

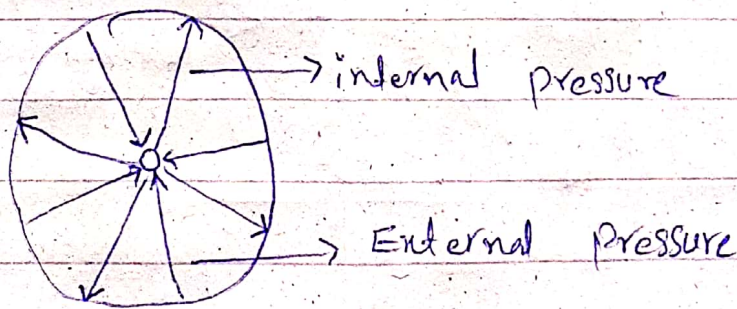
Question NO 3

A) How Black holes are formed from stars?

Black holes are made usually from amalgamation of two stars. The gravity of black hole is strong enough that even light cannot escape from it.

A black hole is an object of extreme density and very strong gravitational pull.

The imbalance of gravity and internal pressure cause the collapse of a star.



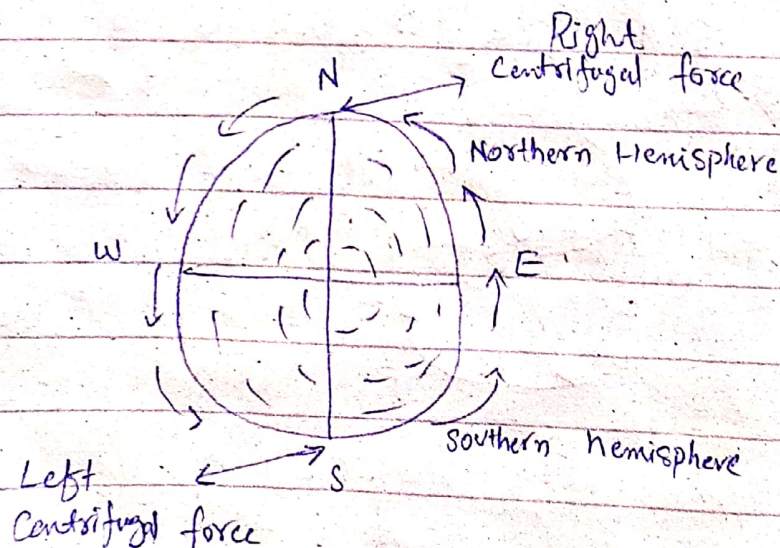
Another name of black hole is also collapsar or collapse of stars.

B) Pakistan is vulnerable to Biparjov cyclone nowadays. How cyclones are formed.

A cyclone looks a lot like a large whirlpool. It looks like a huge mass of air which just rotates. It is just a cycle of air.

How they are formed

A cyclone is the region of high pressure air formed usually due to pressure of air and centrifugal force.



Main PARTS of cyclone

Eye :- clear area of sinking air
it is calmest part

Eye wall :- It consist of ring of thunder storms and heavy rain.

Rain band :- Curved band of clouds and thunder storm.

Effect of cyclone

Cyclone left behind huge level of destruction as it come along with heavy rain and high speed air. Currently Pakistan had faced Biporjoy.

c) Some common causes of floods

Floods are when a piece of land suddenly submerged into water. There are many causes of flood.

Some main causes

Heavy Rains :: The concept of heavy rain vary with place to place like its normal raining whole day in Bali but if it happen in city like Karachi it can trigger floods.

Poor drainage system :: Poor drainage system is also another cause of floods. It facilitates conditions of floods. When water will not properly be drained it will make routes from streets etc and cause flood.

Encroachment over river banks :: illegal encroachment over river banks prohibit the flow of water, slowly slowly making it to over flow and spread destructions.

Climate change :: The worst problem of 21st Century. Making unusual rains, melting glaciers, abnormal air flows, cloud bursts which are the main causes of flood.

Breaking of dams :: When a dam is broken it flushes everything in its way. as Dams are huge reservoirs of water.

Effect of floods

floods bring devastating consequences with it and heavily impact Economy Environment, people and animals etc.

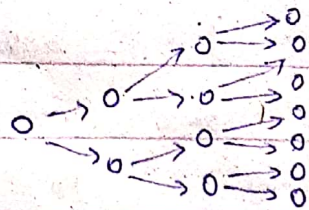
"The floods of 2022 Pakistan According to UN Pakistan will need \$30 billion to overcome the destructions left by floods" along with this Pakistan also lost Human lives and live stocks.

d) How energy is produced inside sun?
what factor responsible for gravity
of sun? How will you define solar
wind?

→ Sun is the center of our solar
system. The energy on sun is due to
fusion reaction on sun.

Fusion reaction is when two small
nuclei combine together and form a
heavy nuclei is called fusion reaction.

Hydrogen + Hydrogen = Helium
fusion reaction on sun is a cyclic process.



Cycle of fusion reaction

→ The gravity of sun is 274 m/s
which is almost 270 times greater
than of earth. The sun is centre
of our solar system and all

Other planets revolve around Sun due to its force of attraction. The movement of Sun on its own axis is responsible for its gravitational force and its size also.

→ Solar winds are actually the flares of Sun produced from its surface. Called solar winds.

Question No (4)

B) Describe some methods of solid waste management.

Solid waste is the daily waste produced from house holds, factories, Industries, Hospitals, and it should be managed in a way that it can not contaminate our environment.

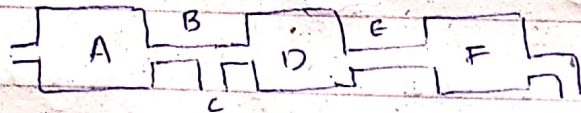
Some common techniques are

Open dumping :- it is most used technique in which the waste is brought away from residential area and dumped in an open place that it should not pollute water, forest, animals etc. it is most unsafe method.

Land fill method :- In this method waste is buried underground. It is monitored that it should not meet ground water and minimum 3 ~~meter~~ meter ditch is

digged for land fill and covered from top. it can be done on 1 Hectre to 30, 40 Hectres.

Incineration :: It is another method in which waste is combusted on very high heat. it contains some chamber like structures.



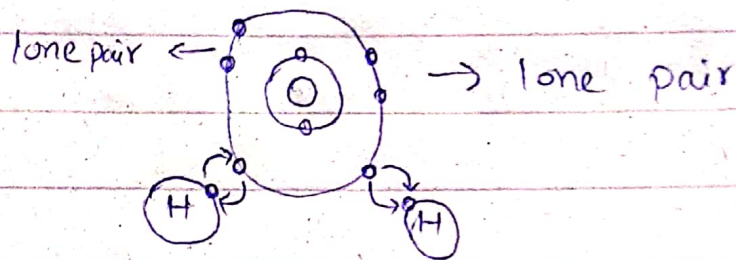
A temperature of $650 \rightarrow 1100^\circ\text{C}$ given in kiln A then through B and C sent to kiln D where a temperature of $950 \rightarrow 1300$ is given and through E it will send to kiln F in composite form.

Pyrolysis :: This process is simply the thermal degradation of organic material in the absence of air. -this process deals with organic waste. -This process also require some chambers to degrade waste.

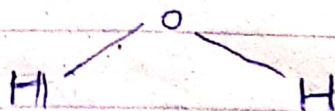
d) Explain covalent bond in water molecule and its angular structure.

Covalent bond is formed by the mutual sharing of electrons in atom.

Covalent bond of water molecule



The water molecule is angular in structure because of lone pair lone pair repulsion. lone pair is pair of free electrons which does not participate in bonding.



c) what are common causes of water pollution?

Water pollution is caused when pollutants are added into water and contaminate water body.

Dumping of solid waste :: It is most locally used contamination of water. where, people throw or dump their waste directly into the water bodies.

Industrial waste :: This is most dangerous way of water pollution as it contains harmful chemicals which change properties of water. Industries secrete their waste into river etc.

Disposal of sewage waste :: Sewage waste is mostly dumped into water canals etc.

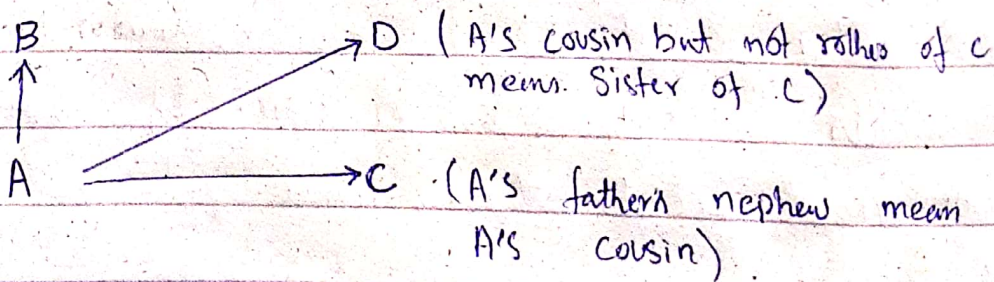
Question NO 7

A) Average of 7 consecutive number is 20 what is largest number

$$\frac{17 + 18 + 19 + 20 + 21 + 22 + 23}{7} = 20 \text{ Average}$$

So the largest number will be 23

B) A told B that C is his father's nephew. D is A's cousin but not brother of C. what relation is there between C and D.



So D is sister of C

c) find the next number in the sequence

7, 12, 19, 28, 39, ?

An addition of 2 is happening in base 5 after every next number.

7 $\xrightarrow{+5}$ 12 $\xrightarrow{5+2}$ 19 $\xrightarrow{5+2+2}$ 28 $\xrightarrow{5+2+2+2}$ 39 $\xrightarrow{5+2+2+2+2}$ 52

Answer will be $\boxed{52}$

d) Some of money is to be distributed among A, B, C and D in the ratio 5:2:4:3 if C gets RS 1000 more than D what is B's share.

The ratio of A, B, C, D = 5:2:4:3

If C gets 1000 more than D ~~1000~~ ~~1000~~ ~~1000~~ ~~1000~~ ~~1000~~ ~~1000~~

Let's assume total money is 14000 divided according to given ratio.

A = 5000, B = 2000, C = 4000, D = 3000
5 : 2 : 4 : 3

Here C get 1000 more than D

So the share of B will be 2000

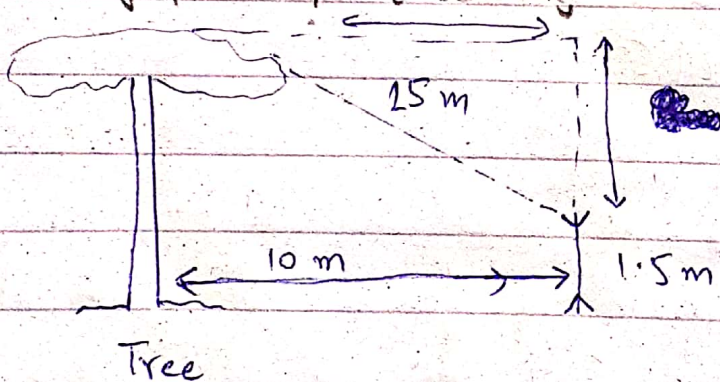
Question No 8

A) Ali is standing 10 m away

Distance from eye to feet = 1.5 meter

Distance from eye to top of tree = 15 meter

Height of tree = ?



The height of the tree will be

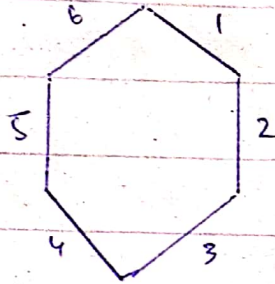
$$H = \text{Perp} / \text{Base}, \quad \text{Base} = \text{HYP} / \text{Perp}$$

$$\text{Height} = 16.5 \text{ meter}$$

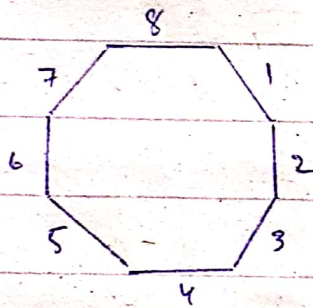
c) Symmetry of Hexagon

Symmetry of octagon

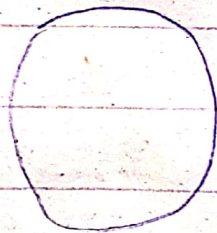
How many lines in circle?



Hexagon



octagon



There are infinite number of lines in a circle.