

**GS Advanced Program 2023****Generic Booklet**Test Name/Code/No. : **#36 (693036)**

Name

Email ID.

Roll No.

Mobile No.

**Allotted Time : 60 Minutes****Instructions to Candidates -**

- There are 7 Questions in this Question paper.
- All Questions are Compulsory.
- For all updates, please visit the noticeboard -  
<https://noticeboard.forumias.com/gsap-2023/>

**Important -**

- Answers must be attempted in the QCA Booklet only.
- To upload the Answer Copies please visit to "My Course" section on -  
<https://academy.forumias.com/>
- Only those copies will be evaluated which will be submitted before the next class.

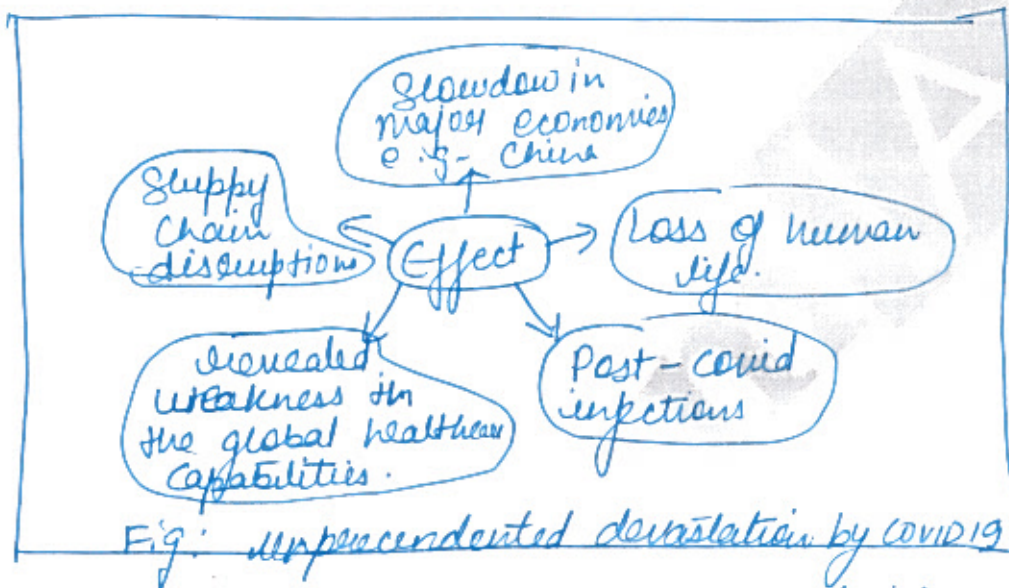
Q. No.	Grade/Score
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Overall Grade/Score	

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Q.1) COVID 19 pandemic which put the whole world economy at halt and pushed the development of nations atleast a decade back was unprecedented in history.



To manage the pandemic and its implications on various sectors technology was used.

Technological Interventions

1) In Education Sector - Online education took the place of offline education e.g. - Ext use of television channels by Govt.

2) In Health  
 - a) To track the covid <sup>growth</sup> state & self assessment - e.g. - Arogya Setu



- b) vaccination - Cowin app to ~~local~~ locate centres ~~etc.~~ & vaccination
- c)
- 3) In supply chain management and delivery of essential services.
  - e-commerce sites - zero contact delivery.
- 4) In medical services - digital consultation with doctors; use of robots to provide food to infected patients.
- 5) Entertainment - One of the implication of lockdown was loneliness - OTT platforms and telecast of old shows through solidarity.
- 6) Digital media / social media used by government for education, communication, and awareness and moral boosting.

Has it not been you technology, COVID19 could have had many fold effect on global community in terms of education, health, food supply chain etc.

Overall Grading (✓)

Poor			Average			Good		
1	2	3	4	5	6	7	8	9

Q.2) Vulnerability refers to the inability to cope with hazard which ultimately turns into a disaster.

$$\text{Disaster} = \frac{\text{Vulnerability} \times \text{Hazard}}{\text{Capacity}}$$

Types of Vulnerability.

1) Physical vulnerability

⇒ Vulnerability can be characterised into two types.

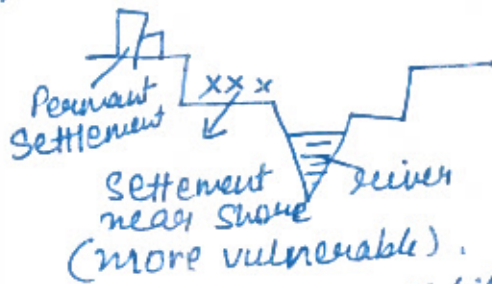
a) Tangible Vulnerability - the vulnerability which is visible  
e.g- physical, social economic vulnerability.

b) non-tangible vulnerability - the vulnerability which is covert in nature.  
e.g- cultural vulnerability, attitudinal vulnerability etc.



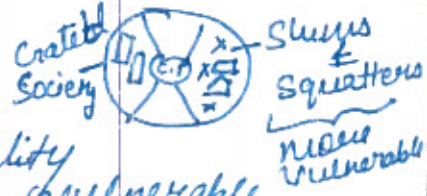
## Types of vulnerability

- 1) Physical vulnerability - due to proximity near source of disaster.



- 2) Social vulnerability - due to belonging to certain groups. e.g. - women, children, old age people, differently abled etc.

- 3) Economic vulnerability - due to lack of income and non-affordability of safe environment.



- 4) Environmental vulnerability - like wetlands are more vulnerable to damage due to disasters.

- 5) Institutional vulnerability - non acceptance of the threat and non rational logic. Hampers their safety as well as recovery post disaster.

### Overall Grading (✓)

Poor			Average			Good		
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Q.3)

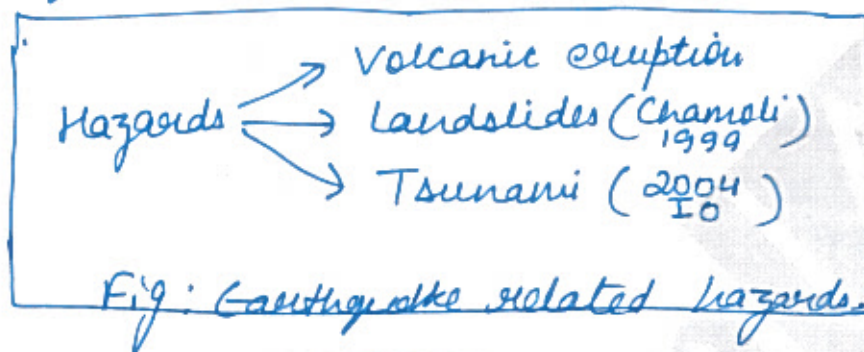
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**Overall Grading ( √ )**

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Q.4) Earthquake refers to the sudden shaking of earth due to plate-tectonic movements in the interior of earth or due to man made reasons like underground explosion.

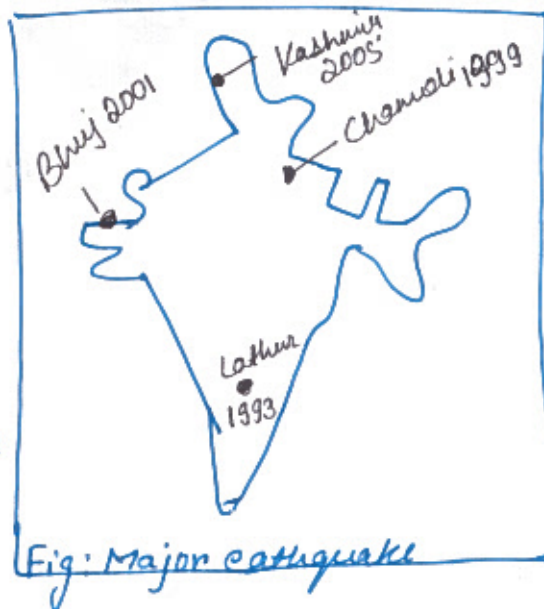


### Earthquakes during last 3 decades

1) Chamoli 1999  
earthquake - Uttarakhand.

→ led to landslide in himalayan region.

→ caused due to tectonic movement in middle himalayas.



2) Latur, Maharashtra.

- the cause remains unknown as there is no presence of tectonic plate.
- caused huge economic & human loss.

3) Bhuj, Gujarat 2001

- due to reactivation of tectonic plate causes unknown.
- devastating effect - huge human life lost.

4) Kashmir, 2005.

- due to interaction between Eurasian plate and Indian plate
- multiple shocks felt.

5) Tsunami 2004, Indian Ocean.

- caused due to earthquake near Banda archipelago near South Sumatra.
- impacted <sup>eastern</sup> Coastal zone of India.

India is vulnerable to many natural and man-made disasters due to its special geological geographical position.

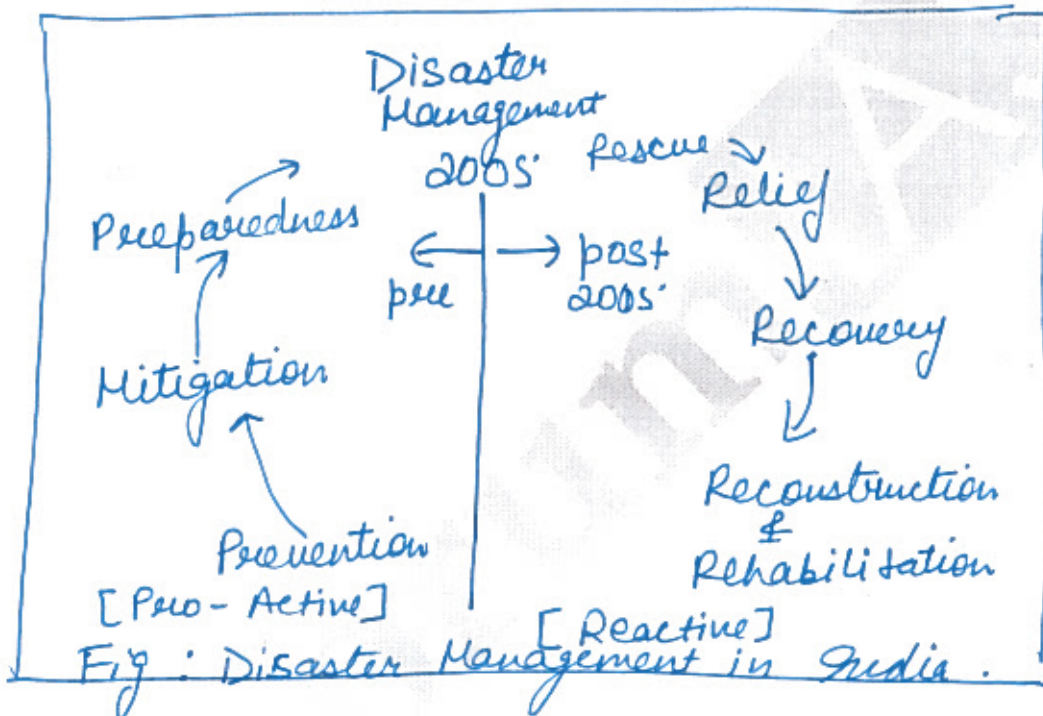
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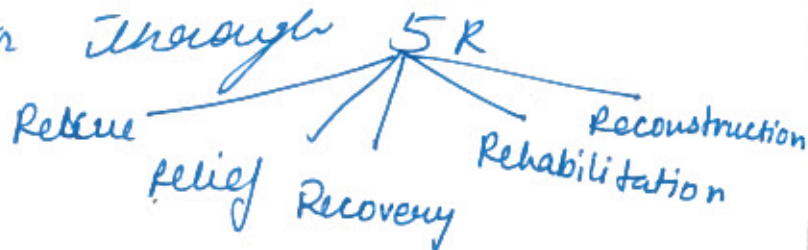
Q.5)

Disaster Management refers to the strategy of preparation, mitigation, prevention along with recovery, relief, reconstruction and rehabilitation post disaster.



### Earlier Approach

→ pre disaster i.e before NDMA the approach was of Reactive i.e to take action post disaster through 5 R





## Change in approach

### 1) Prevention.

- Through zone mapping.
- Capacity building of local community.
- Collaboration between State governments and Central government.
- alignment of policies.
- International collaboration (Sendai Framework)

### 2) Mitigation - to decrease the effect

- through <sup>real time</sup> information dissipation.
- making safe drinking water available.
- ~~training~~ <sup>local</sup> volunteers in relief measures. (Aapda Mitra - NDMA)
- <sup>efficient</sup> resource allocation.

### 3) Preparedness.

- thorough building of disaster resilient infrastructure under reconstruction.
- learning from the past disasters.
- integrating local expertise
- inclusion of women and SME's
- including disaster risk parameters while taking developmental activities.

India's disaster management strategies have widened in subsequent years at both at central and state level evident from the minimum loss during recent cyclones in Odisha and T.N.

#### Overall Grading (✓)

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Q.6)

Disaster Management refers to the holistic approach to manage disaster pre, post and during disaster through preparation, mitigation and prevention.

Hazard zone mapping refers to the mapping of homogeneous areas based to the degree of vulnerability and scope to turning into a disaster.

Hazard zone mapping in case of landslides

Landslides

→ Indian region is prone to landslides (movement of large debris on land & under the influence of gravity) due to its multiple reasons.

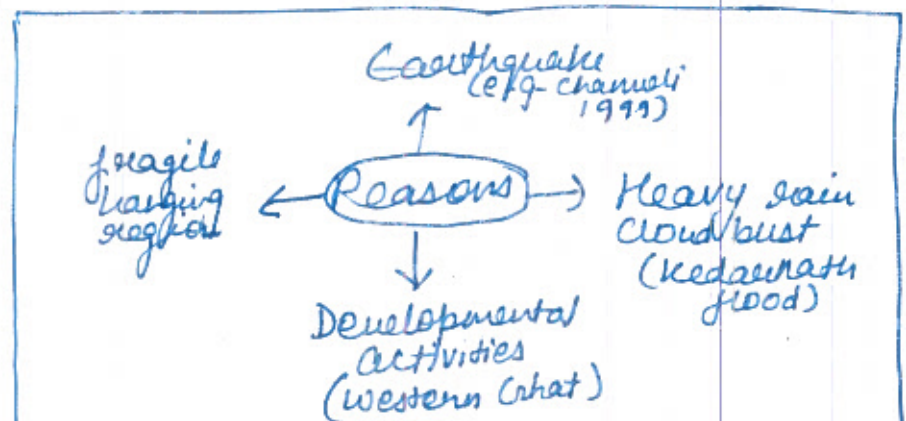
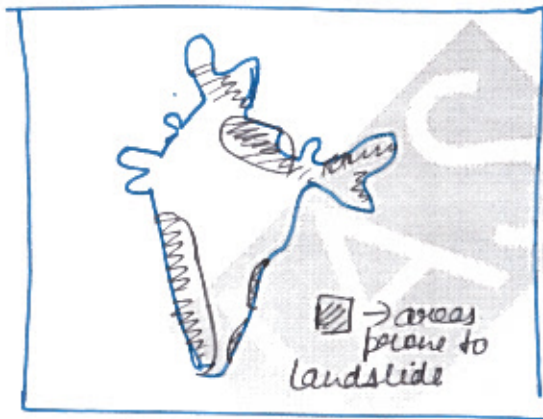


Fig: Reasons for landslide in India



Hazard zone mapping helpful in mitigation of landslides

- 1) Identification of major region vulnerable regions.  
e.g - Recent pilgrims area zone mapping of Uttarakhand by ISRO.



- 2) Formulation of policies in accordance with vulnerability.
- 3) Deployment of rescue team near the most vulnerable areas.
- 4) Identifying spatial and temporal vulnerability of a region can help in pre-emptive steps rather than reactive steps.
- 5) Banning of development activities in most vulnerable areas can help reduce # of landslides e.g - Western Ghats.

6) Help in capacity building of people of the region through awareness and training.

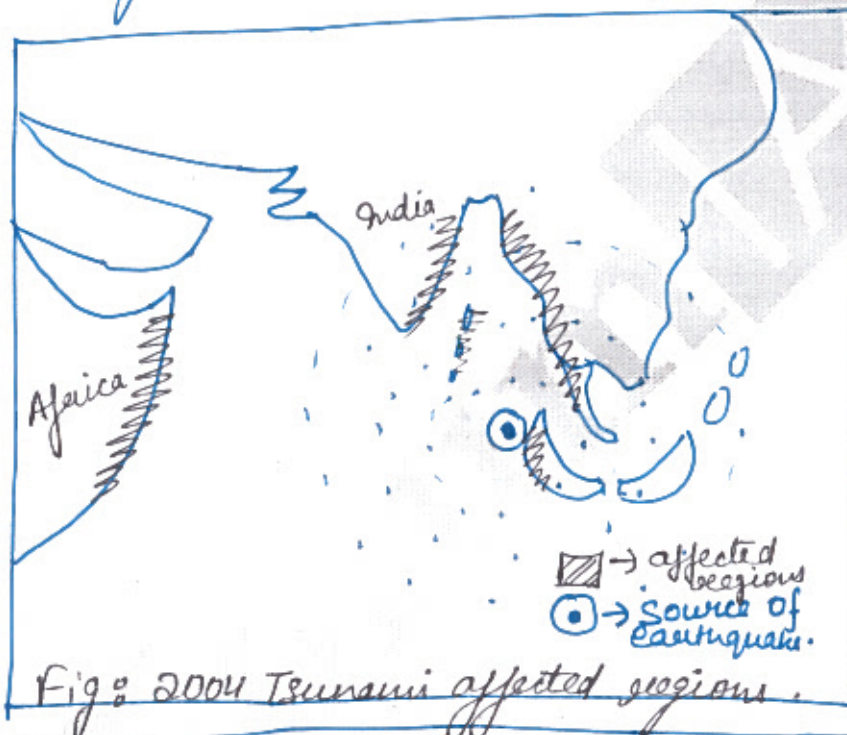
Hazard zonation mapping can act as a paradigm shift in ~~solving~~ mitigating landslides. As due to climate change associated extremes landslides are prone to increase in near future.

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- Q.7) December 26, 2004 Tsunami occurred due to ~~East~~ under sea earthquake near Banda arch in South Sumatra. It affected countries of Indian Ocean region and impact was felt till eastern Africa.



### Factors responsible for Tsunami

- Under sea Earthquake - due to interaction between tectonic plates. e.g - Tsunami 2004.
- Due to underwater landslide
- Due to volcanic eruption underwater



## Effect of Tsunami

### 1) On Life.

- Death - loss of human life as well as animal life.
- Disease - due to intrusion of sea water and flooding of areas.
- Lack of safe drinking water.

### 2) On Marine life is also affected if pollutants from land enters sea.

Radiation - e.g. 2011 Japan Nuclear meltdown.

### 2) On Economy.

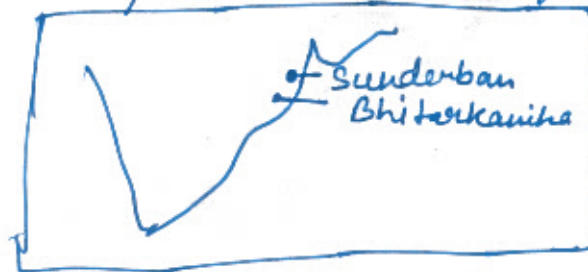
- Infrastructure - collapse of infrastructure including critical infrastructure.
- Reconstruction cost is huge.
- Destruction or disruption of supply chains including food and medical supply.

To counter Tsunami is a natural disaster which cannot be avoided and can only be cope up through Preparedness, mitigation & capacity Building.

In this regard NDMA (2010) <sup>guidelines</sup> becomes important.

### NDMA 2010 guidelines

- 1) To have early warning system so that information can be disseminated to local people and ~~and~~ relief, recovery agencies.
- 2) Policies by coastal states in line with NDMA so that a collaborative approach can be taken.
- 3) Mangroves plantation along coast.



- 4) Disaster resilient critical infrastructure like communication so that during disaster area is not cut off.

The NDMA 2010 guidelines have been a collaborative and extensive one based on capacity building, information based, early warning system.

Overall Grading (✓)

Poor			Average			Good		
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