

Q3. (a) describe structure of Earth?

Hi there — you've prepared well!

Remember, knowing the content is one thing, but presenting it in the paper exactly as required is another. Here are a few key points to keep in mind:

(i) Earth - the Blue Planet

Earth, the third nearest planet to Sun, is the only planet which has ideal conditions for life.

Sustainability. 71% of Earth is water which is why it is called Blue or Colourful planet.

(ii) Earth Structure:

Earth Structure is divided into 3 parts

- \* Interior
- \* Surface
- \* Atmosphere

Inside the Earth its surface is further divided into following parts:

- Core (Inner)
- Core (Outer)
- Lower Mantle
- Upper Mantle
- Crust

1. For a 5-mark part, aim to write at least 2 and at most 3 sides of the answer sheet.

Often, a question has two or three parts, and the marks are divided accordingly — so address each part fairly.

2. Manage your time wisely — you have about 35 minutes per full question, which comes down to around 8 minutes for each 5-mark part. Stick to this to avoid rushing later.

3. Make your answers look scientific, not just theoretical. Use flowcharts and diagrams wherever they add clarity.

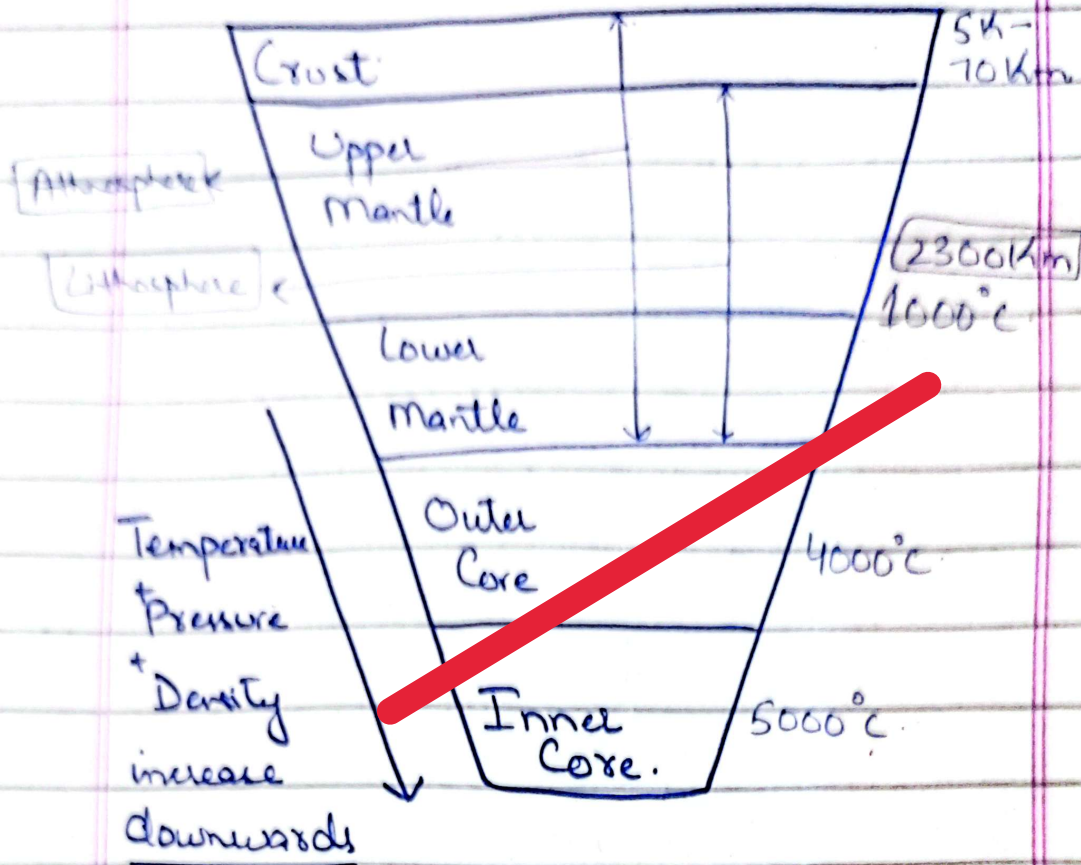
4. Neatness matters — keep your handwriting clean, avoid cutting or overwriting.

5. Mind your spelling and grammar — while GSA doesn't deduct marks for these, your expression leaves an impression.

6. In the ability portion, explain analytical ability questions in words. For a 5-mark part, show all steps and provide clear explanations.

Good luck for CSS 2026 — you're going to ace it, in sha Allah! ✨

# Earth's structure



## Structure:

### a. Core:

The inner most part of the Earth's interior is its core. The core makes up the 20% of the Earth's interior.

#### Core

Inner

Outer

The inner core has the highest temperature, and highest pressure. because of the upper layers (Mantle) exerting pressure on it.

use

**Composition of core:** The core contains elements i.e. Nickel (Ni); Aluminium (Al). Here, due to highest pressure the elements convert to liquid.

b. **Mantle:**

The mantle has comparatively less temperature than core, but still very hot. Mantle is semi-solid, semi-liquid: molten lava.

**Mantle**



**Tectonic plates**

↓                      ↓  
7 small                      12 large.

These Tectonic plates move in mantle with molten lava, if ever they slide past each other, it leads to Earthquake and even volcanoes.

# Crust

## Continental

## Oceanic.

→ Continental crust is the crust of territorial land and mountain region.

Oceanic crust is the crust of oceans and seas.

→ Continental crust is thicker than Oceanic crust.

Oceanic crust is thinner than Continental.

→ Thickness varies from 30-50 Km.

Thickness ranges from 5-7 Km.

Tectonic plates?  
Address all parts

Q2 (c) What are primary causes and effects of global warming, strategies?

### Global Warming:

Global warming is the rise in temperature of Earth on massive scale. Scientist say that global temperature has increased as much as 1°C or 2°C after the industrialization and it is

still increasing due to human activities.

## Causes of Global Warming:

1. Carbon Emissions
2. Greenhouse gases.
3. Increased reliance on automobiles.
4. Fossil Fuel burning.
5. CFCs released from electrical-cooling machines.
6. Deforestation.

The increasing carbon footprint has caused temperature to rise.

The carbon emissions are mainly from automobiles and industries.

The CFCs or chlorofluorocarbons released from Air conditioners and refrigerators contribute to temperature rise.

### Lesser Known Causes

Padi Fields

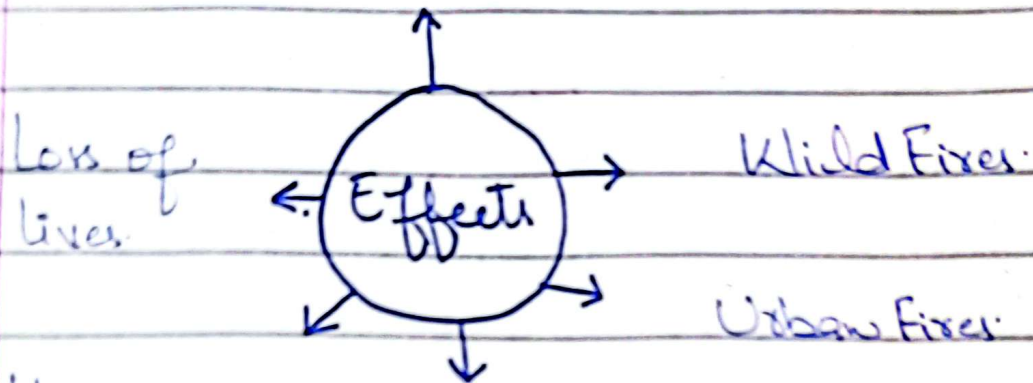
These are the rice fields.

Cows.

Cows fart release N<sub>2</sub> gases.

# Effects of global Warming.

Climate Change:



Hurricanes:

→ Wild Fires:

Floods:

Wild and urban fires are directly linked with global warming.

Case Study:

Australian Wild Fire

It was a result of hot winds that sparked fire in Australian forest leading to 20 lac animals and hundreds of human deaths.

→ Floods:

and prolonged

The sudden rains causes water levels to rise which results in flooding.

## Case Study:

2022 Sindh and

Balochistan flood. Every year, floods takes hundreds of lives. displace people, yet it remains a cornered problem.

### → Urban Fires:

Urban fires are caused by human activity of bonfire, camping, smoking, burning garbage, short circuit.

## STRETEGIES:

### \* Afforestation:

Afforestation or growing new forest can balance the global temperature. Since, forest are natural filters. They absorb  $\text{CO}_2$  and release Oxygen.  $\text{CO}_2$  is a contribut greenhouse gas.

\*

## \* Controlling carbon emissions:

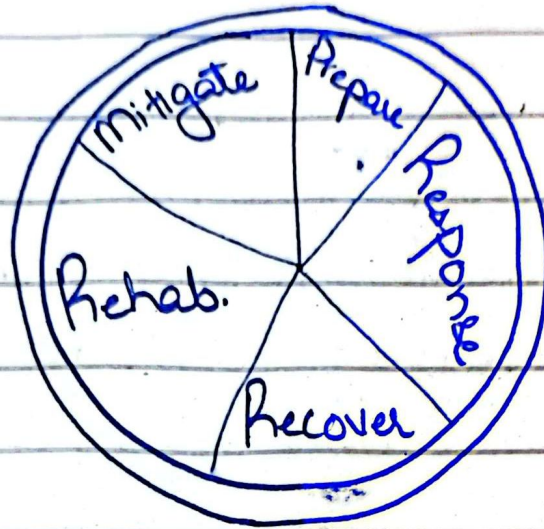
Using carbon filters in industries, and less reliance on personal automobiles, switching to public transport can control carbon emissions. Paris Agreement (2015) is an international agreement between countries to lessen carbon emission to that world temperature can be reversed to pre-industrial temperature.

## \* Reduced Cattle Breeding and Padi fields:

New research at Yale University has pointed rice fields + cow farms contribute to greenhouse gases. So, there is a need to switch to alternative food i.e. wheat, barley, corns. Moreover, less cattle should be bred. Australia has put tax on cattle owners.

(b) What are Key components of disaster management .....

Disaster Risk Management:  
Key components



Mitig  
Prep  
Res  
Recov  
Rehab

Disaster risk management is a universal model to prepare for any natural or human-caused disaster and response to mitigate its impacts.

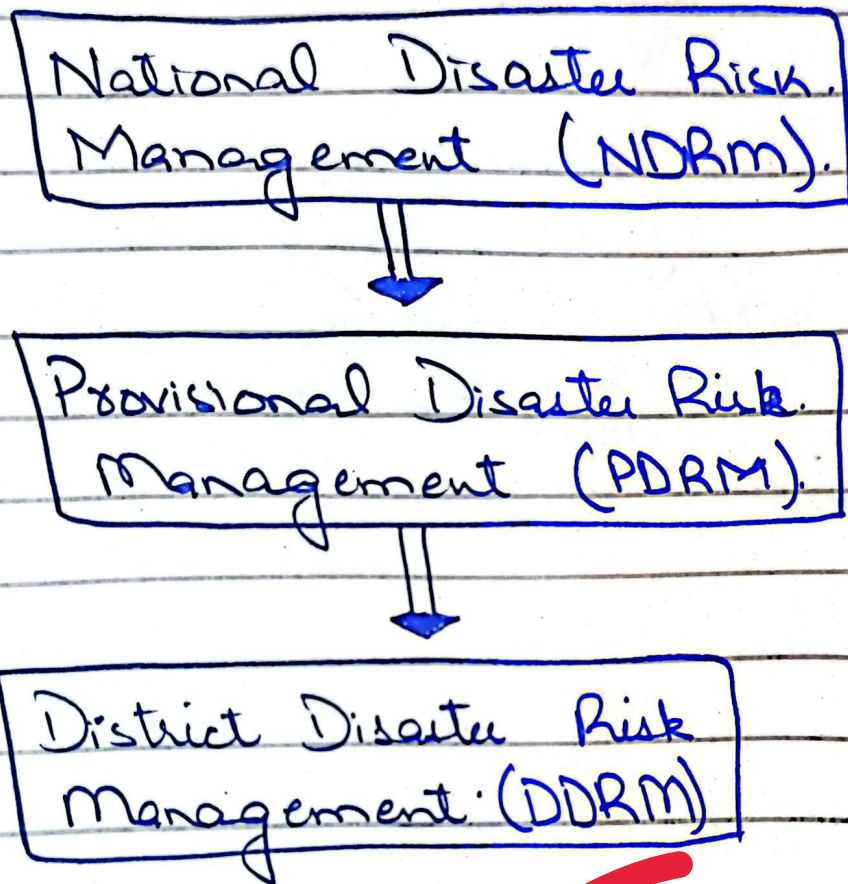
### 1. Importance of preparedness.

Preparedness

involves meteorological equipment to predict weather forecast and seismograph to record earth internal magnitude for.

preparedness of earthquakes and volcanic eruptions.

The preparedness involves the following department:

1. National Disaster Risk Management (NDRM).
  2. Provisional Disaster Risk Management (PDRM).
  3. District Disaster Risk Management (DDRM).
- 

During preparedness, response, and recovery phase these department collaborate with each other. The provisional and District Management was made after 2005 Earthquake of Pakistan.

To prepare, the NDMA does the following action:

1. Ensure the Meteorological information.
2. Take orders from Higher authorities.
3. Enforce timely measures through PDRM and BDRM.
4. Prepare relief camps and aid and gives budget before time.

In recovery and response, the relief camps, food and safety is provided until permanent residence is constructed for people.

## ~~Successful Disaster Management Case Study:~~

Thailand disaster risk management educates people of signs of disaster. For both through TV advertisement and co-ordinating curriculum makers.

# Tsunami of. Thailand Indian Ocean (2004)

12 year-old.

A girl in 2004 saved thousands of people in Thailand. She saw the receding waves and informed the disaster management authorities. The houses were evacuated. Half hour later, a tsunami rose from the Indian Ocean.

Therefore mass education is imperative in risk management.

Q6) a) If selling price is doubled, profit triples! Profit %?

Selling Price =  $x$   
Profit =  $y$

$$\boxed{2x \quad 3y}$$

$$x = 30$$

$$y = 20$$

$$2(30) = 3(20)$$

$$60 = 60$$

Profit percentage:

$$\frac{20}{30} \times 100 = \boxed{66.6\%}$$

(b) X and Y two servants  
are paid 550 . . . ?

Equations:

$$X + Y = 550 \rightarrow (1)$$

$$X = \frac{120}{100} \times Y$$

$$X = 1.2Y \rightarrow (2)$$

$$X + Y = 550$$

$$1.2Y + Y = 550$$

$$2.2Y = 550$$

$$Y = \frac{550}{2.2}$$

$$Y = \frac{550}{2.2} \times 100$$

$$Y = \frac{550 \times 100}{2.2} = \frac{550 \times 5}{11}$$

$$Y = 50 \times 5 = \boxed{250}$$

Q7) (a) Sum of money is to be  
distributed among A : B : C : D  
in 5 : 2 : 4 : 3 . . . ?

$$A : B : C : D \\ 5 : 2 : 4 : 3$$

Let the number be  $x$

$$5x + 2x + 4x + 3x =$$

If  $4x = 2x + 1000$

$$2x = ?$$

$$4x - 2x = 1000$$

$$2x = 1000$$

$$\text{Share of B} = 2x \\ = 2(1000)$$

$$\underline{\text{Answer} = 2000}$$

Q7 (b)

In a two-digit number,  
if it is known that its unit  
digit exceeds ... 144?

Let Ten digit =  $x$

Unit digit =  $y$

Equation:

$$y = 2 + x \rightarrow a$$

$$xy(x+y) = 144 \rightarrow b$$

Putting b in equation as

$$x(2+x) =$$

$$xy(x+y) = 144.$$

$$x(2+x)(x+2+x) = 144.$$

$$(2x+x^2)(2x+2) = 144.$$

$$(x^2+2x)(2x+2) = 144.$$

$$x(x+2) \cdot 2(x+1) = 144.$$