



**Answer Writing Focus Group
Generic Booklet
Entrance Test**

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Allotted Time : 60 Minutes

Key Objectives of the Program:

#1 Coverage of Syllabus – The questions will cover relevant static portion and related contemporary issues in the news. It is expected that student by attempting these questions will be able to revise their syllabus holistically. It will enable student to understand what topic to focus upon. Let's not be a frog in the well – unaware of "what to study" or "what to prepare".

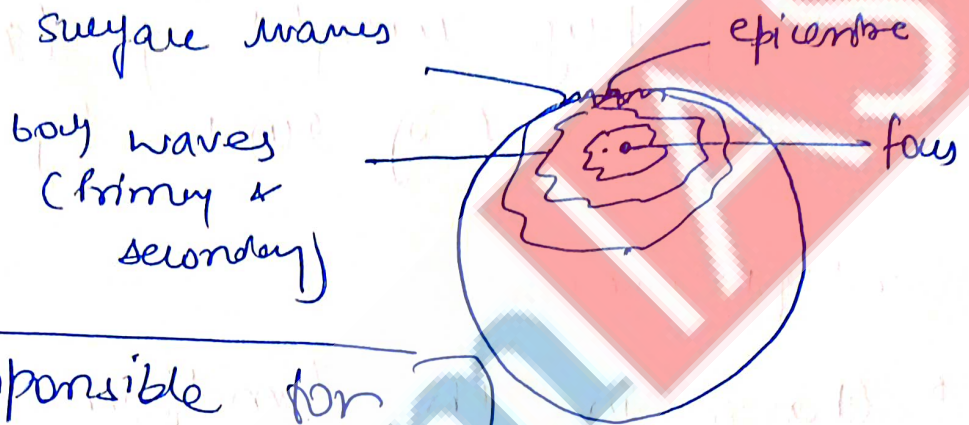
#2 Answer Writing Practice – It will provide students answer writing practice and enable them to strategize how to cover paper within time limit.

#3 Detailed Discussion of the Test– The Answer Writing Sessions will follow with Test Discussion that will augment to your knowledge. Make notes, and cover the syllabus.

#4 Stay ahead of the competition – Laser Beam focus on answer writing and covering syllabus holistically will enable student stay ahead of the competition.

Q. No.	Grade/Score
1	
2	
3	
4	
5	
6	
7	
Overall Grade/Score	

Ans Earthquakes can be described as violent shaking of the earth surface that brings untold destruction with it.



Factors responsible for occurrence of Earthquake

→ Movement of tectonic plates - causes compression and tension forces that cause release in energy in form of earthquakes.

↳ himalayan region and mid oceanic ridge region

→ Nuclear testing induced earthquake : through nuclear tests
↳ in USA Nevada desert.

- Reservoir induced: by building and storage of large amount of water in Deccan India
- Unloading factor - sudden movement of huge weight of landslide or removal of rocks by blasting.

Consequences

- Change in the landforms - may give rise to mountains, valleys etc.
- * Brings destruction of the local ecology and animal life
- * Brings misery and cause loss of human life.
- Causes economic loss by destruction of infrastructure

India lies in very hazardous zone, mitigation must be built in development process by design.

Floods are large scale inundation of a region due to various factors that affects human, animal and the local landform and ecology.

Floods have been historical phenomena mentioned in epics like Bible and hindu scriptures. but today it is being driven by anthropological activities

* Infrastructural activities by humans \Rightarrow landscape change in Kedar Nath region of Uttarakhand

Other reasons
 \rightarrow Meteorological
- rainfall
- cloud burst
 \rightarrow Landform and terrain

* Building on flood plains

\Rightarrow Eastern Delhi is built on Yamuna flood plain

* Encroaching on natural water

river and lakes in Bangalore

most of the lakes are shrinking and encroached upon

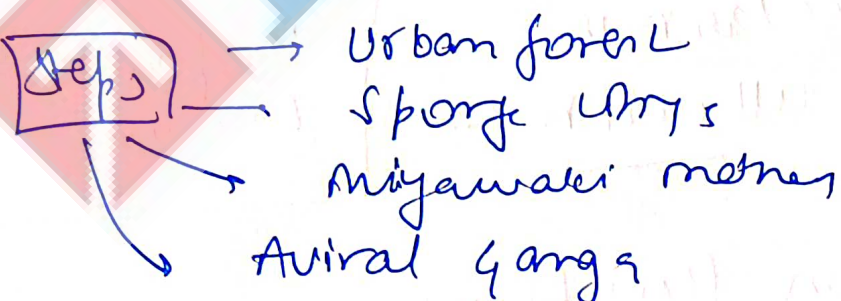
* Climate change - melting of glaciers

* Poor urban governance especially in cities - corruption in land use change \rightarrow Bangalore

* Concretisation of land by building

* Building dams hampering the natural flow.

* Human errors : \rightarrow non working of sluice gates in Delhi.



Water ~~Rivers~~ can be both giver and taker of life. It is upto us how we use it.

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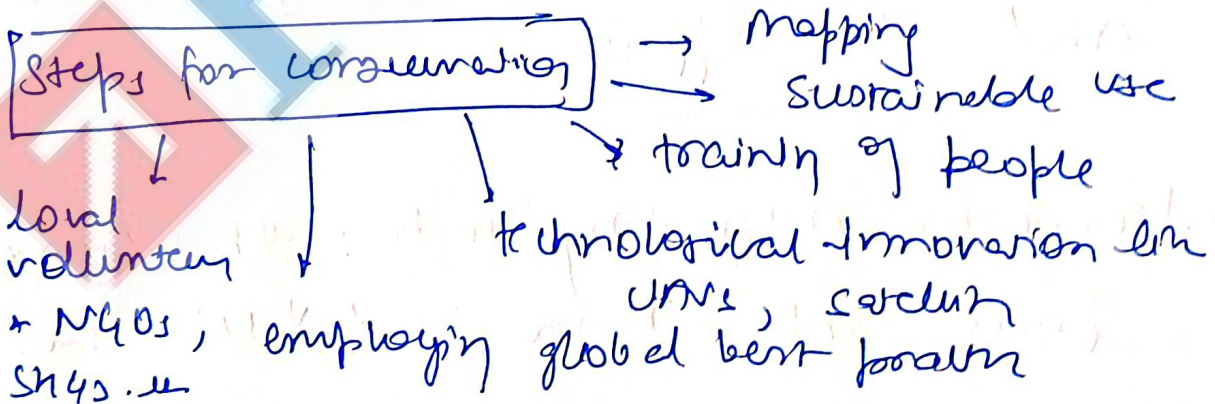
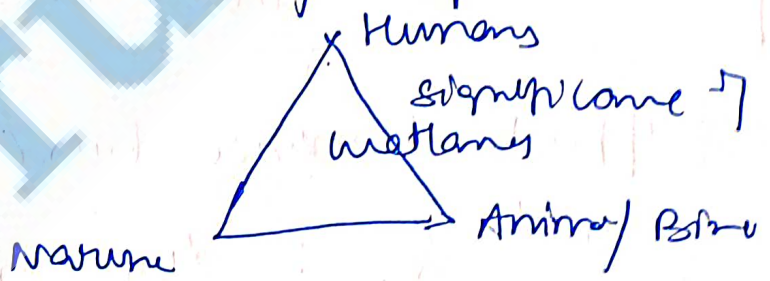
Wetlands are any regions that remain partially submerged in water and act as home for birds and other creatures. They are defined in India ~~to~~ according to the Wetlands Conservation rules. India has recently ^{got} 75 Ramsar wetland sites.

Need to conserve wetlands

- Supports immense biodiversity and bird life: due to being ecotone and edge effects.
- Home for migratory birds: They come from central Asia and Eurasia.
- Helps combat climate change by acting as carbon sinks.

- Act as ecosystem kidneys by filtering the water.
- Provides immense regulatory, provisioning and cultural services.
- Holds cultural and economic significance and helps in economic activities like tourism → Asan Bawaja, Uttarakhand

Thus, they are immensely helpful for all



To effectively combat climate change and realize the goals under 'Paris Agreement' wetlands can play a leading role

Ans 4
According to Dr. M. S. Ramesh Babu, (IITM)
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Indian monsoon is a complex phenomenon that is very difficult to model in the long term, subject to various change.

Subject to Natural variability

- Differential heating of land & water
- Shifting of ITCZ
- role of solar insolation & cloud formation
- subtropical jet streams.
- Subtropical easterly jet (Sonal jet)
- Somali cold current.
- Indian - Ocean Dipole
- El Niño effect.
- Madden Julian Oscillation
- Southern Oscillation.

Subject to Human Activity

- Anthropogenic activities leading to rise in global and sea temperature rise.

- leading to chain of events like weakening of jets, currents.
- melting of glaciers and increased mixture and influx of freshwater in ocean.

→ Rising Acidification of Ocean

According to IPCC, the India monsoon will show greater variability and be concentrated in the fewer days of monsoon months. This has the potential to impact India greatly.

We need to make a hazard vulnerability map at hyper granular scale. Make

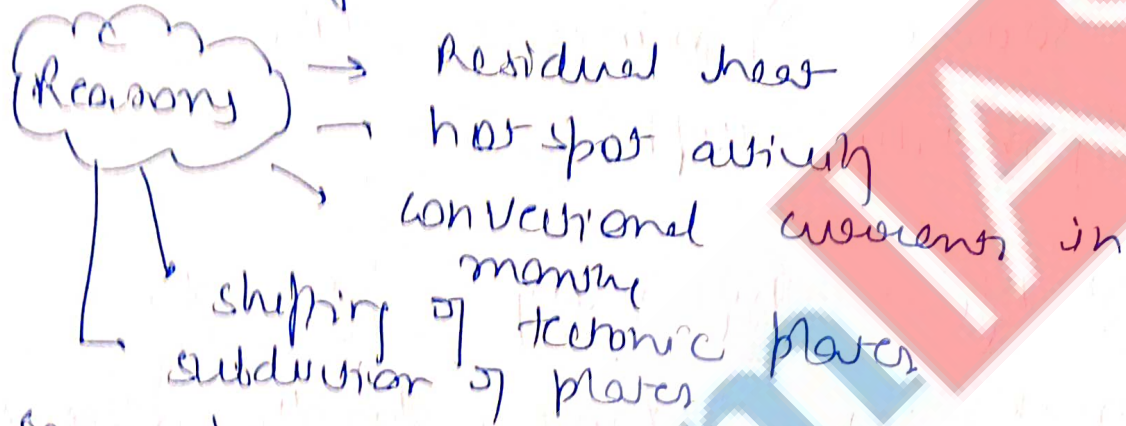
mitigation measures and invest in climate proof infrastructure and resilient value chains.

Nature based solutions, will go a

long way in controlling the climate change destruction that we have wrought on ourselves.

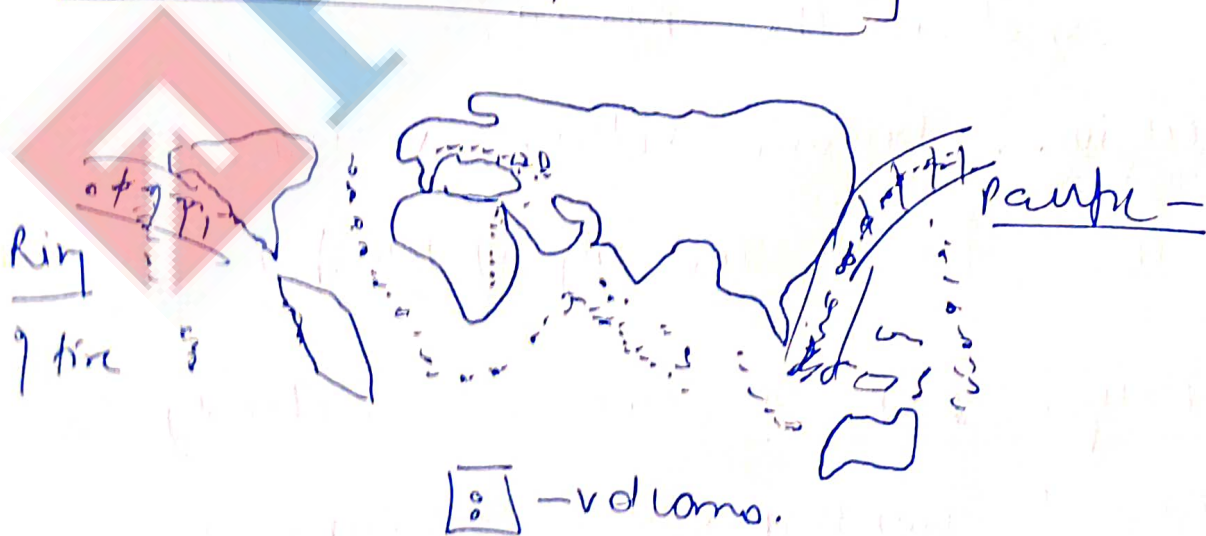
Volcanic eruption is

the violent upthrow of magma from the inside of earth to the surface.



Some prominent examples - Anat Krakatoa in Indonesia, Mt Fuji in Japan, Mt. Etna and Vesuvius in Europe.

Distribution of volcanoes



Volcanos are found in the following
Regions:

- Mid Oceanic Ridges ~~frenches~~ - inside oceans
due to sea floor spreading. They
are source of minerals like
Poly metallic sulphides
- East African Rift valley - Due to
breakaway of African landmass and
divergent boundary plate - e.g. in
Africa - Mt. Kilimanjaro
- Tromy Europe : near Caucasus
and in the Mediterranean
region - historic volcano Vesuvius
that burnt the city of Pompeii
- Pacific Ring of fire - include
island country like Indonesia
Japan, America etc

Mt. Fuji, Anak Krakatau, Yellowstone
national park.

The Circum Pacific belt is also called the Pacific Ring of Fire because of presence of huge numbers of volcanoes due to hotspot activity and divergent plate boundaries, and subduction of plates.

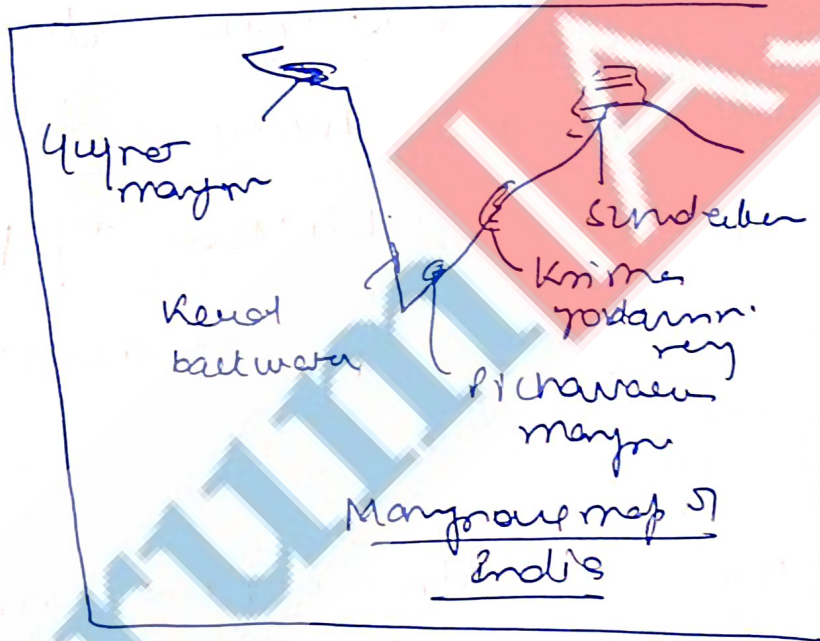
These regions are also associated with earthquakes.

There are almost no volcanoes found in India (except in Andaman and Nicobar islands). But India need to prepare itself for the earthquake menace. India also launched the CORE to build resilient infrastructure that includes every part of infrastructure.

Mangroves are regions of coastal
vegetation that are halophytic and
provides a variety of ecosystem
services.

Crucial
Role of
Mangroves

→ Act as
first line
of defense



against tsunamis and high tides.

break stormwaters and protect
coastal community

→ Provides huge amount of biodiversity
due to ecotone and edge effects
↳ Royal Bengal tigers.

- Helps as carbon sinks by holding methane and carbon in swamps and fixing CO_2 into oxygen.
- Helps in treatment of water: by acting as natural kidneys of the ecosystem.
- Provides local community with fodder, food and other services.
- Promotes tourism and ~~eco~~ activities and helps local ~~eco~~ community economically.
- Key in Sunderbans region
- Helps marine life, reduces ocean acidification and combats climate change.

Reasons for depletion of Sunderbans Region

- * Increasing pressure on land → West Bengal has 2nd highest density of population and Bangladesh also very populous.
 - * Unsustainable activities like farming and over-tourism in the region.
 - * Meteorological factors like cyclones.
 - * Illegal poaching and logging of mangroves for firewoods and other reasons.
 - * Cutting down and encroachment on mangrove land for development.
- Steps like MISTRIE, Mangrove Alliance for Climate etc are being taken but India and Bangladesh must undertake joint watershed management to protect Sunderbans.

Tropical cyclones are violent low pressure systems that originate over the warm waters of tropics between $5-30^{\circ}$ N S.

Conditions required for tropical cyclones

- Large sea surface with warm temperature of 27°C . (latent heat)
- presence of Coriolis force
- Upper divergence above sea level system
- Small variation in vertical wind speed.
- Pre existing low level cyclonic circulation

Formation: Unfavourable conditions like thunder storm make a low pressure system. The air is uplifted and it's condensed releasing latent heat of condensation, make it warmer

which pushes it further up. fresh moisture takes its place and it repeats. Due to the action of Coriolis force the air that subsides take its place creates a cyclone

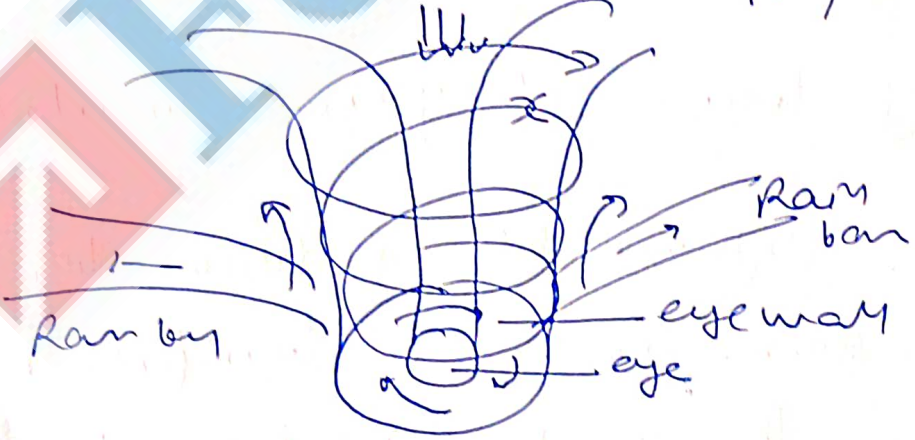
vortex



no
centrifugal
force



This creates a virtuous cycle and the cyclone continues to grow till the moisture supply is cut off.



tropical cyclone

They are different from ~~ty~~ tropical
temperature cyclone.

- Temperature cyclone are formed by 30°NS . . . from $30-60^{\circ}\text{NS}$ in temperate region
- They are formed due to frontogenesis.
- They can form over land as well
- These are large systems of air
- They have lower velocity and less destructive than tropical cyclone
- They can occur round the year as opposed to tropical cyclone.

India has emerged as a case study in cyclone mitigation . especially the Odisha model of early warning system. We take this best case and emulate this in other homes of disaster management of our