

G52

Q19

## CELL : A BASIC UNIT OF LIFE

Cell is a basic unit of life which is responsible for thousands of functions. It is most important because it makes collectively combines to form tissues and tissues group up to make organs, which are the functional units of body, of both humans and non-humans. Cells are responsible to differentiate between living and non-living organisms and these are of two types. Prokaryotic, also known as false cell, present in Bacteria and Eukaryotic, a true cell, present in virus, plants etc. Cell has multiple organelles which perform specific tasks they are made for.

# CYTOPLASM

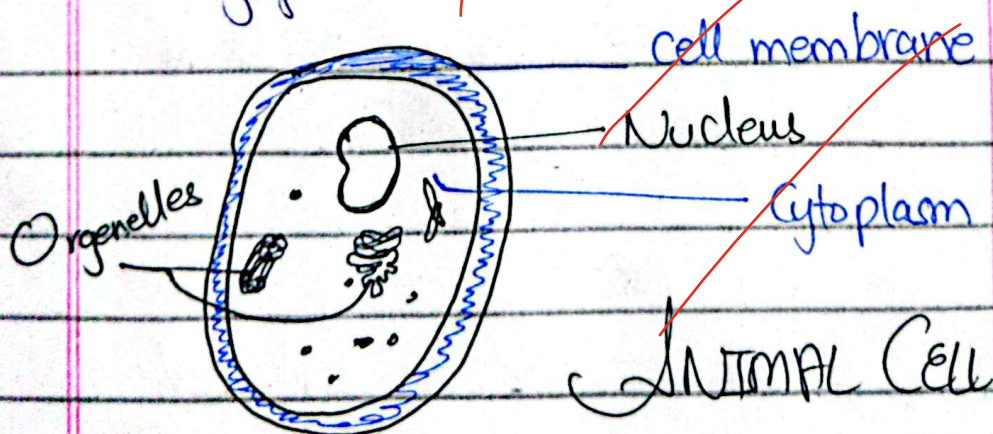
## Structure of Cytoplasm:

Cytoplasm is a clear, transparent fluid like material that holds all the organelles of a cell. It is present in whole cell, inside the cell wall. Cytoplasm is present in all cells types.

## Function of Cytoplasm:

Cytoplasm protects the organelles of a cell at its place and allow them to perform specific functions.

Transportation of ions from and to the cells, takes place in cytoplasm.



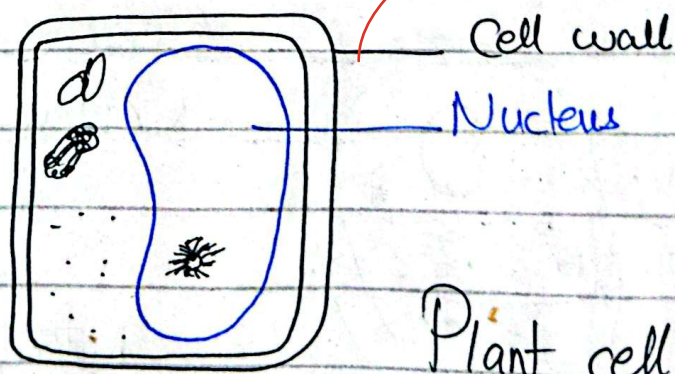
# NUCLEUS

## Structure of Nucleus:

Nucleus is the main organelles of all types of cell. It is dark in colour and contains nucleolus inside. Small dots are present on the outside/surface of nucleus often named as nuclei pores. Nucleus size is big in plant cell and small in animal cell.

### Function of Nucleus:

Nucleus contains Deoxyribose nucleic acid (DNA) and Ribonucleic acid (RNA). ~~with~~ Nucleus main function is to transfer information of DNA.



# PLASTIDS:-

## Structure of Plastids:

Plastids are long bar like structure, only present in plant cells and absent in animal cells.

## Function of Plastids:

Plastids play a role in photosynthesis in plants.

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1B

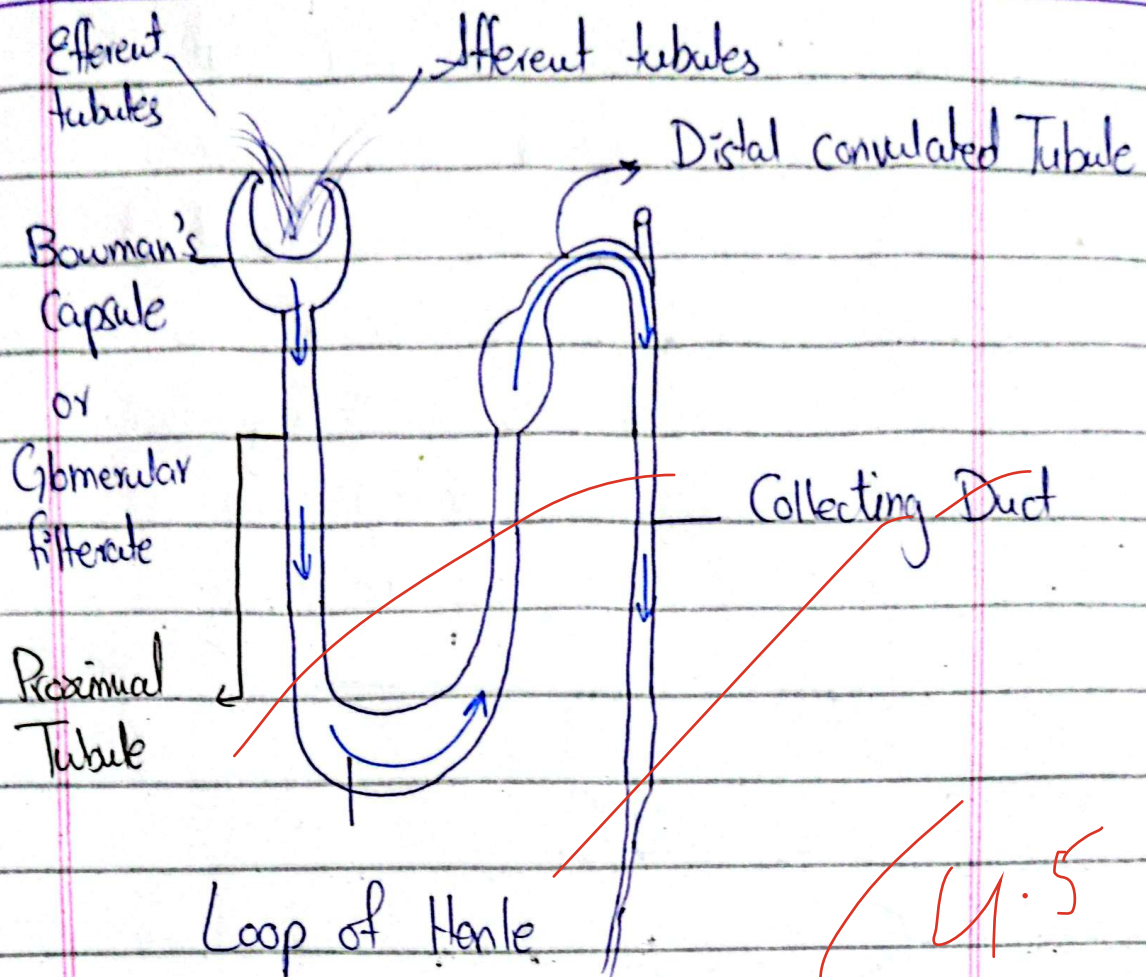
## NEPHRON : BASIC FUNCTIONAL UNIT OF KIDNEY.

Nephron is a ~~bean~~ structure present in kidneys responsible for filtration process. It is one of the most important

part of living organism, human and animals, that purify body from wastes. It absorbs main nutrients and filters extra and excess water and waste products of the body from through urine. It is also a main part in diagnosis of several problems of human body and is also responsible for multiple diseases if malfunctioned.

## STRUCTURE OF NEPHRON

Nephron has 3 parts involved in waste management process. The top and first portion is Bowman's Capsule, then comes loop of henle and at last, distal convoluted tube, through which wastes in liquid form move to ureter to bladder and pass out by urethra.



## Function of Nephron

Waste along with important nutrients and Blood and water comes to glomerular filtrate or Bowman's capsule where it send blood back and rest is followed to proximal tubule. Here also absorption of important minerals occur and the waste moves to

loop of Henle In this part  
infiltration occurs and water  
and minerals, ions are infiltrated  
After that waste moves to  
distal tubule to collecting duct  
and finally to bladder via  
ureter and out of the body.

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1c

## SMOG:

Smog is a combination of fog and smoke, produced by multiple substances and vehicles etc. Smog causes visibility issues and ~~are~~ results in multiple accidents. Smog is formed in winter predominately and in Urban area. Smog is responsible for many skin, and respiratory diseases from in children ~~and~~ adults.

# CAUSES OF SMOG:

Industrial Smoke:

Industrial smoke combines with fog to make Smog.

Smoke by Vehicles:

Vehicles erupt  $\text{CO}_2$  and nitrous oxide gases which combine with fog to produce smog.

Smoke due to fossil burning:

Burning of fossil fuels emit carbonous gases which fuse with fog to become smog. Smoke as a result of high combustion chimneys.

High combustion chimneys like brick industry, produces black smoke which mixes with fog and results in smog.

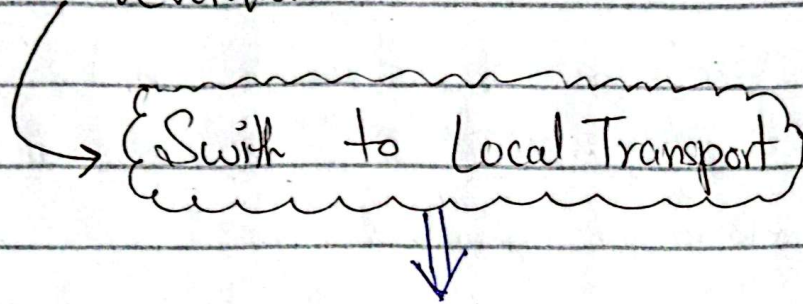
Smoke produced by Power Plants

Smoke produced as a by-product of Power plant reacts with fog to produce smog.

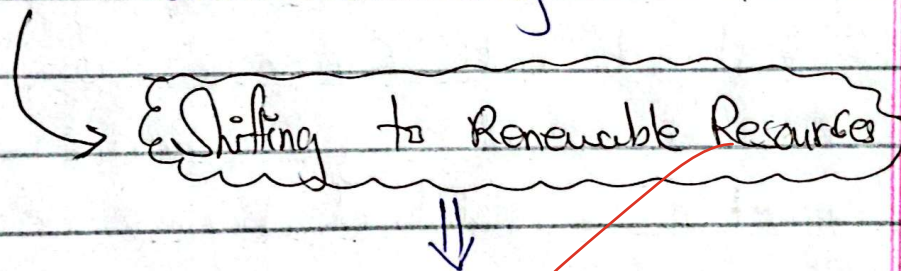


# Preventive Measures for Smog

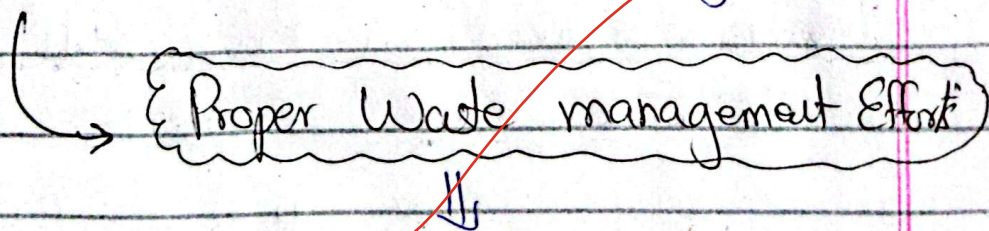
Prevention



Switching to local transport will decrease the use of personal vehicles and result in decrease smog.



Shifting from fossil fuels to renewables like solar etc will decrease smog production.



Waste disposal should be maintained to prevent air pollution.

→ Turn off vehicles while at signal



Turning off vehicles causes less smoke emission ultimately contributing to smog prevention.

→ Use of Eco-friendly machines



Ecofriendly machines will work on less fuel combustion and prevent smog.

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1D

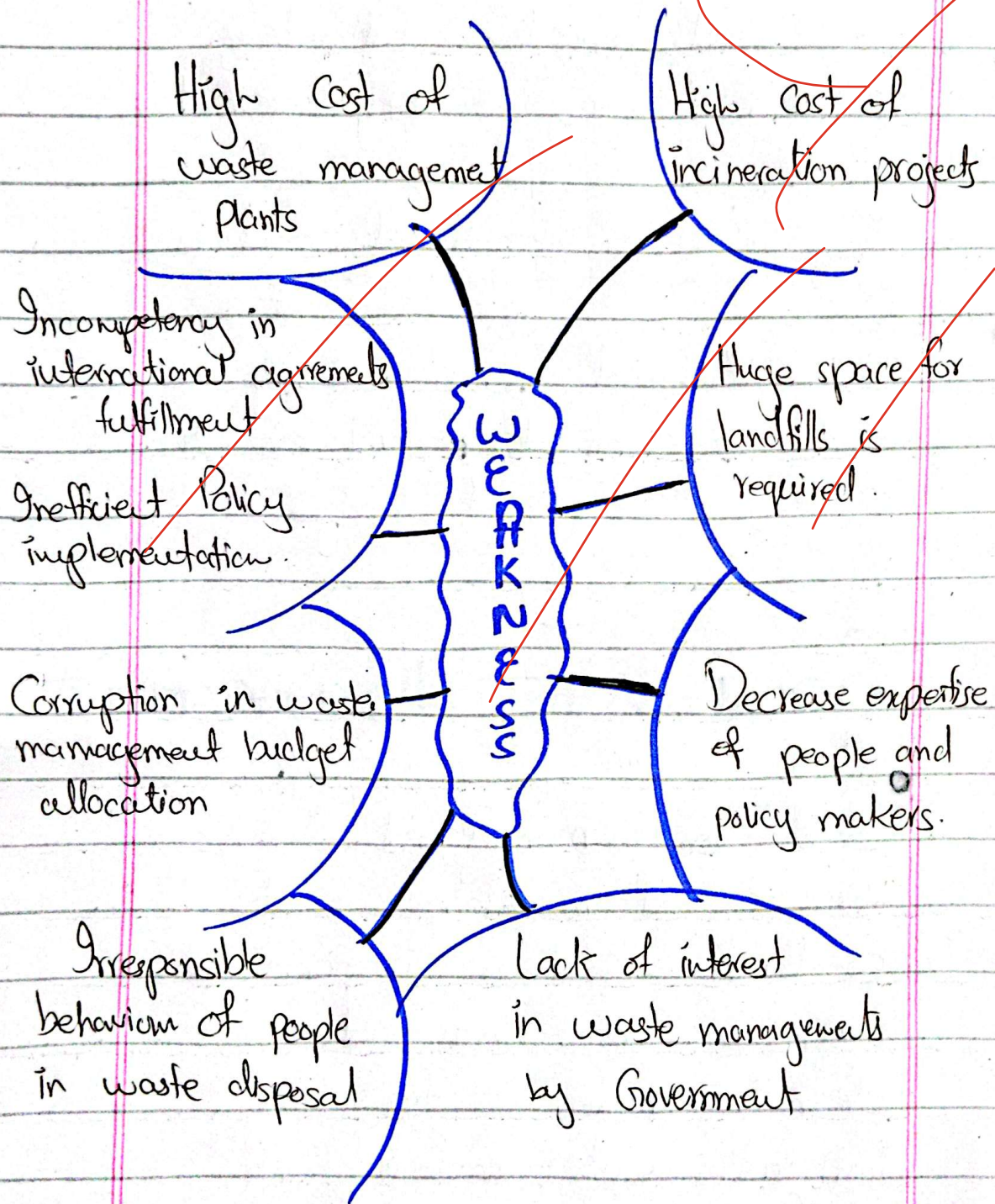
## SOLID WASTE MANAGEMENT

• Solid waste management is the process of managing waste products in a proper disposable mechanism to get clean environment, free from harmful waste materials and maintaining organisms from the harms of wastes.

# WEAKNESS IN SWM OF

## PAKISTAN

3-5



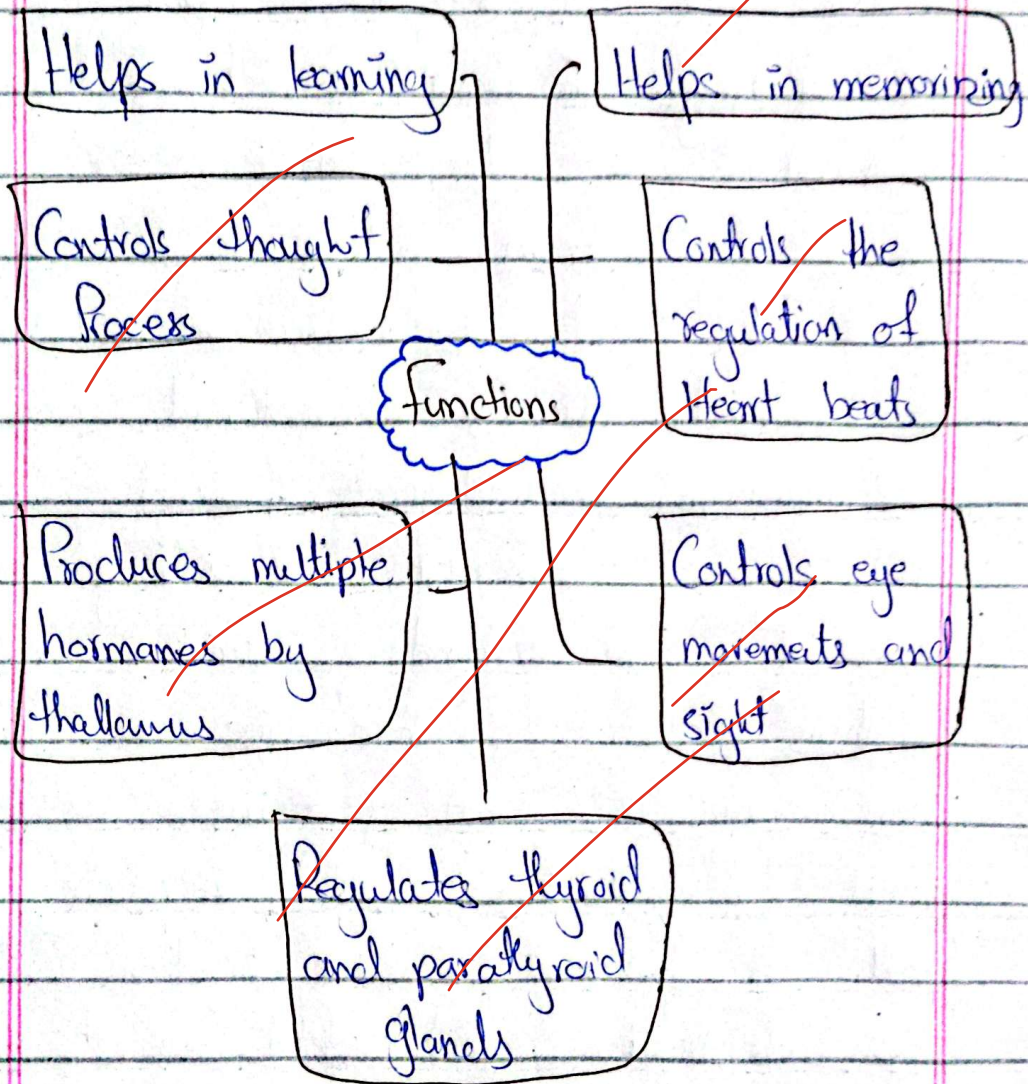
Q 2

## BRAIN : LEADING PART OF CNS

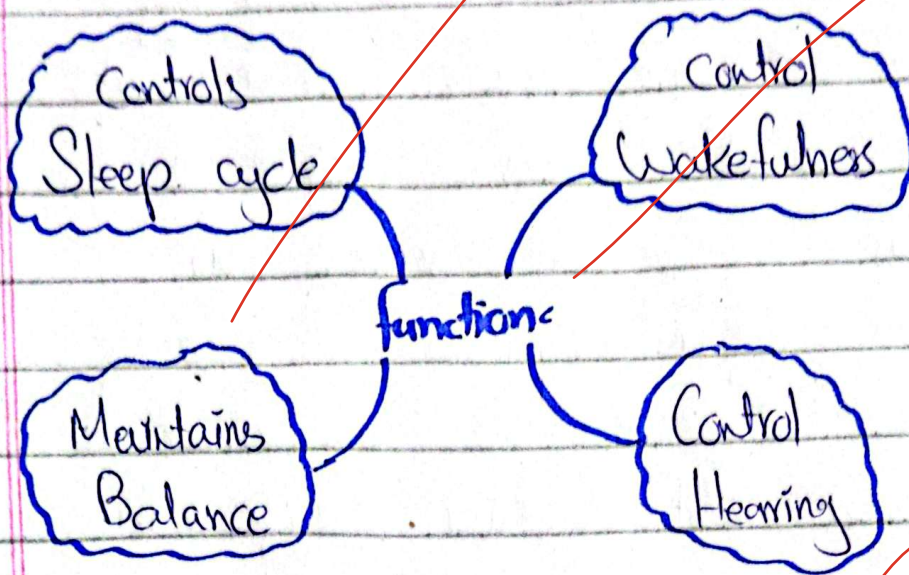
Brain is an important part of living organism which controls all the functions of a body from sleep to wake, eat to discharge, fight and flight, emotional behaviour, psychological, social learning, memorizing, acting moving, understanding and thus controls whole life of an organism. It performs all the functions and regulates all the process from synthesis to destruction and fight against foreign invaders. Brain is divided into 3 parts forebrain, midbrain and hindbrain, all performs particular role in body.

add diagram of brain & explain briefly.

# FUNCTION PERFORMED By FOREBRAIN.



# FUNCTIONS OF HINDBRAIN.



2C

## Reducing Environmental Cost By Renewable Energy Resources.

SOLAR System Helps in Reducing  
Environmental Costs

Solar energy are cheap and  
easy to install at any open  
places and uses sunlight to

produce energy. Latest technique is under observation where Non-Solar renewable Energy panels are made, that works in night. This project if succeeded, will reduce our dependency on Solar only.

## Use Of Water Pumps in Sea and Oceans

Water pumps are the form of hydro power system which produces energy through pump-suction mechanism. It is installed in huge ballon like structures in the sea bed and pops up on the surface. Energy is produced with every wave which moves its piston up and down. No energy is required to run this system thus reducing environmental costs.

2D

## Remote Sensing

add standard definition

"Mechanism to sense different systems running, performed or occurring on the Earth through satellite or aircraft-based sensing and also in the atmosphere through these, is known as Remote Sensing."

## Principles

process pocha  
tha... explain  
with diagram

Spatial Sensing

Temporal Sensing

Spectrum Sensing

Radiospectrum Sensing



## Application

It is applied to get information from and for

↳ Military applications

↳ Geostrategic locations on anywhere on earth

↳ Forestry information

↳ Deforestation

↳ Check on Forest Mafcia

↳ Urbanization ✓

↳ Sight check for Business purposes

↳ Earthquake and natural disaster check

↳ Weather forecast

# Special Request

Check Strictly and  
Please do not  
feel pity on me  
and if possible  
give remarks on  
English, Presentation

There

There is dire  
need for  
improvement.  
Your concepts  
are weak in  
env sciences  
topics & add  
diagrams in bio

for further,  
please be  
focussed in  
discussion  
class