

Subjective Part

Section - I

Question 04

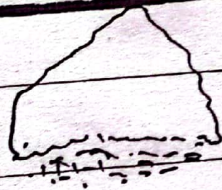
(a)

Flood

is also termed as a natural disaster. It occurs when the flow of water increase rapidly.

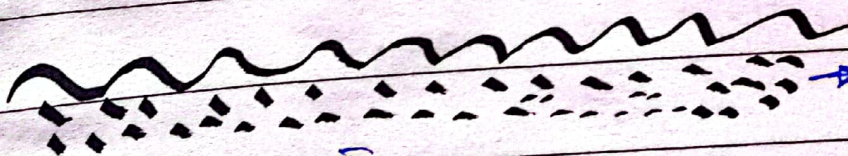
Main Causes of Floods

→ increase
Glacier
melting



↓ ↓ ↓ ↓ ↓ ↓
↓ ↓ ↓ ↓ ↓ ↓

→ Rain



→ Water flow

Estuaries

Fig: Showing causes of Floods

The main causes are:

- Earthquake → increase water flow
- Climate change → addition in water
- Excessive Rain → increase water flow
- Deforestation: cutting of trees from the banks of rivers

2022 and 2010 Floods

- | | |
|--|-------------------------------------|
| 2022
↓ | 2010
↓ |
| - caused by climate change | - caused by excessive flow of water |
| - Created more destruction
↓
Pakistan lost 32 billion Rupees | - Created less destruction |

Role of NDMA

- National Disaster Management Authority
- provides shelter to flood affecteds
- Saves life of peoples
- Build Infrastructure
- Establish Refugee camps
- Inform people about the disaster

(b)

Star & planet

Star

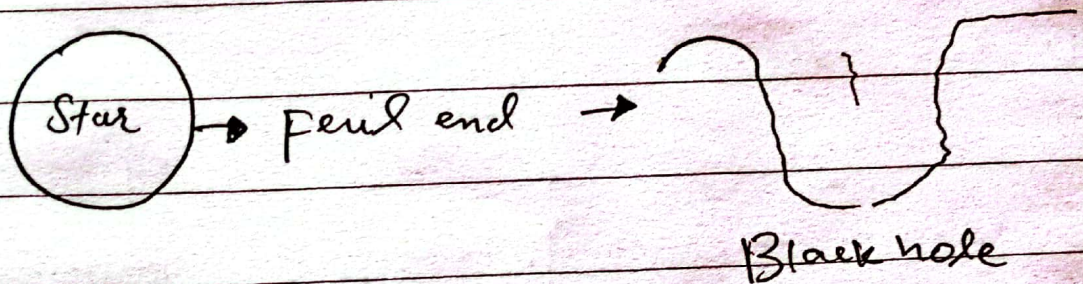
- is not dependent on another celestial body for energy
- produces its own energy
- bigger in size
- Sun is a star
- produces energy through nuclear fission
- Move around a galaxy
- Sun move around Andromeda galaxy

planet

- dependent on another celestial body
- does not produces its own energy
- Smaller in size
- Earth, Jupiter, Mercury, Venus are planets
- Move around a star
- Solar system include planets

- Star becomes a black hole

When the internal fuel of a star ends, it becomes a black hole. The fuel keeps a star alive.



Many stars in our galaxy have been turned to black hole due to ending of nuclear fission process. Our sun could also be turned into a black hole upon not having enough fuel or nuclear fission process.

(C)

- Chemical Bonding

The sharing of electrons between different elements are called chemical bonding.

- Why atoms form bonding

Octet rule describe the phenomenon of chemical bonding. According to this rule, atoms form chemical bonding to achieve stability. For instance, sharing of an electron during Ionic bonding strengthens the recipient atoms.

Similarly, mutual sharing of electrons during covalent bonding strengthens both the atoms simultaneously.

Therefore, atoms form bonding to gain stability.

- Structure of Water

The structure of water is simple. Water is a simple molecule consisting of one oxygen atom bonded to two different hydrogen

atoms. Because of the higher electronegativity of the oxygen atom, the bonds are polar covalent. Water is an example of molecule because it is made of three atoms, an oxygen atom and two hydrogen atoms. Therefore, it is an example of molecule.

Formula of water:

The formula is H_2O

(d)

Conductors

are the compounds that allows the flow of current from one direction to another direction.

They are opposite to insulators.

Example: Copper, Iron

Semi-Conductors

these are the compounds that allow the current flow to pass from them. However, some semi-conductors do not allow current to flow from them - many allow to pass the current.

Example: Phosphorus Ntype, Ptype

Metals

are hard compounds that are used for various purposes. These are useful in many departments.

Example Gold, Bronze.

Plastics

are the compounds that are formed from carbon by heating.

It is used extensively nowadays.

Some plastics can be hardened and softened by heating. While others become hard permanently. They can not become soft again.

Example - 60% of cars are consisted of plastics

Ceramics

are non-organic compounds that are formed through heating. The production process of ceramics is same like bricks. They are better and water-resistant.

Example

- Traditional ceramics

Bricks
Tiles

- Modern ceramics

Optic
Satellites
Planes

Question 03

Double Circulation

The double circulation refers to the double movement of blood from heart to body.

- i) Blood from body to heart
- ii) Blood from heart to body

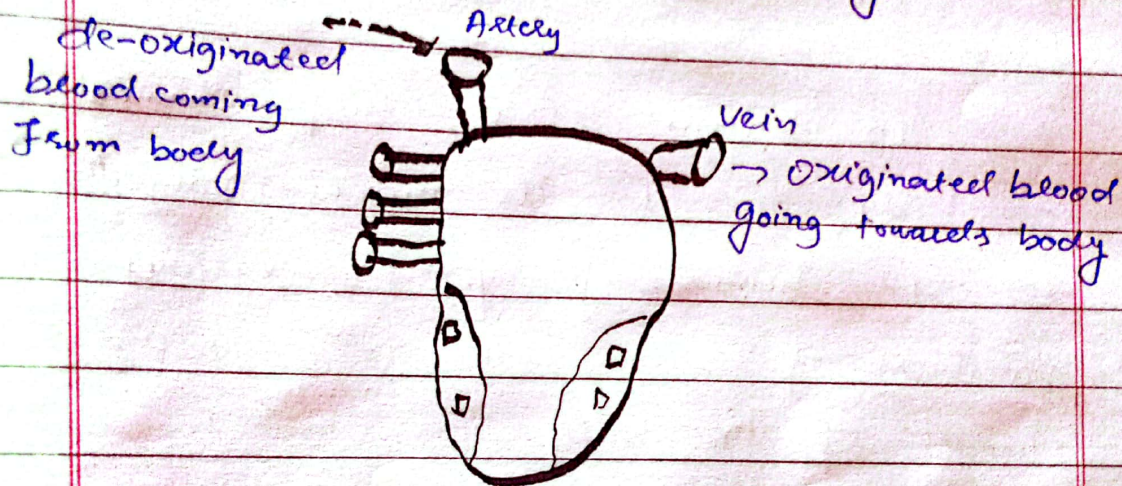


Fig: Showing double circulation

How heart is adapted to double circulation

It is the primary function of the heart. Firstly, de-oxygenated blood enters into heart through arteries. The heart converts this blood

oxygenated blood. Then the heart pumps this blood to bodies through veins. In this way, the heart is performing this process of double circulation.

(b)

Liver

is known as a chief-chemist of body due to its multi-pronged role in human body. The various functions of liver make it a chief chemist of the body.

- i) Firstly, it performs its primary function of blood ~~ex~~ origination
- ii) It produces bile juice that is very necessary for digestion. This bile goes into small intestine and helps in the digestion of food.
- iii) It also plays an important part in the growth of humans.

iv) Liver also plays an important role in immune system of humans
 All these functions make liver a chief chemist of human body.

(C)

→ Green House Effect as a blessing

It is a natural process and it is a blessing due to various reasons:

- i) Earth would not get necessary temperature
- ii) Life would become difficult on Earth
- iii) Crops would not grow
- iv) Living species would get impact
- v) System of Earth would collapse

Enhanced green house effect

Enhanced green house effect brings

various problem

- i) It causes global warming
- ii) increase temperature
- iii) Melts glaciers
- iv) Enhances the problem of climate change

Global warming is a direct cause of enhanced green house affect. The global warming means an increase ⁱⁿ the temperature of Earth. The enhanced green house affect enhances the temperature. Consequently, global warming occurs as a result of green house affect.

(d)

a) Working of GPS

GPS

also known as Global Positioning System. It points out the location.

Working of GPS

Its working is based on various things such as satellite, radio station and the user. Firstly, satellite helps in determining the the location of a person. Then control station confirms and verifies this. After this, this data is provided to users.

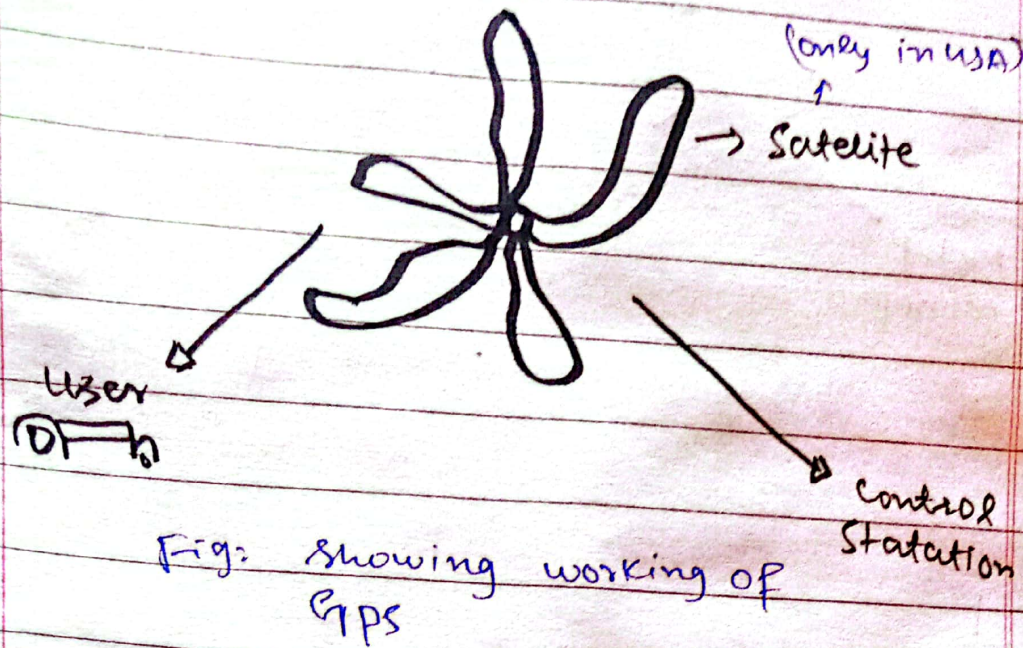


Fig: Showing working of GPS

b) Working of Mobile phone

Mobile phone working includes various things.

- i) Microphone
- ii) Tower (signal transmission)
- iii) Receiver.

Firstly, microphone of mobile phone converts talks into electrical signals. Then these signals travel through tower or optical fibre lines. The receiver of other mobile phone receives these signals and converts them into talks again.

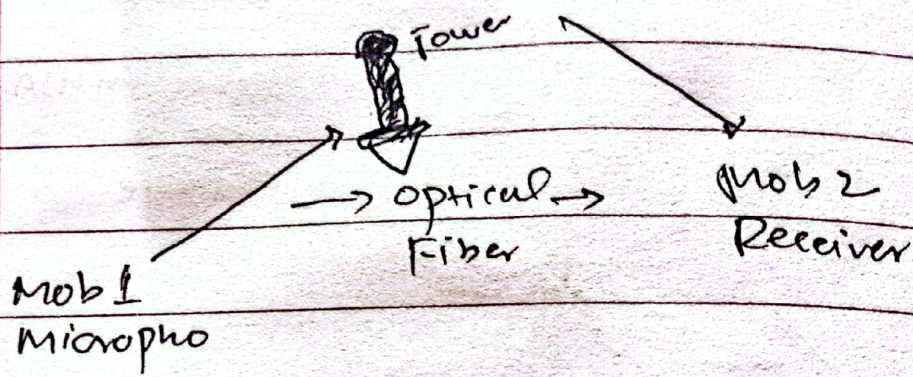


Fig: - Showing working of Mobile phone

Section II

Question 08

(d)

→ Given data: ROAR written as
URDU

Required data: URDU is coded
language?

Firstly, ROAR is written as
URDU

Now URDU will written on
the same pattern as

URDU
XUGX

So, URDU will be codified
as XUGX

(C)

Given data:

A is brother of B

B is sister of C

C is father of D

Required data

How ~~D~~ is related to A, B

A is brother of B

B is sister of C

It means that A, B, C are sister and brothers. Simply B is sister and A, and C are brothers

- Relation of D to A

A, and C are brothers, It means that the son of C is the nephew of A

• D is the nephew of A

Relation of D to B

Similarly B is sister of C

D, being a son of C is a nephew of C

D is the nephew of C

Question 06

(9)

Given
Required data

Enrollment in school in 2022 Jan = 850

January 2023 = 1120

Required data:

increase percentage?

Enrollment in 2023 - Enrollment in 2022

$$1120 - 850$$

$$= 270$$

Let's find percentage increase

$$= \frac{270}{850} \times 100$$

$$= \frac{27000}{850}$$

$$= 31.7\%$$