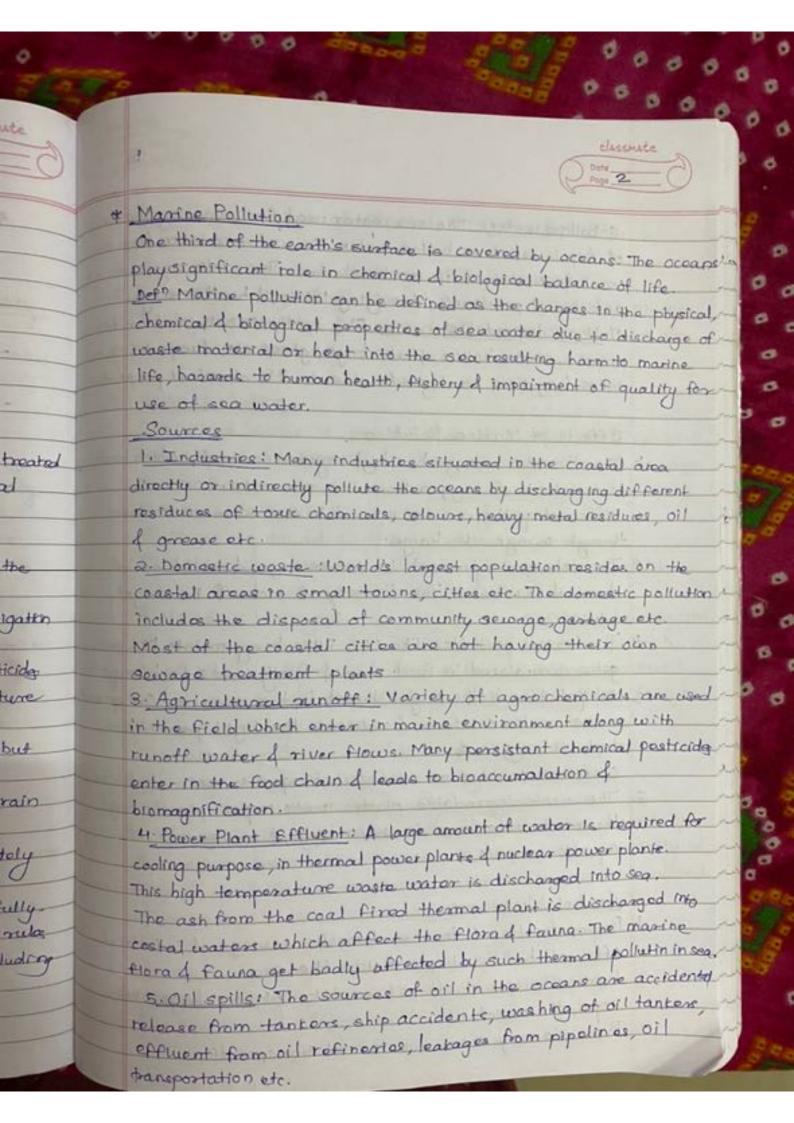
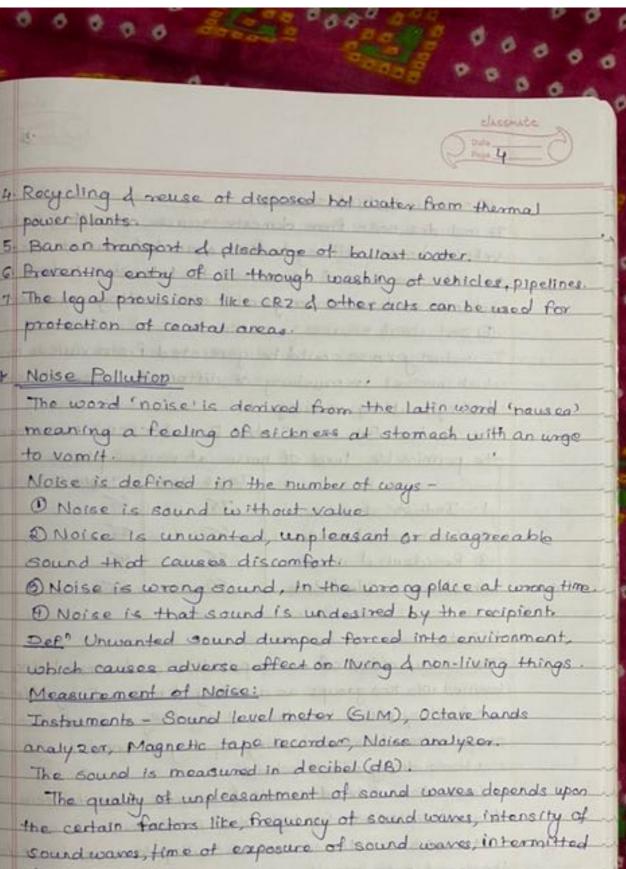
dissente Chapter: 5 Environmental Pollution. \* Pollution Refer unit test - 2 notes p.g. 4 4 Air pollution \* water pollution Refer unit test 2 rotes pg . 1 \* Soil pollution -P.9.7 Control of sail pollution - Before disposal, industrial effluents should be proposly treated - Solid conste from industries, domestic as well as commercial source property suggested 4 treated using proper method before disposed in environment. New technique like bioremediation should be used for the proper treatment of toxic wastes. Use of artifical fortilisers, posticides of unscientific impattr methods are avoided. Instead of using these methods, biofertilizers, bioperticide are applied in field for achieving sustainable agriculture development. Application of these materials will not harmful to soil but it helps in improving the soil fertility. - Covering the soil with trees & grast to protect from rain of wind. When mining finished the site should be immediately medai mad by plantation to avoid soil erasion. Radioactive pollutants should be disposed very carefully Environmental (Protection) Act, 1986 has quidelines of rule to protect the various environmental segments including soil resource.



6. Ballast water: The sea water used for balancing the weigh of ship is called as ballast water. The water is taken from one coast of discharged in another coast. The exotic organisms at as biological pollutants, damaging the local biodiversity 7. Nonbiodegradable waste: The synthetic nets wood for fishing purpose, plastic bottles, plastic bags, glass etc. dumped into see taxes long time to degrade due to it's chemical properties Effects of Marine Pollution 1. The domestic sologe has high organic content, which leads to depletion of oxygen from the sea water. 2. Different pathogens are spread in the ocean environment through somge discharge. 8. The detergents present in the seringe 4 residues of chemical fertilisers. The diversity of Flora of fauna get 4. The chemical pesticides like DDT, BHC, heavy metals like mercup get accumulated in food chain of finally leads to biomagnification. 5. Oil pollution is the major threat to the oceane. Oil spread on the water surface of reduces the light penetration, depletes ougen. 4 Oil forms coating on surface of aquatic animals of birds 6. The nonbiodegradable plastic nets, ropes, plastic bags, thermocale interferos in swimming of movement of aquatic animals. Control Measures 1. Proper treatment to the domestic sewage of industrial effluent before disposal into the sea. 2. Ban on disposal of refuse like plastic hags, nets, ropes, thermocol, etc. 8. Precautionary measures for oil transporation.



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power plants

+ Noise Pollution

of sound waves.

1 Natural - thunder, windstorm, heavy rain, lightening

(2) Industrial sources.

Manmade - @ Non-industrial sources

Sources

to vomit.

Classaute Date Page 5

@ Non-industrial sources

It includes noise from elemestic sources, aircraft's, motor vehicles, horns, railway traffic, crowded market noise. Domestic sources of noise includes television, radio, kitchen appliances such as mixer, grinder etc, washing machines:

(B) Industrial sources

In industry hoise could be generated from various maching which involves in cruehing of different materials grinding drilling, cutting, waving.

The Central Pollution Control Board (CPCB) recommended

the permissible level of hoise at various places.

Day 6.9am Hight 9-6pm

1. Industrial area. 75 65 ...

2. Commercial area. 65 55

3. Residential area. 55 45

4. Silence or Silent Rome. 50 45

Effects

The various effect of noise pollution on human being is classified into two groups as auditory 4 non-auditory effects.

- · Auditory effect includes auditory fatigue of defenses in cause some defect in hearing capacity of mon.
  - · Nonauditory effect includes
- Contraction of blood vessels & muscles make the skin pain 4 also responsible for high blood pressure.
- It causes muscles to contract leading to nerve broatdown tension of even insanity.
- It affect the health efficiency of person behaviour, it may cause damage to heart, brain, kidney, liver of also produce emotional disturbance.
- Physiological disorders are also developed due to continuous exposure to noise.

Control O Ro

The term on It in a distance only

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# Control measures

D Reducing noise at source level: Includes use of silencing to devices, charge in operation process, replacement of noise machines.

@ Reduction at receiver level: Use of personal protective.

equipment's such as earplugs, noise helmets,

of noise by increasing distance between source of receiver. O creating Awareness: creating the awareness within the people through newspaper, television, radio, wortshops.

### \* Thermal Pollution

The term is related to pollution due to heat. Broadly the term is used to indicate degradation of water quality by an process that change ambient water temperature. It is associated with hamful effects of sudden increase in ambient temperature in a sheam, late or ocean due to discharge of heated water or effluent from industrial process. The problem is mainly related to aquatic environment only because of aquatic plants 4 organisms are very sensitive to charge in temperature.

Source

Heat & hot water result from many industrial process is basic cause of thermal potention. Thermal power plant, coal fired plant require huge ammount of cooling water for heat removal Candenser coil of this type industries are cooled with water from nearly take, river or suitable water supply station. After the cooling process hot water is discharged bast into water system which increase the temperature of water to about 10-15°c.

There are many industries like sugar, paper, textile are also responsible for thermal pollution.

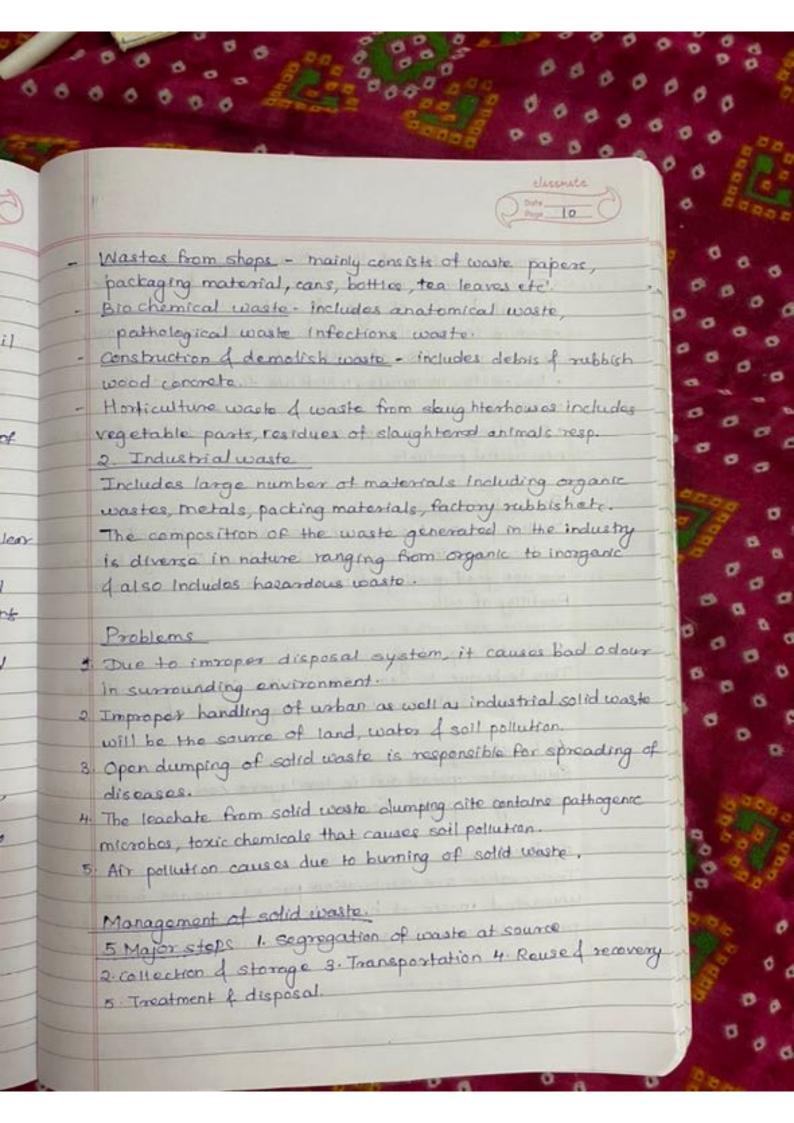
Effects change in dissolved oxygen & redistribution of organism in the local community. Cold water contain there oxygen than hot water. An increase temperature decrease the oxygen carrying capacity of water. - Increase in temperature lower the dissolved oxygen level of the low dissolved oxygen level lead to anaembic conditions. - Thermal pollution also affect the ecosystem composition. Control measures - Outlet water must be cool before discharge in water bodies - Simplest method to control thermal pollution is cooling ponds - Cooling pand water is exposed to atmosphere to decrease the temperature. - Cooling tower have been used extensively at various industries. The disadvantage of cooling tower is change in local i metrological conditions \* Nuclear Hazards Radiations are the most damaging invisible tillers released from the radioactive substances present in nature. Though it is a cheapest source of energy, wasta disposal is observed to be a great problem to the modern society. Nuclear disintegration of atoms releases energy from the nucleus in the form of radiations. The radiations are highly emergetic of havera strong capacity to ponetrate deep into nonliving as well as living cells. Four types 1. Alpha Radiations Alpha radiations are heavy, very stort-range particles of are actually an ejected helium nucleus. charactoristics of alpha radiations are:

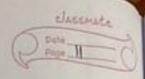
- Alp

- alp

00000 most alpha radiations are not able to penetrate human stin. - Alpha-amitting materials can be harmful to humans if the maternals are availabled or absorbed through open wounder - alpha radiations travel only a short distance in air. - -- are not able to penetrate clothing e.g Radium, Radon, Uranium, Horlum. R. Beta Radiations Beta radiations are light, short-range particles of are actually an ejected electron. - May travel several feet in air of one moderately penetrating. - Can ponetrate human skin, where how skin cells are produced. - Harmful If deposited internally within the hissues -- clothing provides some protection against beta tadiation. e.g Carbon-14, Bulfur-35. 3. Gamma Rodiations Are highly penetrating electromagnetre radiation. - Able to barrel may feet in air & many inches in human tisse - Are electromagnetic radiations like visible light, radiowanes 1 ultraviolet light. - Dense materials are needed for shielding from gamma radiation. Causes I Nuclear emplosion tosts are generally conducted in the air, on or below the ground. 2. The radioactive dust that falls to the earth after atome explosion is known as radioactive fallout. It mainly contains harmful radioactive elements of easily gets mixed with soil, water of regetation 3. Produces low level, medium level of high level waster. 4. Atomic emplosives used in war release out radioactivity in the environment in large proportion.

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	Q = 3	100	
- 11	Effects	-	M
1.	The atomic bombings of Hiroshima of Nagasati were	1000	P
	nuclear attacks during world War II	-	B
2	Strontium has a strong ability to react with air, water, soil		
	that comes into the body of human beings through food	-	Ce
	chain-		W
3	Radicactive lodine -131 causes concer of thyrold glands		H
4	The nuclear blast can result in the immediate death of		ve
	cells of organisms.		2
	and the state of t		I
	Control measures	1	4
) -	Each state Party undertakes not to carry out any nuclear		
	weapon test emplosion		4
2	Use of modern technology, trained coartest, well planned		4
	management activities of construction of nuclear power plant		1
	away from residential areas		7 2
3.	Radioactive wastes are normally stored in underground		1
-	scaled tanks made of stainless steel & deposited deep		
	to earth.	-2.	J
-			
*	Solid waste is the waste material produced by household,	0	0
	commercial, institutional, industrial activities.	91	7
		-	n
	Deft Any unwanted, discarded material other than gast	-	D
	liquid waste is organic & inorganic matter in a wide variety of forms.		1
1010	Sources		,
	Sources		
100 1	1. Urban waste:		-
-	Domestic waste - contains a variety of discorded		6
	materials like polyethylene bags, empty, metal f		-
	aluminium care glass bottle, waste paper,		H
	food wastes.		
	1000		





1 Implementation of three R's.

R's are important are reduce reuse of recycle before disposal of safe storage of waste.

· Reduce in use of raw materials will correspondingly reduce generation of solid waste.

- · Reuse the materials, which are discarded as the solid wasto.
- · Recycling means reprocess the discarded materials into

2. Composting

in this process, biodegradable waste is allowed to degrade or decompose in an oxygen rich modium. Through this proces we get good quality of manure which helps in improve Fortility of soil.

9. Vermicomposting

This technique is same as like the composting only here used the earthworm for the degradation of waster

4. Landfilling

Bolid waste apread out in thin layers compacted of converted with clay or plastic foam.

5. Incineration

Incineration are combustion process means burn a unwanted waste at higher temperature. During burning process, the various gases are release into the environment

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\* Disaster management

Natural disasters are produced by processes that have been produced by the processes that have ben

responsible for producing much of the water present on its surface of for producing the atmosphere.

Farthquakes are one of the processes responsible for the formation of mountain ranges.

Induced which exceed the tolerable magnitude within or beyond certain time limits, make adjustment difficult. Types of disasters

1. Natural disaster

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Natural disaster that occur as a result of natures extremiting in the environment.

Geologic Disaster - includes carthquakes, volcanic exuptions, tounamics, landslides, floods, subsidence, impacts with outer space objects etc.

Atmospheric disaster - Tornadoes, droughts, lightening etc.

Other natural disaster - insect infestations disease wildfires are other natural disasters.

2. Anthropogenic Disaster

These are disasters which occur as a result of human interaction with the environment.

Technological disaster

as radium, mercury, fibbers of coal duet. They also include other disaster that have formed only through human interaction, such as acid rain of contamination of the atmosphere or surface waters.

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Floods

Floods mean the overwhelming of usually dry land by a large amount of water that comes from an overflowing river or late, exceptionally high tide, melting snow or usudden excessive rain.

The floods are natural disaster which is a response to vain fall but it becomes hazards when it causes colossaller to human lives of property.

- Caused by both natural of man-made factors - The natural factors river floods are mainly due to prolonged high intensity rainfall, extensive flood plains break in slope in long profile, volcance exuptions, earthquale - Also due to cloud burst, cyclones, storms, high tides - Man-made factors such as unbanisation, channel manipulation & diversion construction of bridge, large scale deforestation, land use changes.

### Control measures

To haston the discharge of water, to reduce the volume of water, to divert the flow of water, to reduce the impact of floods by reforestation, construction of artifical lever, Flood wall of storage reservoire In certain river basins flood control storage reservoir

Flood management

has been constructed.

The management of floods implies not letting the excess runoff water suddenly & intensely in the drainage network. The various ways in which this can be done by reduction in runoff, reduction of water volume

classmate Date Day 14

A flood peak of by reduction of flood level.

The most effective way of flood management is the reduction of runoff by inducing of increasing infiltration into the ground in the river catchment area by increasing the forest canopy.

The volume of water can be controlled by construction of resorting storage reservoir of dams along the river course. The excess water of flood can also be controlled by diversion of water to lakes to other basin of river, or to artifical channels etc.

### # Easthquake

Farth is a planet of continuous changes that started billions of years ago, Most of the great changes on earth take place along the interfaces between the lithosphere, hydrosphere datmosphere.

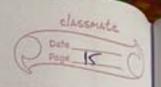
Earthquake is one of such forces, which is continously changing the earth surface.

Earthquoites are inevitable of unpredictable forces of nature which made a continuous adjustment of the thin of unstable crust of the earth.

The waves generated by an earthquake are recorded by an instrument called opismograph or saconometer.

Caused basically due to disequilibrium'in any part of the caused basically due to disequilibrium in any part of the cause of the cause various causes for disequilibrium of earth crust such as volcanic exceptions. As per the theory of plata tectonics, the crust of the

As per the theory of plate tectonics, the courst of the earth is composed of solid of moving plates having either continental court or oceanic court.



The earth's crust consist of six major plates of 20 minor plates. These plates are constantly moving. Some anthropogenic factors may also result in earthquate such as quarrying, mining, blasts, explosions, dams or construction activities etc.

# & Cyclone

Cyclone is taken from Greet word Kuklo's meaning circle.
1: Temperate cyclones

The low pressure system of temperate latitudes is known as temperate cyclone. This cyclone system is also called as depression, wave depression.

In Insize these cyclones are 150 to 3000 km in diameter of move at a vate of 500 to 2000 km per day.

These develops between 30° to 65° north & south latitudes in both hemispheres. In this cyclone the rainfall is light to moderate, which occurs in the form of light shower. 2. Trapical cyclones

The tropical cyclone is a system of low pressure occurring in tropical latitudes. These cyclones originate in the occurrence of latitudes. These cyclones originate in the occurrence differential heating over land I sea probably cause a small area of low atmospheric pressure to develop.

Most of the tropical cyclone originates in the equatorial belts:

These cyclone have a diameter of about 150 to 300km. These cyclone are known by various names in different regions of the world.

Cyclone is one of the natural phenomena d it is developed by various complex climatic changes in land for over ocean in combination.

Controlling cyclone is difficult, but one can minimise the effects of cyclone by adopting suitable measures. These include forestation along the coastal belt to control the damage due to wind velocity, construction of artifical embankment.

In some of the western countries cloud seeding is undertaken in order to reduce the wind speed 4 rainfall 4 as a result the rainfall occurs before it reaches the land area.

# a Tsunami

Tourami is a series of extra large waves of entranely long wavelength, usually generated by a violent, impulsive under sea disturbance or activity near the coast or in the ocean.

when a sudden displacement of a large volume of water occurs or if the sea floor is suddenly raised or dropped by an earthquake, big tsurami waves are formed by the forces of gravity. The waves travel out of the area of origin 4 can be extremely dangerous 4 damaging when they reach the shore.

The word Feunami, is composed of the Japanese words Four of nami.

The most destructive tourams are generated from large, shallow earthquakes with an epicentre or fault line near or on the ocean floor.

Tsurami waves in the deep ocean can travel at high speeds for long periods of time for distances of thousands of kilometers 4 lose very little energy in the process. The deeper the water, the greater the speed of tsurami waves will be.