

Part-II

Section-1

Q No.2

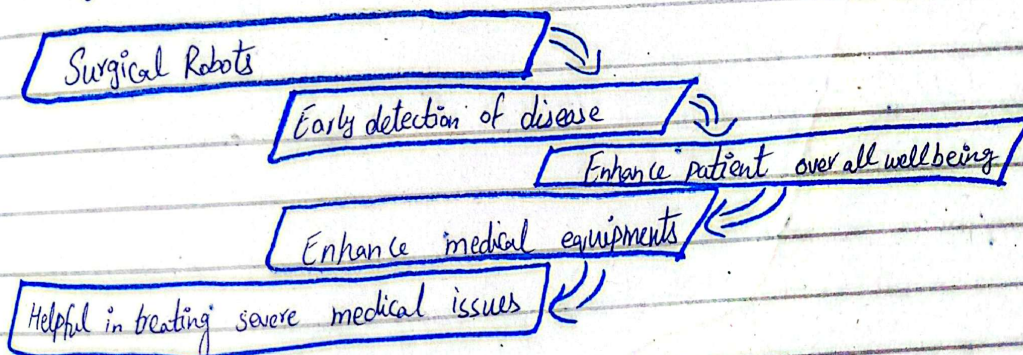
(a)

Artificial Intelligence :

Artificial Intelligence (AI) is a machine or program that is designed to act, work, think, understand, hear, speak and makes decision like a human being.

Benefits of AI in HealthCare

There are various benefits of Artificial Intelligence in Health care. Some of them are given below:



i. **Surgical Robots:** The surgical robots are the application of AI, which are helpful in performing complex surgeries and which reduce the risk during operation and helpful in early recovery of patient.

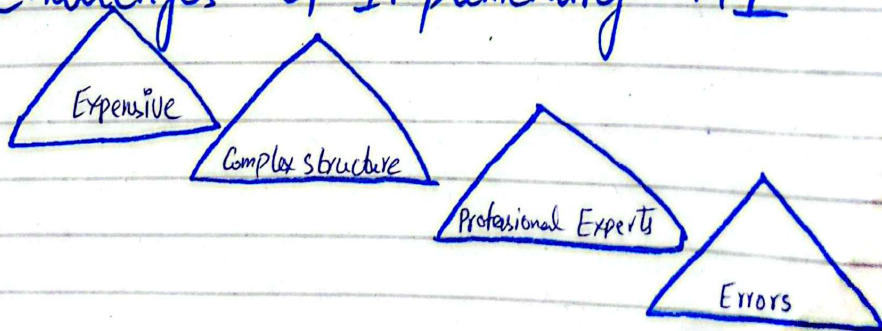
ii **Early detection of diseases**: Artificial Intelligence based machines and some mobile phone applications are helpful in early detection of diseases. In America breast cancer diseases could be detected by using AI based mobile application.

iii **Enhance Patient Overall well being**: AI based robots and medical equipments ensure and identify patient overall health and diseases and enhance patient overall well being.

iv **Enhance medical equipment**: Artificial Intelligence plays a crucial role in enhancing medical equipments such as MRI, BREA, CT scan and laser based surgeries.

v **Helpful in treating severe medical issues**: AI makes a huge advancement in medical field. Recently, in Multan CMH treatment of deaf children is possible, by performing their surgeries and using AI dosing hearing aid. Which is not possible in pervious years.

Challenges of Implementing AI



i **Expensive**: Using AI in medical field could be very expensive. such as medical equipments and tools like hearing aids.

ii **Complex Structure:** Artificial Intelligence is based on severe complex algorithms and languages, so it is might be difficult to apply AI in each and every sector of healthcare.

iii **Professional Experts:** To develop and upgrade AI based medical equipments, there is a dire need of professional experts of AI such as programmers, developers, & software engineers and AI analyst.

iv **Errors:** Using AI in healthcare could be led to the severe issues, if there is an error in machine and robots. So, proper maintenance is required for AI healthcare sectors.

Impact of AI on patient care and medical diagnosis

Following are the impacts of AI on patient care and medical diagnosis:

Reduce the risk



Enhance machines and equipment



Enhance overall well being

i) **Reduce the risk:** AI surgical robots reduce the risk during surgeries and perform better surgeries in contrast to surgical doctors.

- ii Enhance machines and equipments: Enhance machines and equipments are helpful in early detecting ear detection of diseases.
- iii Enhance overall well being. AI based machines enhance overall well being and makes early recovery of patient from disease.

(c)

Causes of Global Warming: There are multiple causes of global warming. Some of them are given below:

Green house gases

Industrial smoke

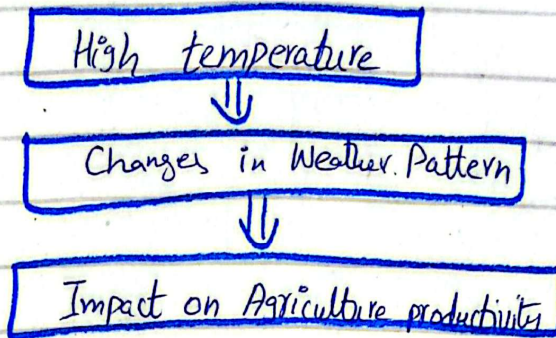
Cutting of greenery

- i **Green house gases:** Green house gases are the primary cause of global warming. High amount of CO_2 is released in green house gases, which increase global warming in the environment.
- ii **Industrial Smoke:** Manufacturing Industries release toxic amount of nitrogen and sulphur and other dioxin gases, which causes global warming in the environment.
- iii **Cutting of greenery:** Cutting of forest and agriculture area ~~is~~ and converting it into development developed and urbanization area, reduces the oxygen.

from the environment.

Effects of Global Warming:

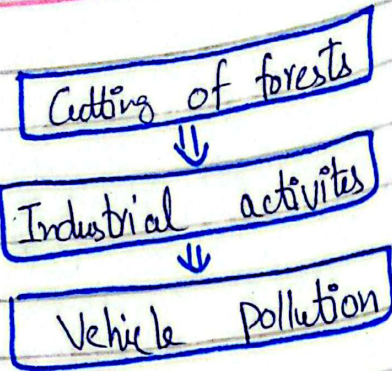
The effects of global warming are given below:



- i. **High temperature:** Global warming increases temperature in the environment and reduces the humidity from the environment.
- ii. **Changes in Weather Pattern:** Global warming causes a negative impact on overall weather conditions and changes the weather pattern and makes it unpredictable.
- iii. **Impact on Agriculture Productivity:** Due to global warming change the weather pattern, so it also cause a great negative impact on agriculture productivity. It reduce the agriculture quantity and quality.

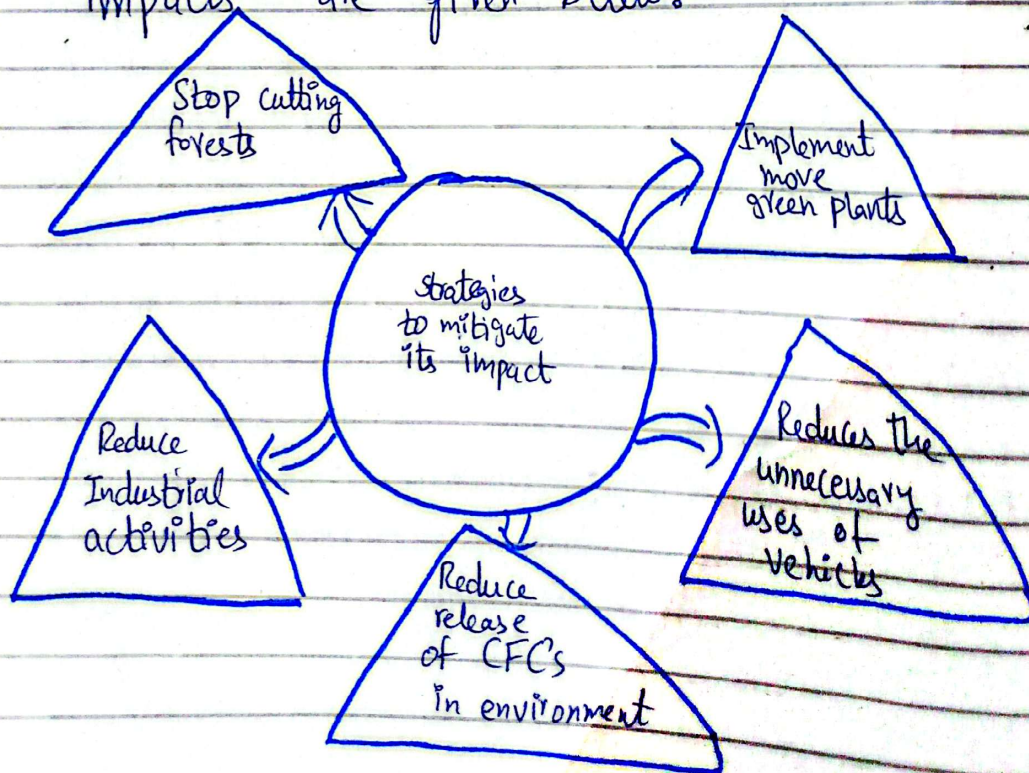
Human activities in contributing global warming:

Following human activities contribute in global warming:



- i **Cutting of forests**: Cutting of forests causes a negative impact on the environment and increase global warming.
- ii **Industrial activities**: Contaminated toxic water and gases released from industries plays a crucial role in global warming.
- iii **Vehicle pollution**: High amount of toxic gases are released from vehicles due to burning of fuels in them also plays a part in global warming.

Strategies to mitigate its impact:
Some of the strategies to mitigate its impacts are given below:



(d)

Key Components of Disaster Management Plan:

Following are the key components of disaster management plan:

Educating and teaching people about the disaster



Making shelter to make individuals safe.



Well structured design of buildings to avoid buildings collapse



Trained and teach people about medical aids



Well trained professional persons to control disaster as soon as possible.

Importance of Preparedness, Response and Recovery:

In disaster management system, preparedness plays a crucial role. When people are trained and teach

on disaster issues, they are prepared to deal in disaster situations. They do not panic when they are prepared, they start thinking about how to deal with it.

When people are prepared and trained on disaster management system, they know how to act and response. They start finding shelter and start giving medical aids to injured person to saves the innocent lives.

In disaster management system, recovery is the difficult and sophisticated to deal with it. Because to recover from a disaster it requires a huge amount of money. However, recovery from the disaster management without the death of innocent is a great success in disaster management situation.

(b)

Big Bang Theory: Big Bang theory means that all of this world happen when as a massive star sudden explode and it makes a solar system and whole world. And after that explosion world is still expanding. On daily basis,

a new star explode and it is dust particles are led to the expansion of world. Big Bang Theory is the theory which tells about the evolution and expansion of the universe.

Evidence of Supporting this theory:

of the evidence of supporting ^{Some} this theory are given below:

Cosmic theory: Cosmic theory provides the evidence of big bang theory.

Background Radiations: Background radiations is also evident that universe is expanding.

In our holy prophet book, also provide the evidence of universe expansion.

Q4

(b)

Remote Sensing:

Remote sensing is widely used to sense the changes in environment and weather patterns. Remote sensing is the application of Information system.

How it is used?

Remote sensing is used for environmental monitoring. It is typically the branch of geographic information system.

Remote sensing is used by receiving signals from the satellites especially LEO (low earth orbit) satellites to analyse, detect and predict weather conditions. LEO satellites send signals to earth and earth antennas and remote servers receive these signals and give the geographic information of earth.

Advantages of Remote Sensing.

Following are the advantages of remote sensing:

- i. **Climate or Weather Conditions:** Remote sensing are helpful to predict and analysis weather conditions such as floods, cyclones

- ii **Land use**: It is also helpful in detecting the diseases and virus. Cause in specific area.

Limitation of Remote Sensing:

Some of the limitations are given below:

- i **Errors**: It might be possible that remote sensing have some error and due to some reasons it not predict well.
- ii **Unpredictable situations**: Not always remote sensing predict some changes in land such as earthquakes and floods are sometimes unpredictable

10/11

(c)

Types of Vitamins:

There are two different types of vitamins

- i **Fat Soluble Vitamins**
- ii **Water Soluble Vitamins**

Fat Soluble Vitamins: They are four different types of fat soluble vitamins

i) **Vitamin A**: Vitamin A is also called retinol. This vitamin plays a crucial role in eyesight. Its deficiencies can

lead to eyesight issues and it is excessive amount can lead to birth defects.

Vitamin D: Vitamin D plays a critical role in bone. It stores vitamin C in bones and its deficiencies lead to the rickets and bone diseases such as fractures.

Vitamin K: Vitamin K is helpful and essential to store vitamin D in bones. Without vitamin K, it is difficult or not possible that vitamin D plays its role.

Vitamin E: Vitamin E is very essential for proteins and tissues in the body.

Water Soluble Vitamins: Some of the water soluble vitamins are given below:

Vitamin C: It is also known as ascorbic acid. It makes bones and teeth strong. Its deficiencies can lead to osteoporosis.

Vitamin B12: It is essential in blood to balance iron level. Its deficiencies can lead to anemic diseases.

Biotin: Biotin plays a great role in human hair growth. Its deficiencies lead to the loss of hair falls.

Difference between both vitamins:

Fat soluble vitamins are usually stored in liver when they are in a balance amount is present in human body. While the water soluble vitamins excessive amount is not stored in body and release.

through urine. So, water soluble vitamins should be taken on daily basis to balance body needs.

In conclusion, both vitamins plays a crucial role in body. If one vitamin is missing, it slows down the overall working of human body.

(d)

Poliomyelitis :

Poliomyelitis is also known as polio. It is a viral disease, which impacts on a children and makes them paralyze for their whole life.

Global Efforts to eradicate Polio.

The multiple organization, countries and institutions plays a great role to eradicate polio from the world. They works and research on polio and succeed in inventing polio vaccines which is helpful to act as an antibody against a diseases in human body. Without this vaccination, it is not possible to reduce polio cases. Multiple adds, education and awareness programs are also designed and implementing by different

organization to educate and aware people on this diseases.

Challenges Faced by in Achieving its goal :

The main challenge which is faced or still facing ~~is~~ are some illiterate persons who do not allow to vaccinate their children, which hinders the progress of eradicating and tackling the polio. The second factors is lack of polio teams in rural areas.

Importance of Vaccination:

- ⇒ It is helpful in making children and individuals healthy.
- ⇒ It is not only helpful in making individual healthy but also stops them being paralyzed and dependent on others.
- ⇒ It brings overall prosperity in the world.
- ⇒ It is helpful in making country progress, by making its individuals healthy.

Section-II

Q 5

~~(b)~~ (c)

Two dices are tossed means = 6 sides + 6 sides
= 12 probability

Prime number are 1, 2, 3, 5 in dices
If ~~both~~ one of them are tossed

it provides 5% probability of prime number and if two $\frac{1}{2}$ dice are tossed they will provide 10 probability of prime

$$\frac{10}{12} = \frac{5}{6} \text{ is the probability of dice}$$

(d)

Capitain of a cricket team is = 26 years old
Wicket keeper is 3 year old = $26 + 3 = 29$ years old

$$\text{Average of them} = \frac{26 + 29}{2} = \frac{55}{2} = 27.5$$

Q7
(d)

~~Father~~ age is 38 now

Father was old as his son today at the birth of his son, so the father age is = X

Father age ^{now} is = 38

Son age 5 years back was = ?

$$X + 5 = 38$$

$$X = 33$$