrum, wavelength of radiations will be increased while frequency and energy of radiations will be decreased.

→ Gamma Rays

→ X-rays

→ Ultra violet rays

→ Visible light

→ Infra rays

→ Micro rays

→ Radio waves.

EMR

Spectrum

())

Part II
Section II

Q.No.6

(A)

Ans

Solution;

We know that

$$\text{Arithmetic mean} = \frac{\text{Sum of quantities}}{\text{No of quantities}}$$

Thus,

$$\underline{9 + 8 + 10 + K + 12} = 15$$

By applying the formula of average

$$K + 39 = 15 \times 5$$

$$K = 75 - 39$$

$K = 36$

$K = 36$

(C)

Ans

Data ;

$$\text{Radius } r = 12 \text{ cm}$$

$$\text{Volume } V = ?$$

Solution ;

We know that

$$\text{Diameter } d = 2r$$

Thus,

$$d = 2 \times 12 = 24 \text{ cm}$$

By applying the formula of volume

$$V = 3L = 3 \times 24$$

$$V = 72 \text{ cm}^3$$



Q.No. 7.

(a)

Ans

Solution;

Suppose $x = 1$

So,

$$20\% \text{ of } x = y$$

$$\frac{20}{100} = y$$

\Rightarrow

$$y = 0.2$$

Thus,

$y\%$ of 20 in terms of x

will be

$$\frac{0.2}{100} \times 20 = x$$

$$x = \frac{1}{25}$$

F.O.M. (D)

(D)

Ans

Solution;

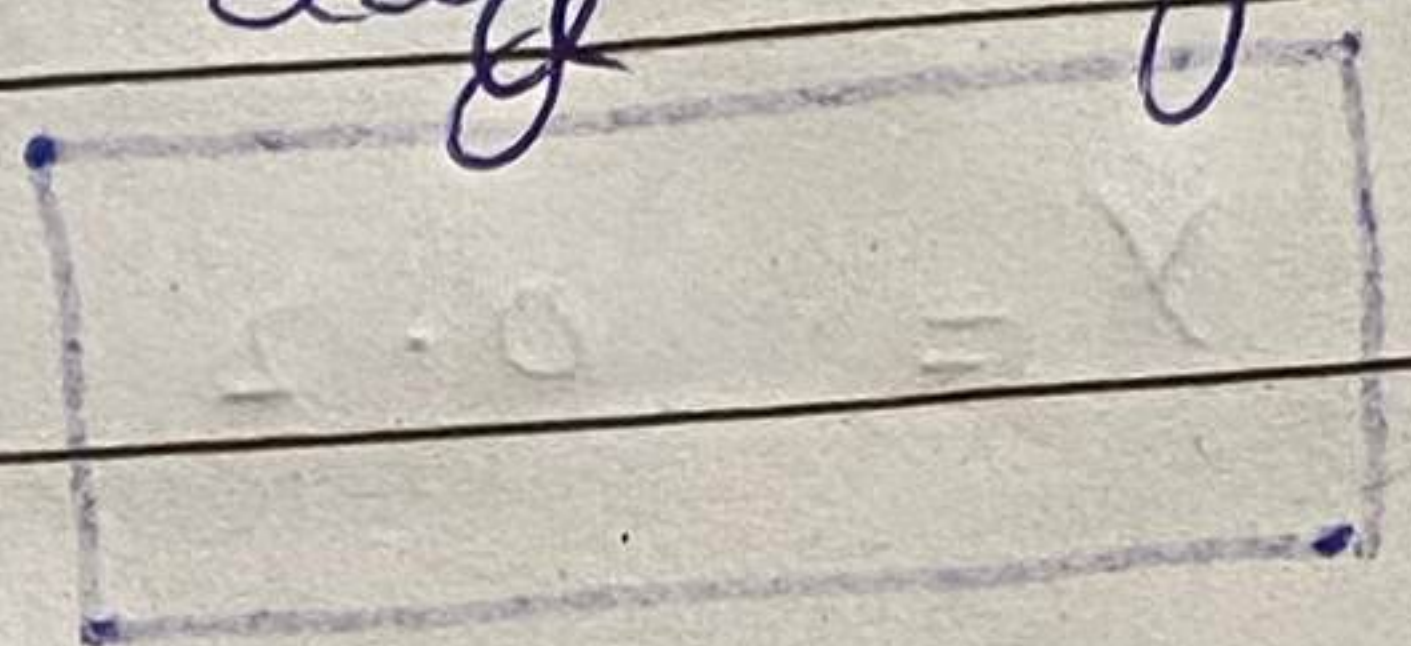
Suppose

Jamie's age at present = x

Then,

Jamie's dad's age at present = $4x$

Thus,



(14 years) + Jamie's dad's age =

(14 years + Jamie's age) 2

$$14 + 4x = (14 + x) 2$$

$$14 + 4x = 28 + 2x$$

$$4x - 2x = 28 - 14$$

$$2x = 14$$

$$x = 7$$

and

$$4x = 28$$

Therefore,

$$4x + x = 28 + 7 = 35$$