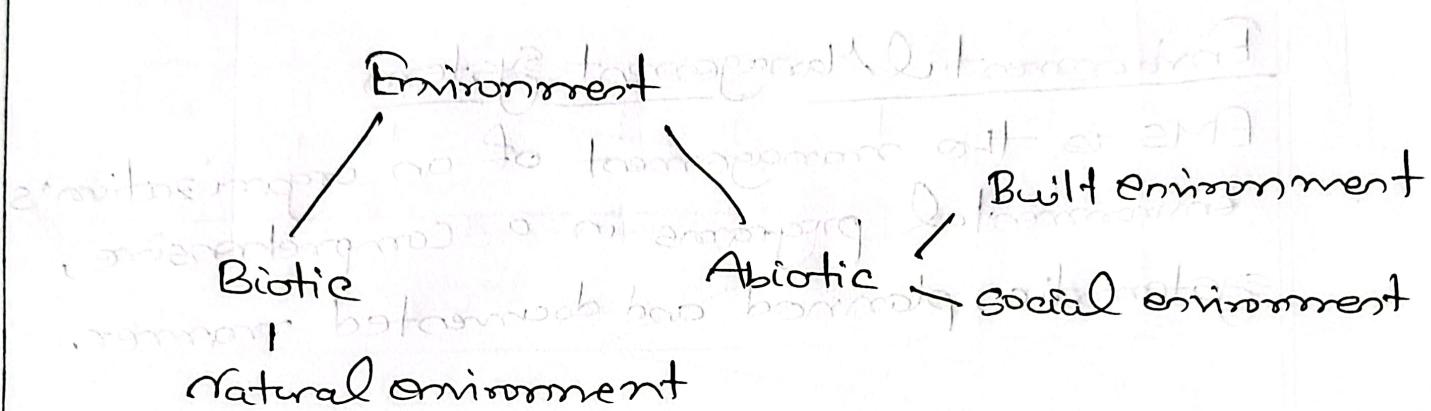


Environment

The environment is everything that surrounds us including all living and non-living components. This is the aggregate of social and cultural community that influence the life of an individual.



* stats and info are important for quiz

Environmental degradation

85 million people are added every year causing stress on resources and services

Environmentalism

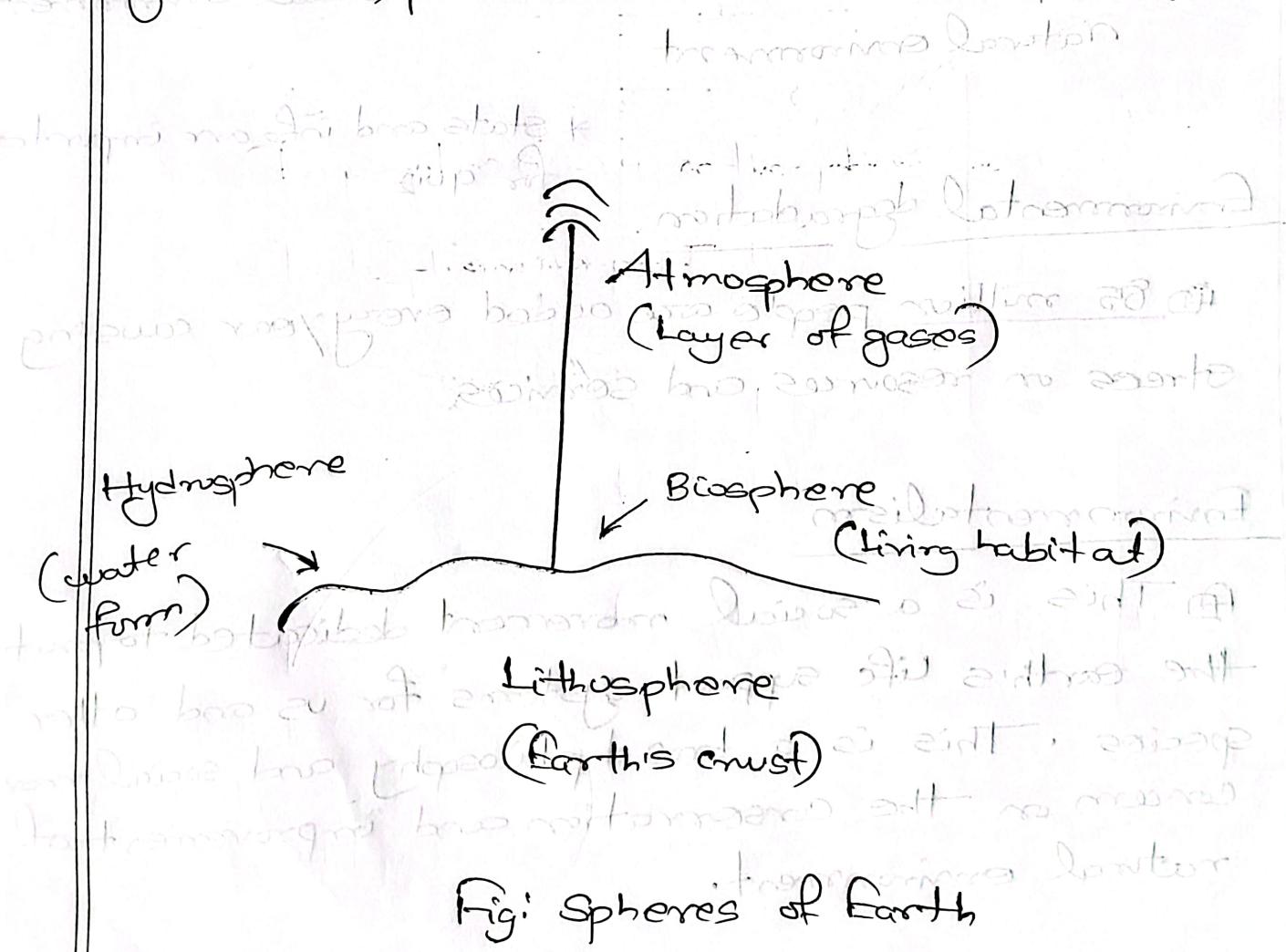
This is a social movement dedicated to protect the earth's life support systems for us and other species. This is a broad philosophy and social movement concern on the conservation and improvement of natural environment.

Sustainability

This is the ability to meet the needs of the present generation, without compromising the ability of the future generation to meet their own needs.

Environmental Management System

EMS is the management of an organization's environmental programs in a comprehensive, systematic, planned and documented manner.



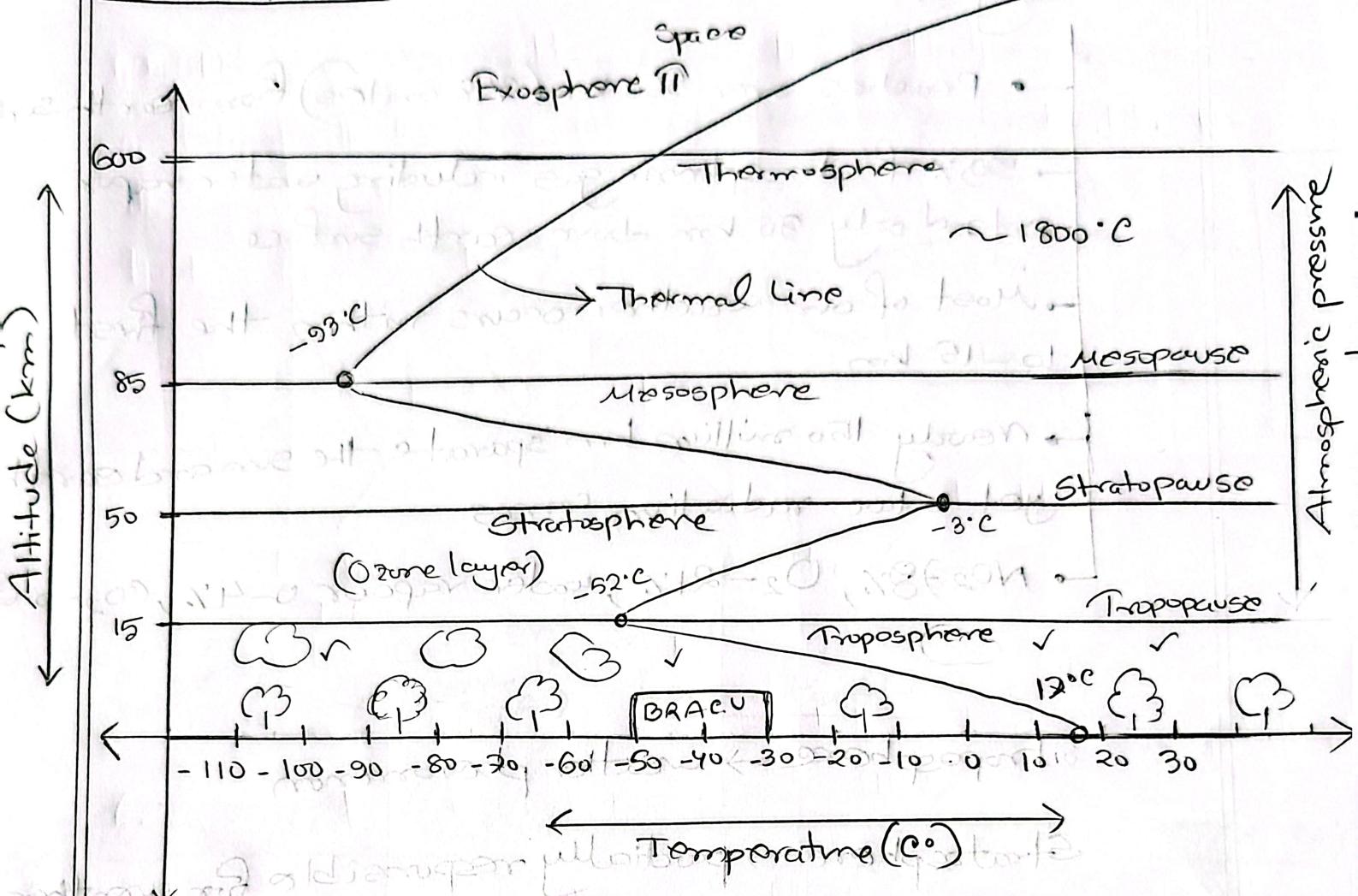
Atmosphere

Figure: Structure of Atmosphere

Atmosphere = Thin Gaseous Envelope

Nitrogen - 78%
 Oxygen - 21%
 Water vapor - 0-4%
 Carbon D₂O - 0.033%
 Other gases ~ ~

- Troposphere
- Stratosphere
- Mesosphere
- Thermosphere
- Exosphere

Necessary stats

- Reaches over 560 km (348 miles) from earth surface
- 99% of atmospheric gas including water vapor extend only 30 km above earth surface
- Most of our weather occurs within the first 10 - 15 km
- Nearly 150 million km separate the sun and earth, yet solar radiation comes
- $\text{N}_2 78\%$, $\text{O}_2 21\%$, water vapour 0-4%, CO_2 - 0.033

Troposphere \rightarrow weather phenomenon

Stratosphere \rightarrow partially responsible for weather

Cloud Formation

Ozone layer

Protect UV rays

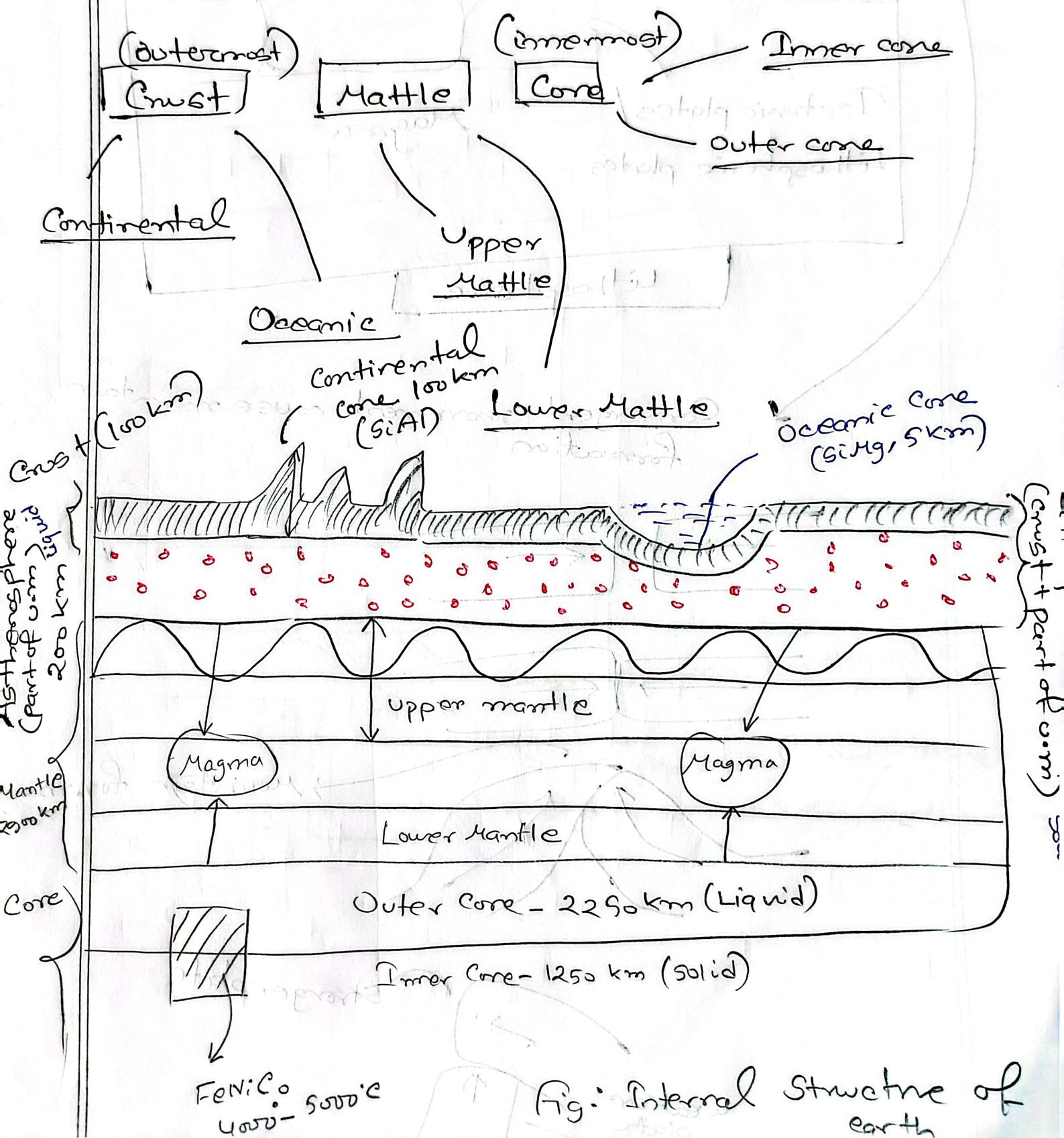
Exosphere \rightarrow merges with space

Directly cause
course

Global warming
Skin cancer
eyesight problem

Lithosphere

Internal Structure of Earth. Soil, rocks, minerals as this sphere is inside the earth's surface.



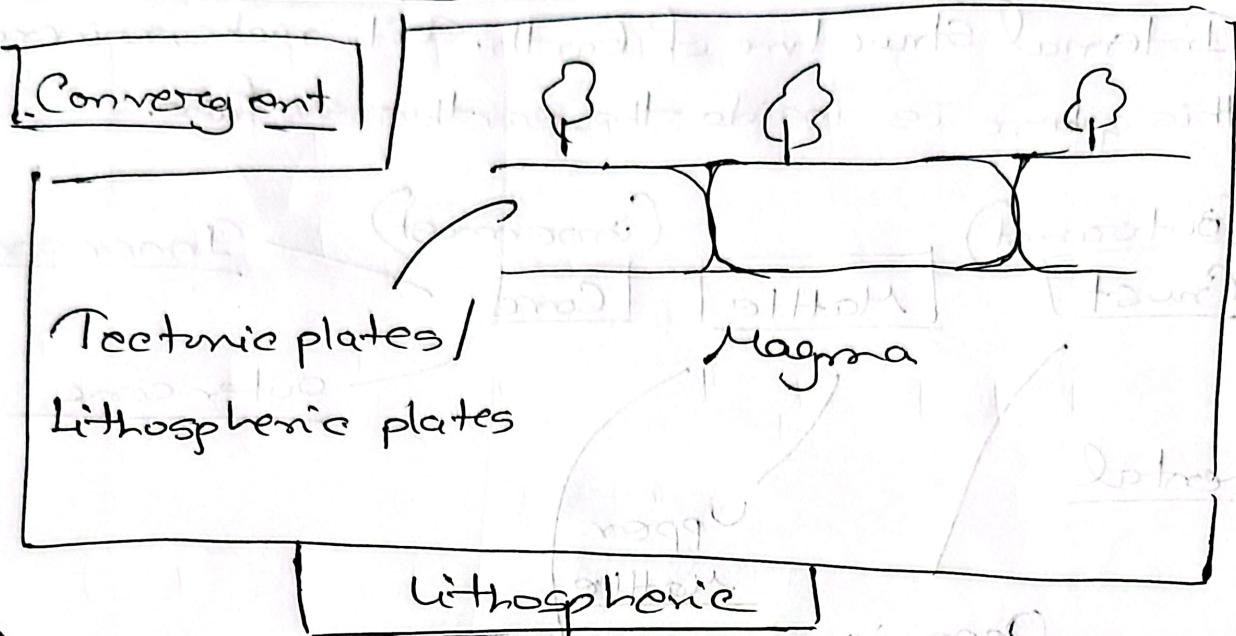
TOPIC NAME : Plate tectonic movement

DAY: / /

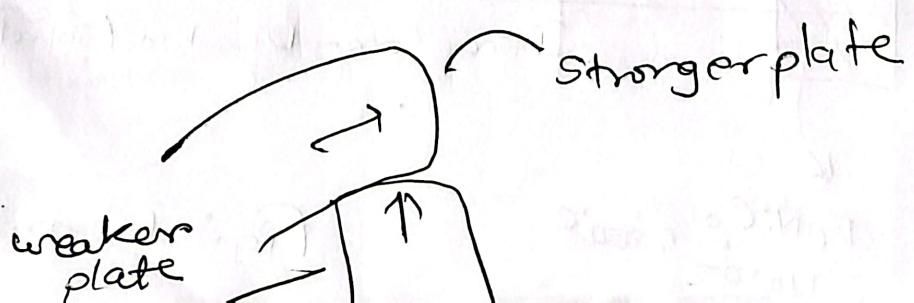
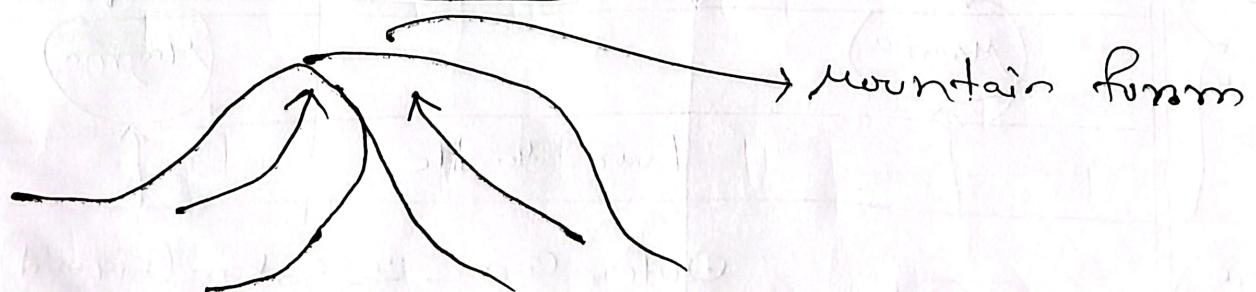
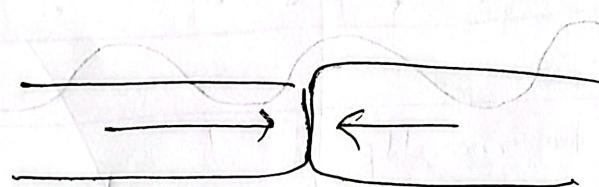
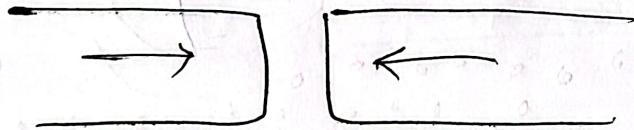
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Plate tectonic movement



Convergent movements cause mountain formation



TOPIC NAME: _____

DAY: _____

TIME: _____

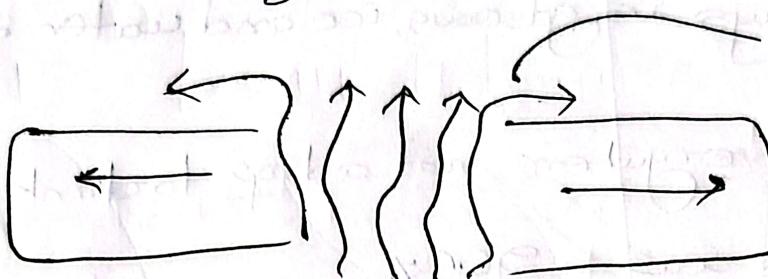
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Divergent

Form island, sea floor spreading

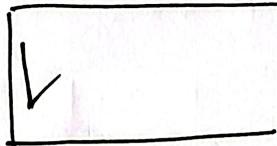
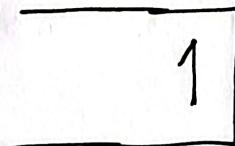


Magma

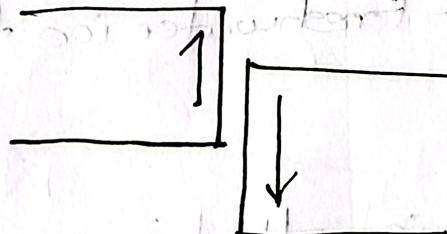


Magma

Transform:



Cause vibration, earthquake



As per geological law, there must be a big shaking/earthquake

Report submitted by: _____ - Date: _____

Hydrosphere

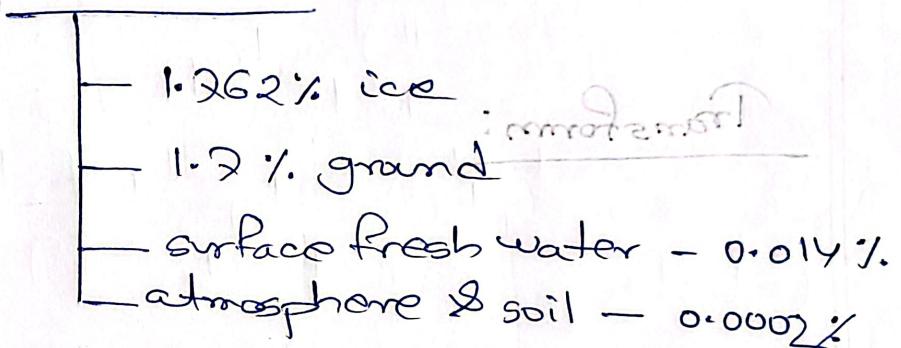
water part of the earth's surface; includes all forms
71% of earth is consist of water

↳ water stays in gaseous, ice and water form

water water everywhere not a drop to drink

Oceans and seas - 96.5%

Fresh water — 3.5%



Solid forms of water

↳ You probably don't know about
Icebergs - a large piece of freshwater ice floating

in open waters

Glaciers - any large mass of ice that moves slowly over land

Permafrost - ground type permanently frozen

Hydrological Cycle

water moves from one source to another by various process and these movements take place between the atmosphere, lithosphere and biosphere.

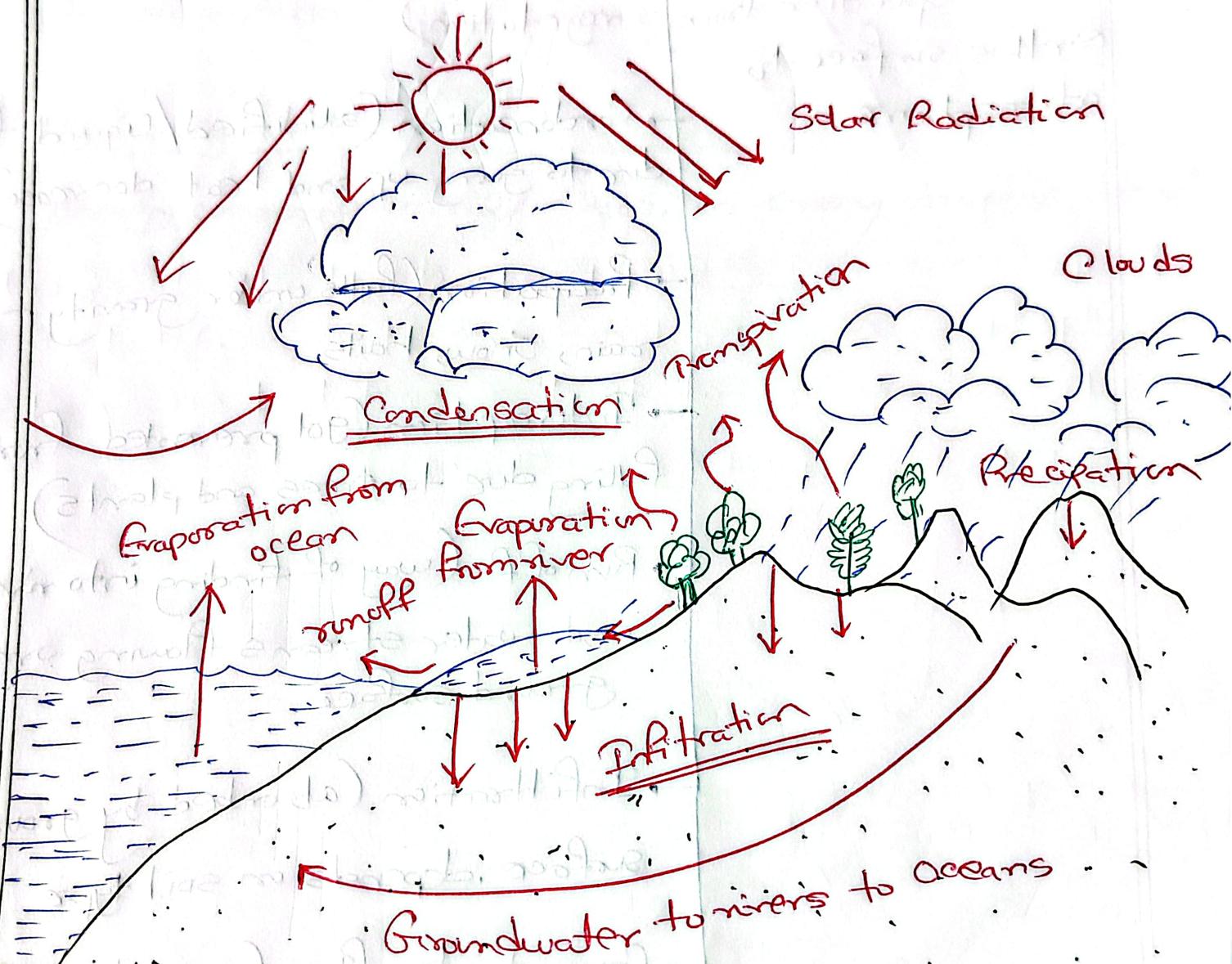


Fig: Hydrological cycle

Different Process of Hydrological Cycle

Evapo-transpiration

Sum of evaporation and transpiration from Earth's surface to atmosphere

- Evaporation (water from surface, seas etc are vaporized due to sun heat)
- Transpiration (water lost from vegetation)
- Condensation (solidified/liquid form due to going up and heat decrease)
- Precipitation (falls under gravity - rain, snow, hails)
- Interception (got prevented from falling due to trees and plants)
- Run off (way of finding into rivers and water streams flowing over ground surface)
- Infiltration (absorbed by ground surface depends on soil type)
- Groundwater flow (a certain amount stored after precipitation) main source infiltration

Energy loss during eating

- physical activity
- metabolic activity
- Body temperature / blood circulation
- indigestion

Energy pyramid

energy consumption 2% - 40% in every trophic level

(Consumption = Production) (Loss 2.5%)

bottom trophic level

100%

10% loss

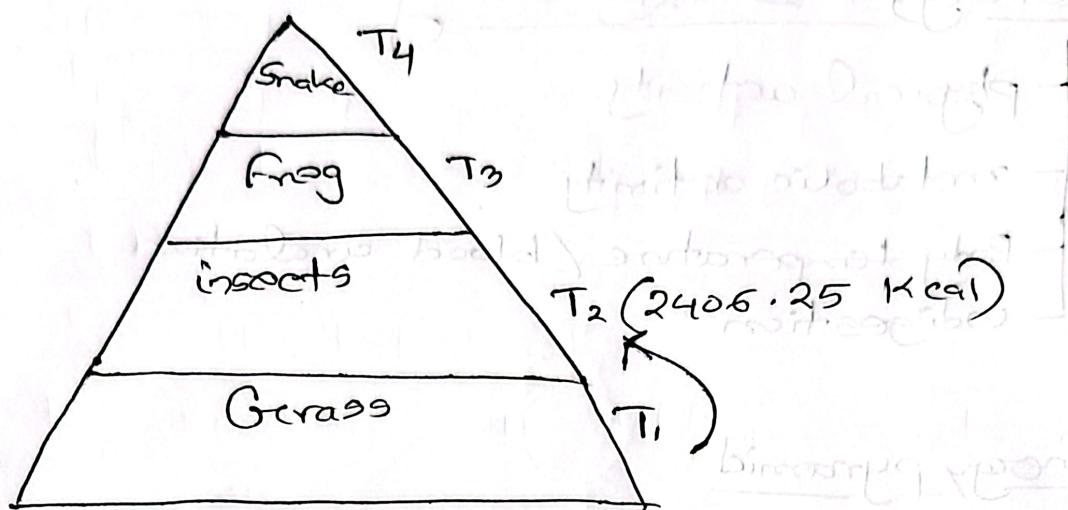
10%

10% → 1%

10% (0.082582) 10% loss for homeostasis and

body regulation

last sample = 10% to excrete



Q) Consider an energy pyramid upto T_4 level where T_1 has 6875 kcal energy as biomass. What is the biomass energy at T_4 level and lost energy at T_3 ?
 (E.E 35%) Ecological efficiency

Stored / transferred

$$= 35\%$$

Loss energy

$$= 65\%$$

$$T_1 \rightarrow T_2$$

The transferred of energy is (6875×0.35) kcal
 $= 2406.25$ kcal

The loss of energy is $= 4468.75$ kcal

TOPIC NAME : Ques 1)DAY : 1

TIME :

DATE : / / $T_2 \rightarrow T_3$

$$\text{transferred} = (2406.25 \times 0.35) \text{ Kcal}$$
$$= 842.1875 \text{ Kcal}$$

$$\text{loss} = (2406.25 - 842.1875) \text{ Kcal}$$
$$= 1564.0625 \text{ Kcal}$$

 $T_3 \rightarrow T_4$

$$\text{transferred} = 294.265625 \text{ Kcal}$$

$$\text{loss} = 1263.296875 \text{ Kcal}$$

Midterm exam Syllabus

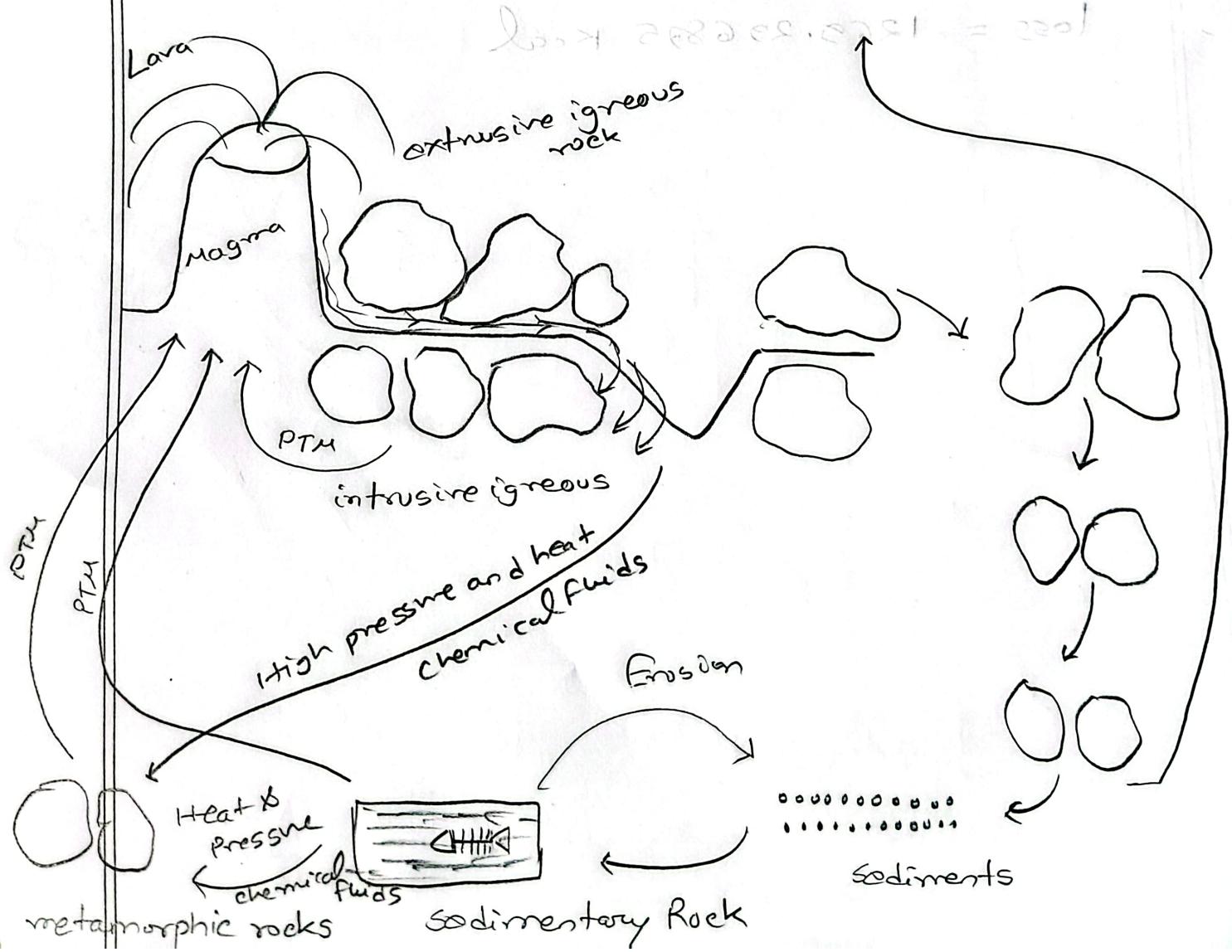
Lecture: 1, 2, 3, 4, 5, 7

Marks distribution: 20 ($4 \text{ bq} \times 5 = 20$)

Duration: 1 hour

Qs pattern: ans 4 out of 5

Definition, Diagram, Math, diff qs ans. short and broad qs. ans

Rocks and Minerals

TOPIC NAME: _____

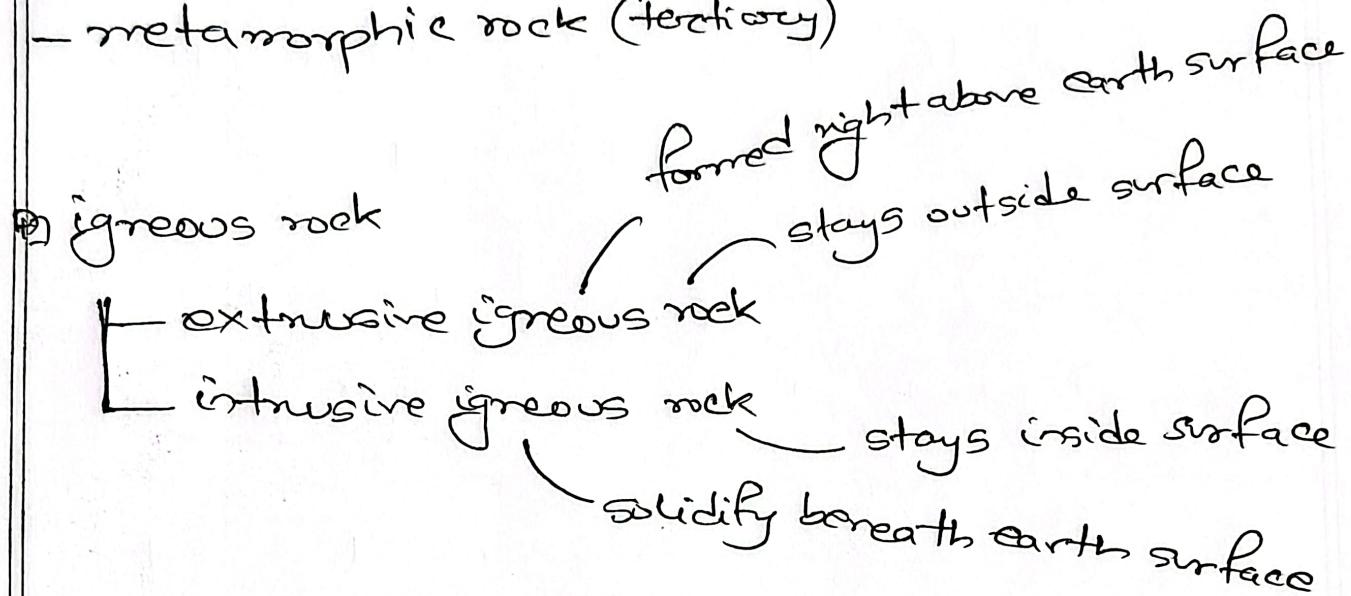
DAY: _____

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DATE: / /

Types of rocks

- igneous rock (Primary) mother rock of earth
- sedimentary rock (secondary) formed by igneous transformation
- metamorphic rock (tertiary)



① Sedimentary rock formed from the transformation of igneous rock

② Metamorphic rock formed from the transformation of igneous rock and sedimentary rock.

Transformation process

erosion - (breaking + transformation) of igneous

rock by weathering agents:

temperature, pressure, ocean current, wind