

General Instructions

Part-II

(Section-A)

1. Give numbering to headings.
2. Do not write lengthy paragraphs. Write medium sized paragraphs with headings.
3. Do not use table for comparison and contrast questions.
4. Draw figures/diagram/flowchart where needed.

Q 4a)

Answer

Solid Waste Management (SWM)

5. Start new question from fresh page.
6. Write unit of the answer in ability section.
7. Explain mathematical steps and the reasoning for better score.
8. Change colour scheme for references to give them more visibility.
9. Manage time well.

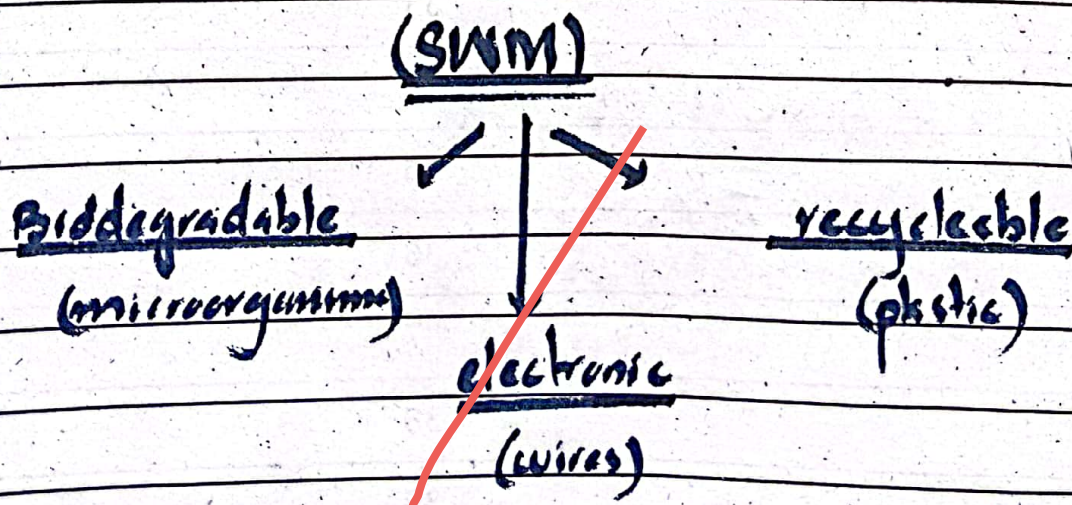
"Solid Waste Management (SWM) is handling of solid and semi-solid wastes."

10. Wide page borders are discouraged. Should be reasonable. SWM is a process

11. Avoid writing wrong references. ss of managing and handling

12. Give more weightage to expressly asked parts of the question. solid and semi-solid wastes. In fact,

SWM can deal with biodegradable, electronics, and recycleable materials.



National Solid Waste Management Strategy in Pakistan

NSWM strategy in Pakistan is as follows:

- i) Solid wastes are commonly dumping in open areas.
- ii) Solid wastes are usually burnt by people due to unawareness.
- iii) Mixing collection of solid wastes is prevailing.
- iv) Recovery of waste material by effective techniques.
- v) Separation of different kinds of solid wastes.

Suggestive measures to improve situation of SWM in Pakistan

Following are recommended measures:

- i) Enhancing education among people and increasing awareness.
- ii) Focusing on every different kind of solid wastes.
- iii) Stop burning solid waste material.
- iv) Avoiding dumping of waste material in open areas.
- v) Cooperating with community head to manage solid wastes regularly.

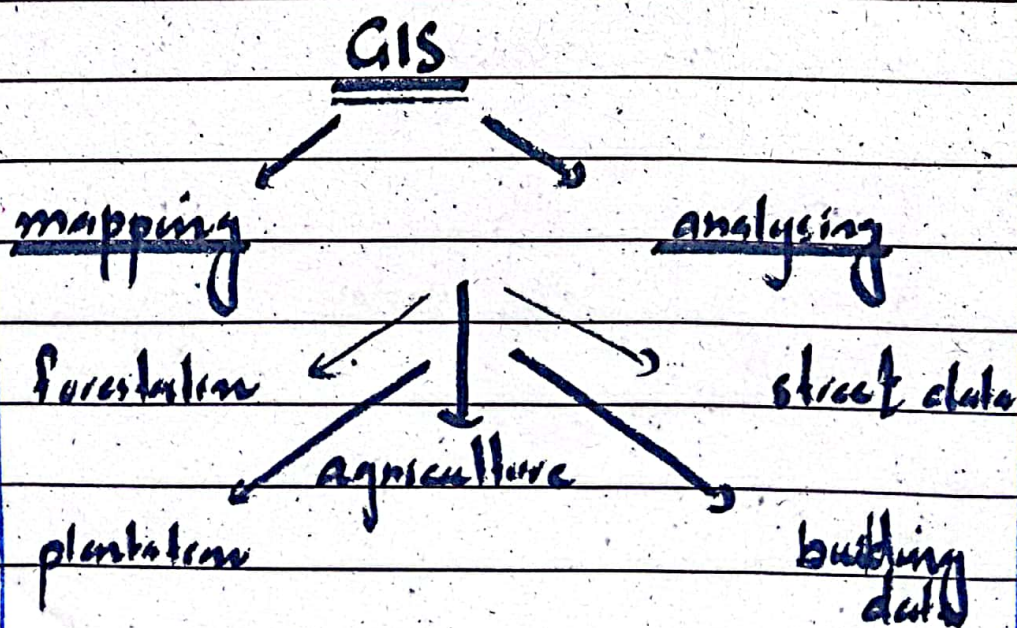


Q 4 b)

Geographic Information System (GIS)

"GIS is an analysing and mapping tool of things happening on the earth."

GIS is a process of analysing and mapping data of several things happening on the planet, earth. In fact, GIS helps in determining the nature of materialism on the earth. Thus, GIS is an analysing tool.



Components of GIS

Following are components:

a) Hardware of GIS

Hardware helps in putting basic information of geographic nature of earth.

b) Software of GIS

Software leads to data or further processing on computer.

c) Data collection of GIS

Data is collected on a systematic position on computer.

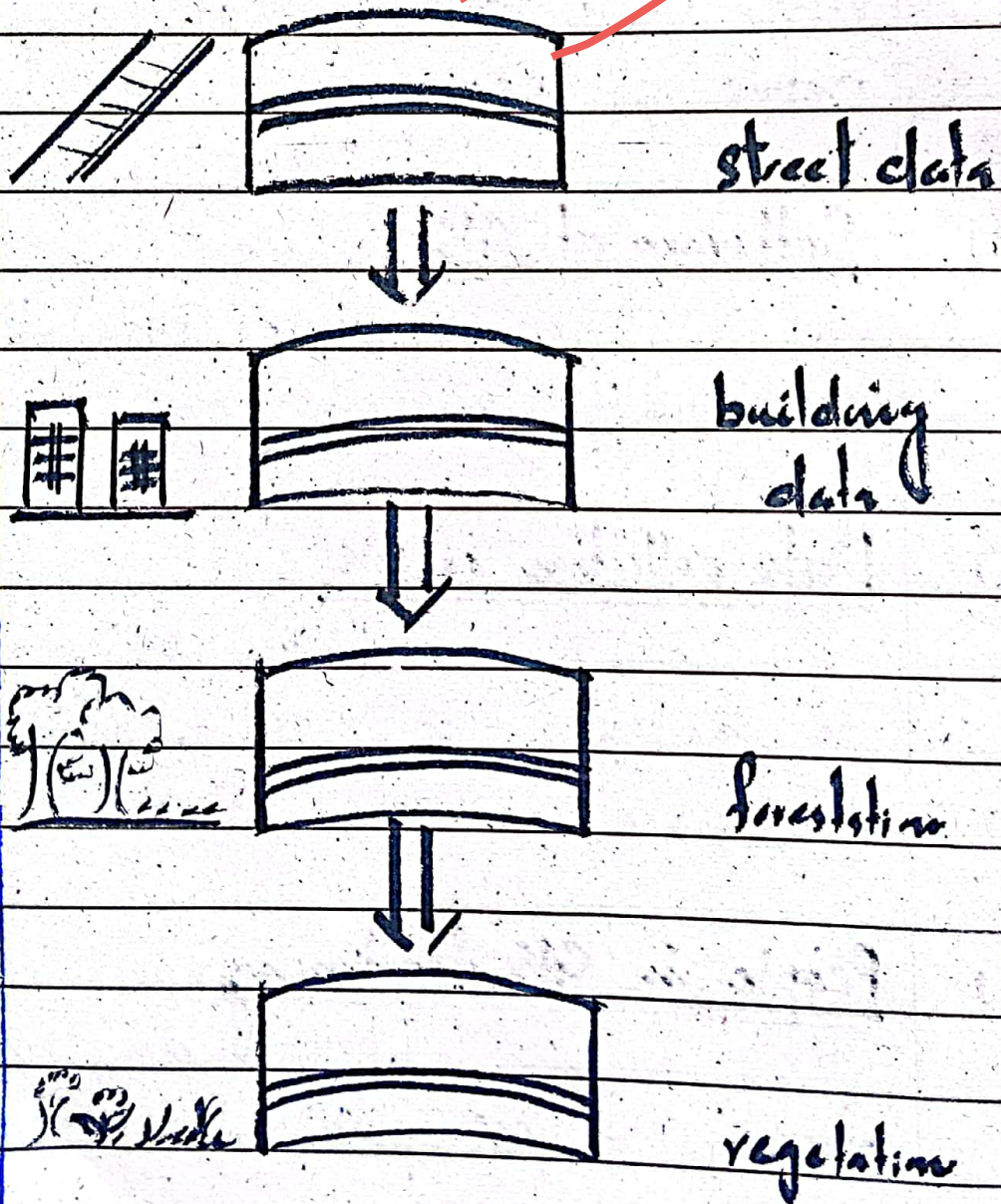
d) People in GIS functioning

People are main operator of GIS. Without people, there is no process.



e) Final process of GIS

GIS concludes data on computer that helps in analysing and mapping things happening on earth.



-GIS

Q4c

Population

"Population is an increase in number of people within a particular state."

Population is total sum of people within a territory or a state.

"Pakistan is the fifth most populated country in the world."

Causes of population explosion in Pakistan

Following are main causes:

i) Unawareness among people

Unawareness among people is a main cause of population.

"About 75% of people



are unaware regarding
population control
in Pakistan."

(- The Sustainable Stru-
cture Organization, 2022)

Thus, unawareness is a main cause.

ii) Lack of family planning

Lack of family
planning also increases population.

"Almost 30% of educated
people have no
family planning
in Pakistan."

(- The World Bank,
2021)

Thus, lack of family planning is
a cause of population.

iii) Over-consciousness in religious view

Over-consciousness
in religious view also causes

population:

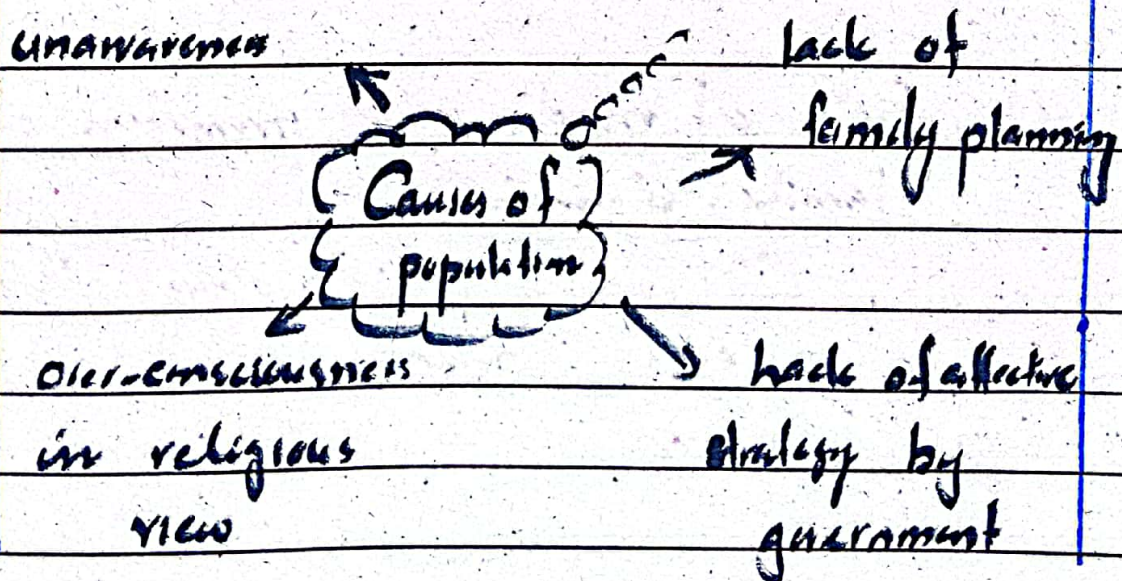
"Most of Pakistanis with religious environment follows religion in terms of reproduction."

(Hussain Salim)

Thus, religious ideology also leads to population.

(v) lack of effective strategy by the government

Pakistan government has no strict, effective strategy regarding population. Thus, lack of strategy of population control increases population.



Suggestive measures to control population

Following are suggestive measures:

i) Increase awareness by enhancing education

Increasing awareness will help in eradication of population.

"About 52% of women are uneducated in Pakistan".

(-The World Bank, 2023)

Therefore, increasing education will help in increasing awareness.

ii) Role of media in promotion of family planning

Moreover, Pakistani media should play its role in promoting family planning.

"People are more influenced by mass media"

(- Faizal Bari,
life style recalibrating
2023)

Thus, promote role of media in family planning strategy.

(ii) To legislate '~~family planning laws~~'

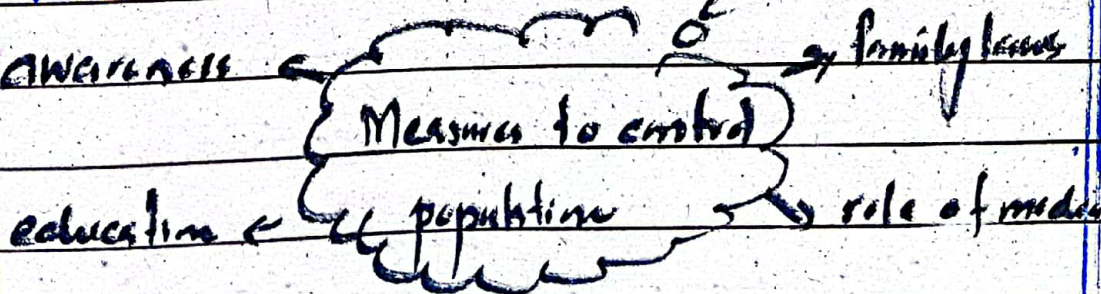
Pakistan needs to legislate 'family planning laws' to overcome population bomb.

"Population would be under control by family laws."

(- Haris Saleem)

Thus, Pakistan should legislate family laws.

awareness



education

population

role of media



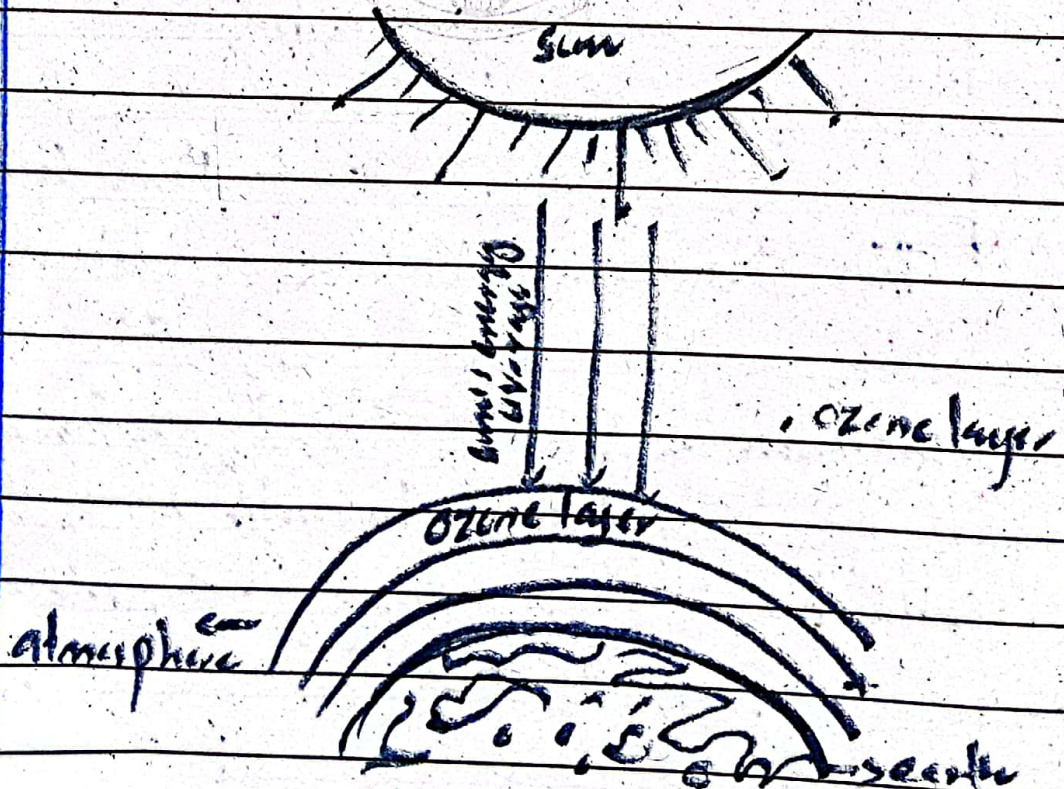
Qtd,

Answer

Montreal Protocol

"Montreal Protocol is a global agreement to protect ozone layer."

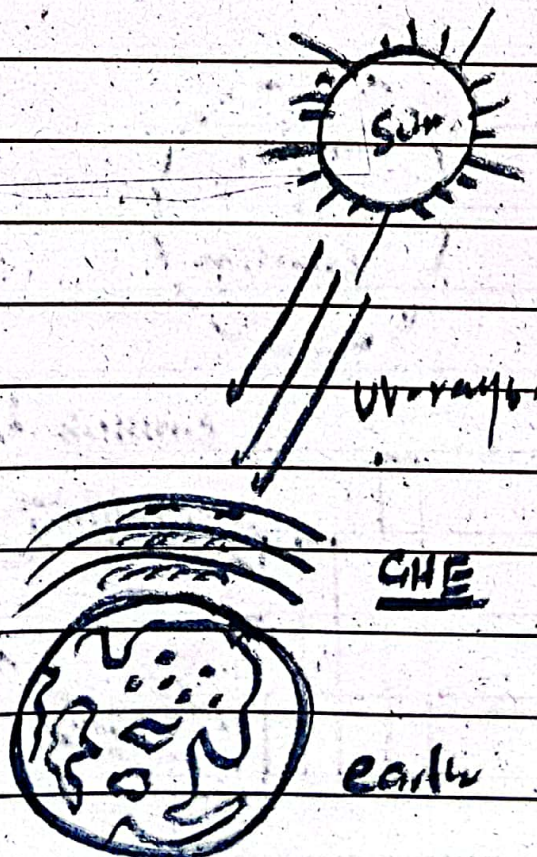
Montreal Protocol is a general agreement at global level. In fact, MP is an agreement to save ozone layer by production and consumption of ozone depleting substances (ODS).



Kyoto protocol

"Kyoto protocol is an agreement to reduce emissions of GHGs"

Kyoto protocol is also a general agreement at global level. In fact, KP is an agreement to reduce emissions of GHGs with the exception to ozone depleting substances.

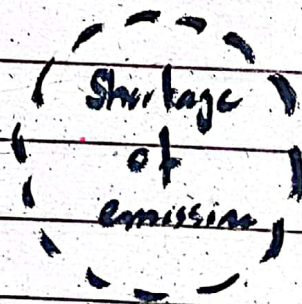
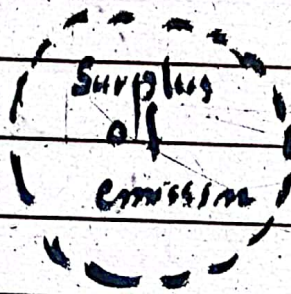




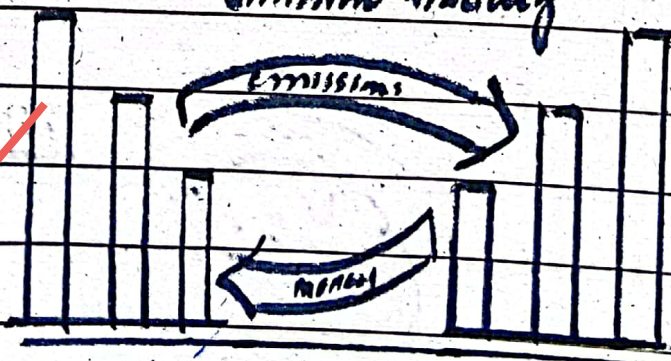
Carbon Market

"Carbon market also known as carbon emission trading."

Carbon market is emission trading of CO₂ and other gases in the form of carbon processing at the certain cost. In fact, it is an approach to limit carbon emission with limited emissions.



emission trading



Q5-

note on 'Networking'

'Group of two or more components or electronic devices, known as networking.'

Networking is a group of multiple components. It helps in exchanging data.

Components of networking

Following are components:

i) Local Area Network (LAN)

A type of networking existing inside building
e.g., offices, schools, colleges etc

ii) Metropolitan Area Network (MAN)

It is a large



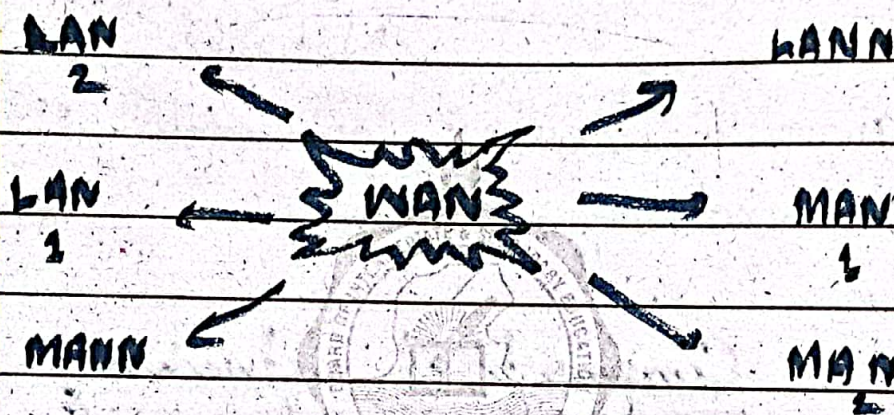
network between (LAN) and (WAN)

(iii) Wide Area Network

It operates in

wider areas

i.e., province, country

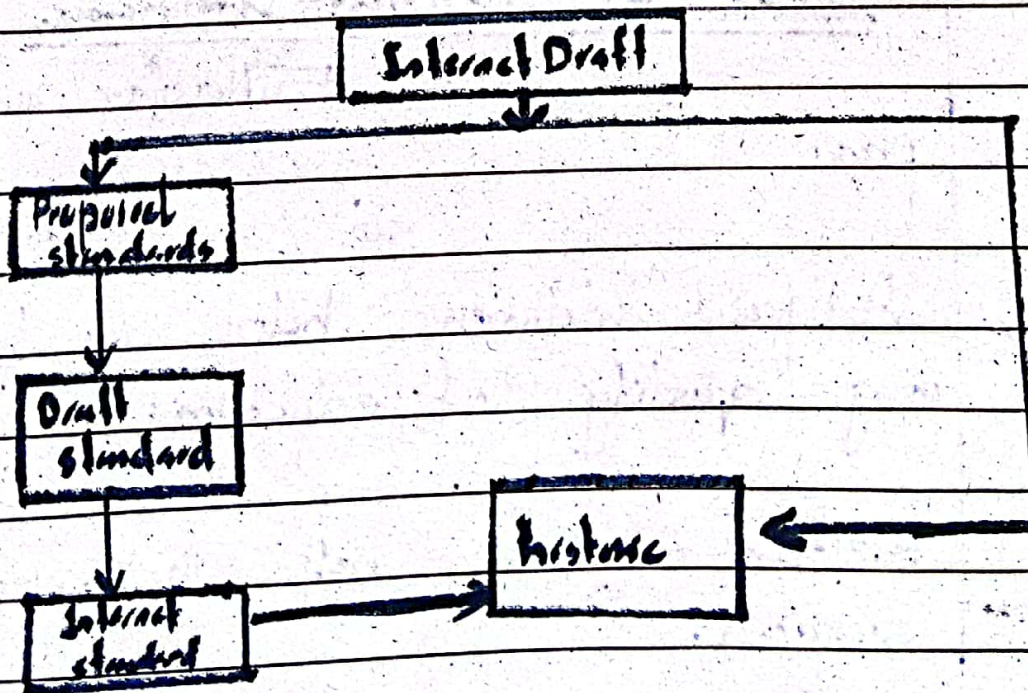


Note on Internet Standards

"An internet standard is specification of a technology to the internet."

In computer network, an Internet standard is a form of technological assistance to the internet. In fact, Internet Standards are created and published by the Internet Engineering Task Force (IETF).

c-e, HTML and URL





Q 5 b)

Artificial Intelligence

"Artificial intelligence is a man-made intelligence used in machines."

Artificial intelligence is a man-made intelligence capacity in machines. In fact, artificial intelligence works in accordance with computer-based knowledge. E.g., robotics and chat GPT

Pros of Artificial Intelligence

Pros:

Following are

- i) Artificial intelligence helps in learning quality of education.
- ii) Artificial intelligence helps in robotic surgery.

iii) Artificial intelligence helps in selection of seeds quality.

iv) Artificial intelligence manages better traffic system.

v) Artificial intelligence helps in legal justice to win people's trust.

Cons of Artificial Intelligence

Following are

cons:

i) Artificial Intelligence affects students' creativity and skills.

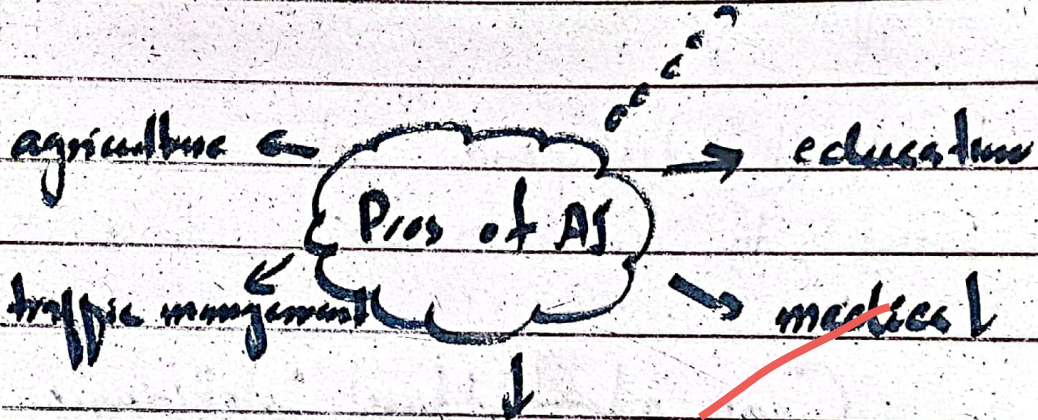
ii) Artificial intelligence makes human lazy.

iii) Artificial intelligence has no favour of experiment.

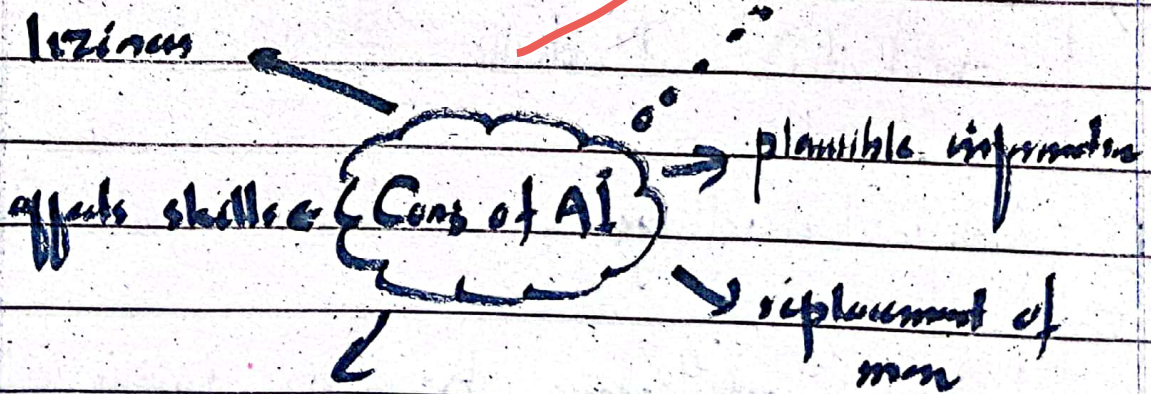
iv) Artificial intelligence is a cause of

plausible information

Artificial intelligence reduces man-labour.



legal-justice



no experiment



Q5C)

Optical fibre

"Optical fibre is a telecommunication device helps in transmitting of light beams from one point to another point."

Optical fibres are strands of glass that transmit light rays. In fact, optical fibres help in telecommunication purpose.

Construction of optical fibre

Construction of optical fibre is as follows:

1) Core of optical fibre

"Core is an outer,

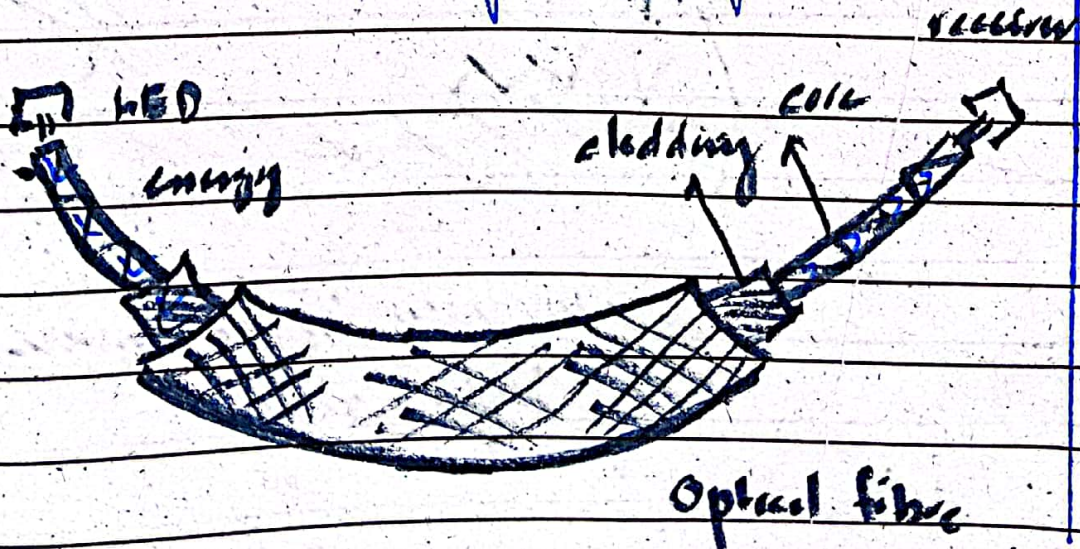
and central part."

Core is an outer, and spherical in shape. It has high density and has high refractive index. It also helps in more bending of light.

ii) Cladding of optical fibre

"Cladding is another special part of optical fibre"

Cladding is outer part from core. It has low density and has low refractive index. It has less bending of light.





Optical fibre in transmission of EMR

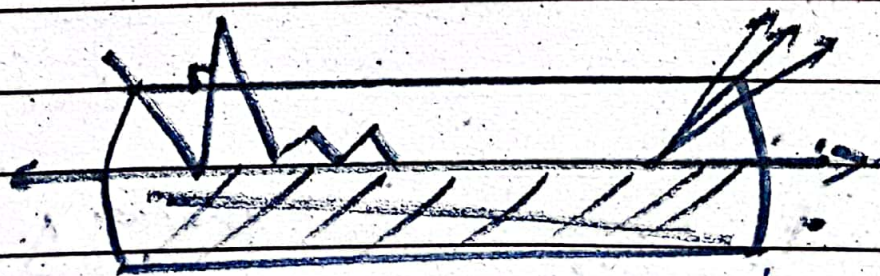
EMR are transmitted through working of optical fibre.

"light rays pass through a normal point."

Further,

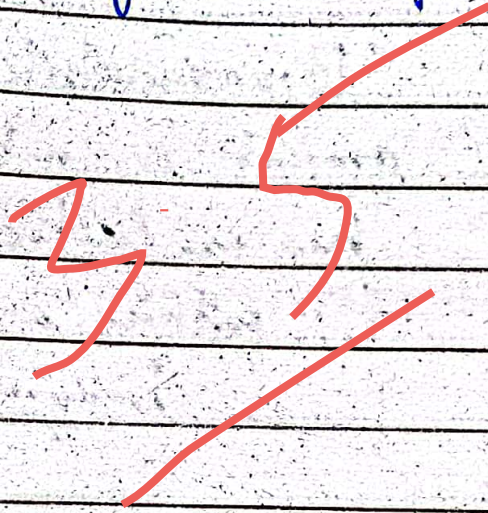
light rays hit at some angle known as 'angle of incidence' and

where angle is equal to 90° , known as 'angle of reflection'.



• Working in transmission of light rays

Thus, optical fibres help in transmission of light rays for telecommunication.





Qsd, note on:

Bioavailability of nutrients

"Bioavailability is an amount of nutrient that has an active effect within our body."

~~Bioavailability is a form of vitamins and minerals that our body consumes. In fact, it has an effect on our body.~~

Importance of bioavailability

Bioavailability provides potential energy to our body from food sources. In fact, bioavailability helps in consumption and absorption of nutrients.

(Section-B)

Q9)

Date:first speed $x = 40 \text{ km/h}$ second speed $y = 60 \text{ km/h}$

What will be average speed?

Solution:

average speed = $\frac{\text{Total speed}}{\text{number}}$
--

$$\text{av. speed} = \frac{60 + 40}{2} = \frac{100}{2}$$

$$= 50 \text{ km/h}$$

Q 8b)

Date

ROSE →

6 8 2 1

CHAIR

7 3 4 5 6

PREACH

9 6 1 4 7 3

SEARCH?

Solution

S → 2

E → 1

A → 4

R → 6

C → 7

H → 3

∴ SEARCH = 214673

(96)

Data

(brother)

(sister)

(father)

A → B → C → D?

relation of D with A?

Solution

A and C are brothers -

C is father of D, so, D is
nephew of A while A is
uncle of D.

A (uncle) and D (nephew)

Q 803

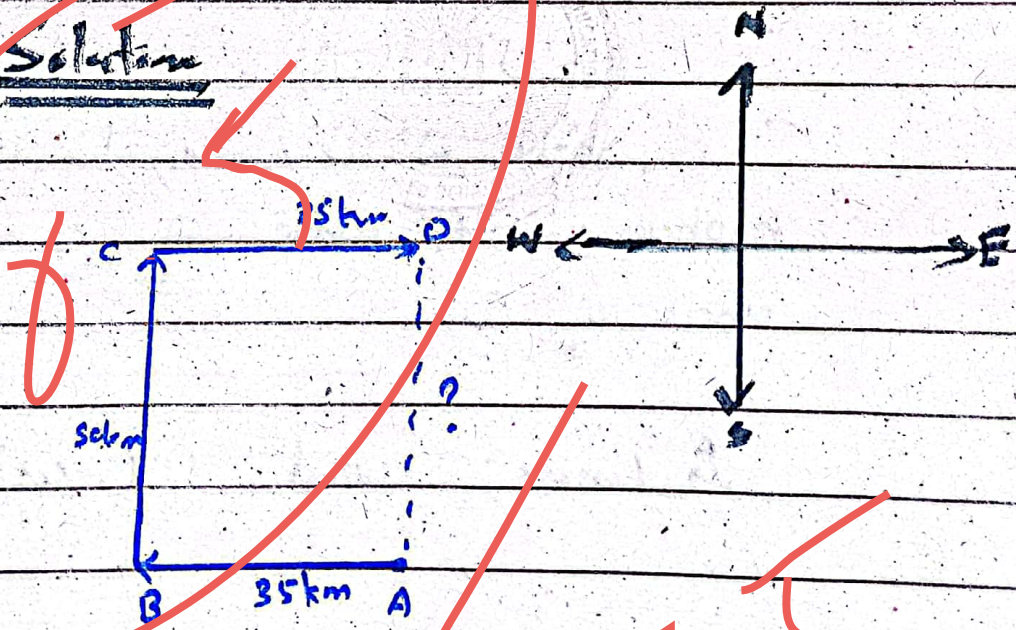
Data:

West = 35km

right of west = 50km

right of the next direction = 35km

position from home?

Solution

50km = ?

distance from home will also be 50km.



Q7a)

Date

Ishaq = 6 hrs

Abhis = 4 hrs

Iqbal = 8 hrs

Ishaq and Abhis - together

Abhis leaves after 2 hrs

∴ Ishaq and Iqbal - together

time to complete work?

Solution

Ishaq and Abhis working:

$$\frac{1}{6} + \frac{1}{4} = \frac{4+6}{24} = \frac{10}{24} = \frac{5}{12} = 2.4$$

$$\text{now, } \frac{2}{2.4} \times 100 = 83.3$$

$$100 - 83.3 = 16.7$$

now again,

$$16.7 \times 8 \text{ hrs of Iqbal}$$

$$133.6 + 2$$

$$135.6 \text{ hrs.}$$

Q7c)

i) Mean

"Mean is an average
sum of given numbers."

Mean is an average
of total sum of numbers and total
number of elements.

$$\text{Mean} = \frac{\text{Total sum}}{\text{Total number}}$$

$$\frac{18+18+19+19+19+21+21}{7}$$

$$= \frac{135}{7} = 19.3$$

ii) Median

"Median is the
mid number of
given elements."

Median refers to mid element in case of odd numbers. Median represents the average of two middle elements in case of even numbers.

18, 18, 19, 19, 21, 21

Median is 19

(ii) Mode

"The most repeated value is known as mode."

18, 18, 19, 19, 19, 21, 21

Mode is 19

