

Date: \_\_\_\_\_

Q # 3(b)

M T W T F S

## Earth Quake :-

Intense shaking or trembling of the Earth's surface caused by the sudden forces or movements in its outermost layer are known as an Earthquake, a natural disaster.

# Causes :-

- 1- Fault zones
- 2- Plate tectonics
- 3- Volcanic activities
- 4- Human activities

## Measurement of Earthquake:-

Since earthquake is exhibited in the form of seismic waves, experts use ~~these~~ ~~seismometers~~ seismometers to record the seismic waves produced by earthquake.

## Shallow focus Earthquake:-

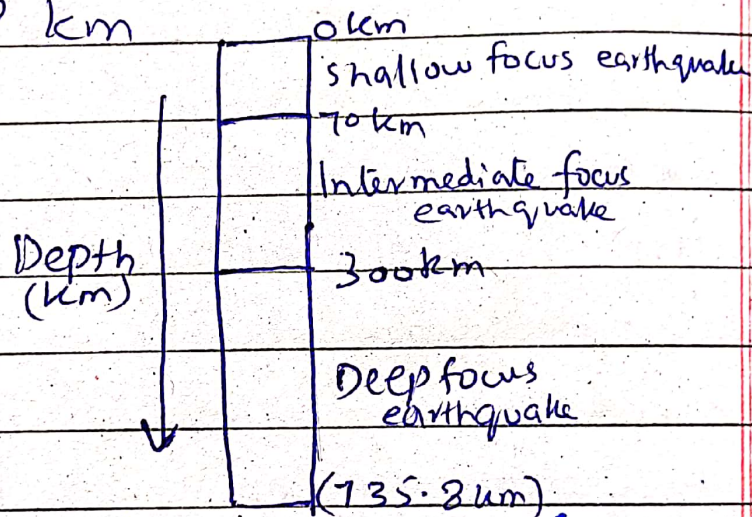
- 1- Earthquake occur anywhere less than 70 km from the Earth's surface are called shallow focus earthquake.
- 2- They are called crustal earthquakes.
- 3- They occur quite frequently and at random.
- 4- majority of earthquakes are of smaller magnitude. They are often not felt.
- 5- It poses greater threat at the surface as all energy is directed towards a small area.

## Deep focus Earthquake

Earthquake deeper than 70 km from earth's surface are called deep-focus earthquake.

2. They are triggered by the collision between plates.
3. They have high magnitude.
4. It donot cause much damage as focus of earth lies at great depths. ~~and~~

The strongest deep-focus earthquake ever recorded is of magnitude 8.3, where as the deepest earthquake is 735.8 km



## Magnitude of Earthquake (Morocco)

→ The magnitude of earth quake in morrocco is 6.8 recently occured on ~~18~~ september 2023 which shattered millions of lives and massive devastation occured.

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Q # 3(a)

M T W T F S

## Cyclone :-

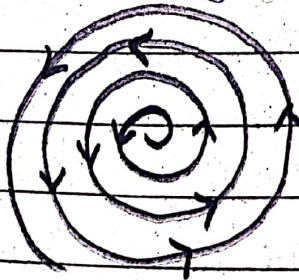
Cyclones are large tropical storms revolving by winds blowing in low atmospheric pressure.

### Causes of cyclone

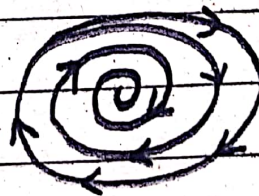
Cyclone are caused by atmospheric disturbance at a low in low pressure area.

It is spirall in motion winds are rotating clockwise in northern hemisphere and anticlockwise in southern hemisphere.

Tropical cyclone are the most damaging and destructive where the winds are strongest and rainfall are heavier that region is specifically called eye wall. Some time these destructive cyclone cause flooding. Very strong winds damage houses & trees.



Anti-clockwise motion



Clockwise motion

## Question: 3 (d)

### Covalent Bond

Def:- Covalent bond involve sharing of electrons between two or more atoms

- It is held together by strong bond

- It exist in all 3 states liquid, solid, gas.

- It has low melting point.

- It is insoluble in water.

E.g:- HCl etc.

- It has low attraction between molecules.

### Ionic Bond.

Def:- Ionic bond forms when two or more ions come together and are held together by causing difference in charge on it.

- It is held together by ions

- It forms by the complete transfer of electron

- It exist in solid state

- It has high melting point.

- It is soluble in water.

E.g:- NaCl,  $K_2SO_4$

- It has high attraction b/w molecules

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Q # 3 (c)

## Dengue fever

Def:- Dengue fever is one of the painful, infectious fever caused by mosquito. It is caused by one of the 4 dengue viruses.

### Causes:-

Primary cause: It is caused by the mosquito which is infected with one of the type of dengue ~~fever~~ <sup>virus</sup>. It is spread through the bite of mosquito.

It is transmitted by female mosquito.

The symptoms develop in 6-7 days after being bitten by mosquito.

The various symptoms are loss of appetite, Diarrhea, vomiting, fatigue etc.

### Preventive Measures

The preventive measures include the hygienic and sanitation, to clean surrounding by removing waste.

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- covering body fully.
- Using mosquito repellents.
- Doctors used to take the blood sample of the patient and treat them accordingly by prescribing them medicines.



## Human Ear :-

Def: Ear is the sensitive part of human body. It is concerned with transmitting and detection of sound.

### Parts of Ear :-

Ear consist of 3 parts

#### a) External Ear :-

It is further divided into 3 parts :-

- 1 Pinna : It is the thin cartilage covered in skin. It has funnel like curves. It receive and transmit sound to middle ear.
- 2 Meatus : It consist of the internal wax gland it joint the internal part with external.
- 3 Tympanic membrane : It seperate middle ear from external ear.

#### b) Middle Ear :-

It Joins both the <sup>External</sup> ~~middle~~ and internal ear. It include the smallest bone of human body called Stapes. The sound travel through this passage.

#### c) Internal Ear :-

It include the sensory receptors responsible for hearing

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## Function :

The main function of ear is hearing. It is involved in detecting, transmitting and maintaining a sense of balance in sound.

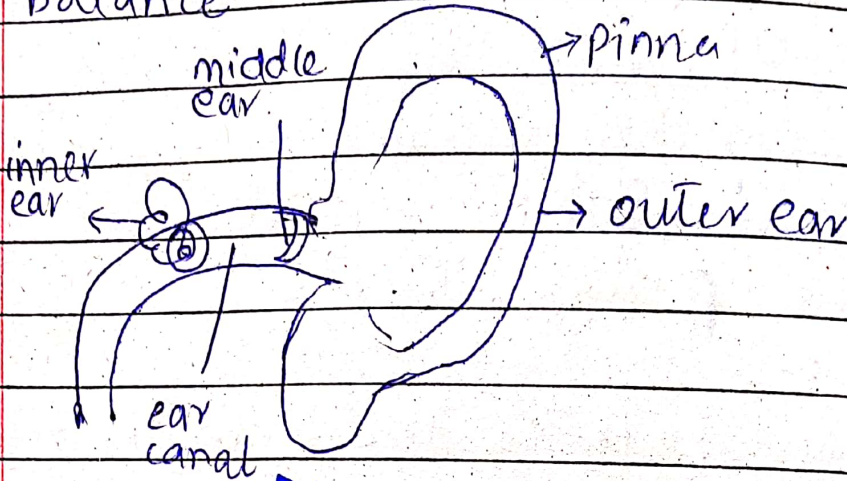


Diagramme : Human Ear

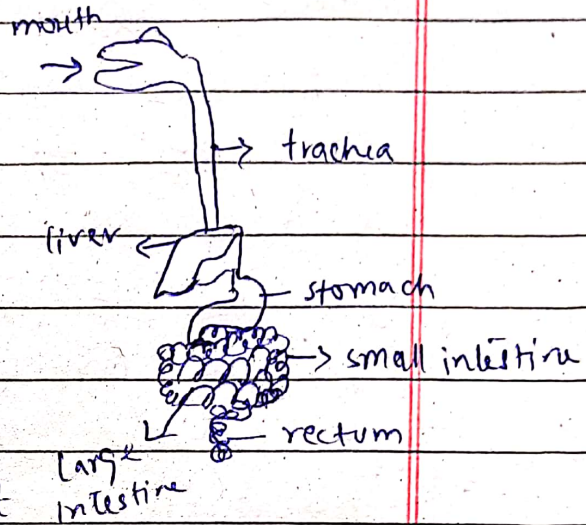
## Digestive System :-

The digestive system starts from mouth and end at Anus.

It include different parts of human body such as pharynx, esophagus, pancreas, stomach, small intestine, large intestine, Excretory system (rectum), Anus.

## Digestion Process:

Ingestion is the first step in digestion, intake of food occurs in mouth. Then the second step is mixing and movement



the currying of food through teeth along with the secretion of saliva. the food (bolus) is divided into small parts

It is then processed in stomach include small intestine & large intestine

Here the required enzymes are mixed in blood are carried to the body while the waste products is passed into the large intestine in the form of defecation it exit the

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human body through the anal canal.

## Role of small intestine in digestion :-

Small intestine is a thin long <sup>coiled</sup> tube like structure lower in the human body present behind stomach.

The main role of small intestine is the break down of food to absorb nutrients needed to the body and get rid of the waste product. It act as a barrier also to inhibit the entry of bacteria.

It is involve in digestion and absorption of food.

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## Vitamins

Def:- Vitamins are micronutrient required to the body to perform several functions. It is present in the food.

Vitamins are the natural and essential nutrients. The major role of vitamins ~~are~~<sup>is</sup> growth and development, repairs the wounds, make healthy bones and tissues to protect immune system.

### Types and Parts :-

There are 13 different types of vitamins.

They are divided on the basis of Two main parts.

- 1- Water soluble vitamins
- 2- Fat soluble vitamins

↳ stored in fat cells. It include vitamin A, D<sub>2</sub>, K etc.

while ~~water~~ soluble vitamins are not stored in the body but excrete through urine. It include Vitamins B and C.

### Sources:-

Vitamin A is found in vegetables like potato, carrot.

- Vitamin D in milk
- Vitamin E, K in leafy green vegetables
- Vitamin C in oranges & citrus fruits.

## Q# 5(d)

### Pituitary glands :-

Pituitary gland is a small pea like structure in Brain  
It is also called master gland

### Function :-

The main function of pituitary gland is to secrete hormones to regulate growth, reproduction

It is controlled by hypothalamus

Pituitary gland produce Oxytocin

Thyroid stimulating hormone is also secreted by pituitary

gland which tell thyroid gland to make hormone also

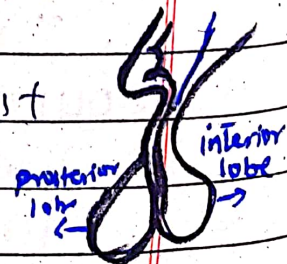
Adrenocorticotrophic hormone

is released by Adrenal gland

to make hormones

Prolactin control the breast milk production.

Pituitary gland



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**Q# 6 (a)**

Series :- 10, 100, 200, 310, 430

(i)

Sol:-

$$10 + 90 = 100$$

$$100 + 100 = 200$$

$$200 + 110 = 310$$

$$310 + 120 = \underline{430}$$

$$\begin{array}{r} 310 \\ + 120 \\ \hline 430 \end{array}$$

(ii)

3, 7, 23, 95, 479

$$3 \times 2 + 1 = 7$$

$$7 \times 3 + 2 = 23$$

$$23 \times 4 + 3 = 95$$

$$95 \times 5 + 4 = \underline{479}$$

$$\begin{array}{r} 2 \text{ yrs} \\ 95 \\ \times 5 \\ \hline 475 \\ + 4 \\ \hline 479 \end{array}$$

**Q# 6 (c)**

Solution:

Let Romi age =  $x$

Nisha present age =  $(x + 15)$

Nisha age 5 year ago  $(x + 15 - 5) = x + 10$

Romi age 5 year ago =  $x - 5$

After 5 year, Nisha 3-time old

$$(x + 10) = 3(x - 5)$$

$$2x = 25$$

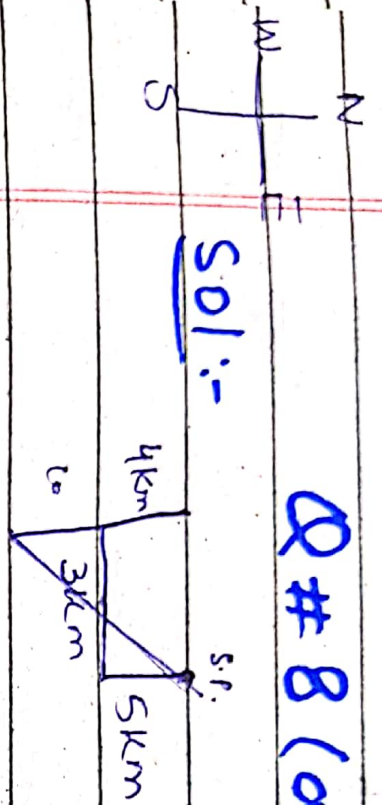
$$x = 12.5 \rightarrow \text{(Romi's age)}$$

Nisha's age =  $x + 15$

Putting value in the position

$$= 12.5 + 15 = \underline{27.5 \text{ yrs}}$$

Q# 8 (a)



Sol:-

The man is in south-west direction

Q8 (b)

Solution:

First 5 Prime numbers are  
2, 3, 5, 7 and 11.

Arithmetic mean =  $\frac{\text{Sum of 5 no.}}{\text{Total Prime no.}}$

$$\text{Mean} = \frac{2 + 3 + 5 + 7 + 11}{5}$$

$$\text{Mean} = \frac{28}{5} = \boxed{5.6}$$



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Q8 (c)

Sol:-

$$\text{Time} = \frac{\text{NO. of workers / rate of work} \times \text{original time}}{\text{original time}}$$

$$\text{Time} = \left( \frac{70}{50} \right) \times 40 = 56 \text{ days}$$

70 men will take 56 days to construct the roads.

Q8 (d)

Sol:-

property left by zahid = 1750,000

Debt = 150,000

remaining = 1600,000

Dividing it by 3

= 1600,000

able son's share 3

2 (533,333)

= 1066,66

$$\begin{array}{r} 1750000 \\ - 150000 \\ \hline 1600000 \end{array}$$

while daughter share will

be 533,333

