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ADVANCED INTEGRATED MENTORSHIP

ENVIRONMENT AND DISASTER MANAGEMENT ASSESSMENT TEST-13

(To be filled by candidate)

Test Code : TC314**Name of Candidate** : RITIKA CHITLANGIA**NEXT IAS Roll No.** : AIM24GCRA075 **Date of Examination** : 17/9/23**Exam Centre** : Old Rajinder Nagar ☒Bhopal ☐Online ☐

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SUBJECT/PAPER
GENERAL STUDIES**Invigilator's Sign.** :

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Student's Queries for the Evaluator (if any write them below)

[To be filled by the EXAMINER]

Evaluator's response

(For filling by Examiners only)

Evaluator Code :

Q.No	PgNo.	Maximum Marks		Marks	Total
1	1				
2	3				
3	5				
4	7				
5	9				
6	11				
7	13				
8	15				
9	17				
10	19				
11.	21				
12.	24				
13.	27				
14.	30				
15.	33				
16.	36				
17.	39				
18.	42				
19.	45				
20.	48				
Grand Total					

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MACRO COMMENTS

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1. "Green hydrogen can be the silver bullet in our quest to tackle climate change and pollution". Critically analyse the statement in light of India's National green hydrogen mission.

(Answer in 150 words) 10 Marks

Ministry of New and Renewable Energy has launched the National Green Hydrogen Mission, with an outlay of 19,774 cr and objective to generate 5 GW of energy.

Green Hydrogen $\Rightarrow$ Hydrogen produced through renewable sources of energy.

Advantages of Green Hydrogen

(i) Tackling climate change

① Decarbonisation of industries.

② Green transportation $\Rightarrow$ shipping, railways etc. Reduces dependence on fossil fuels & CO₂, NO_x, SO₂ etc.

③ Releases only water vapour as the by-product $\Rightarrow$ does not release GHG's.

④ Better energy efficiency

(ii) Tackling pollution

- ① Reduces vehicular and industrial emissions.
- ② Reduce the concentration of PM 10 and 2.5 $\Rightarrow$ major sources of pollution.

Limitations of Green Hydrogen

- ① Costly $\Rightarrow$ generation of heat through electrolysis, using renewables is a cost-intensive process.
- ② Storage and Transportation $\Rightarrow$ Green H_2 is volatile.
- ③ Water intensive $\Rightarrow$ To produce 1 MW of electricity using H_2 , 19000 L of water is required.
- ④ Seasonality and unpredictability of renewable sources like solar & wind.

Therefore, Green Hydrogen is a promising endeavor towards decarbonisation of Indian economy, and to achieve net carbon neutrality by 2070.

2. What is the Global Methane Pledge? Do you think the Global Methane Pledge is a positive step towards mitigating methane emissions? Explain India's stance on this issue.

(Answer in 150 words) 10 Marks

At COP26, USA, EU and several other developed nations adopted the Global Methane Pledge.

Global Methane Pledge

⇒ It aims to reduce methane emissions by 30% from 2020 levels, by 2030.

⇒ Methane (CH_4) is a major greenhouse gas, with global warming potential of 80-90 times that of CO_2 .

⇒ Moreover, reducing CH_4 emissions will have a positive impact on reducing climate change as the methane is a short-lived pollutant.

⇒ Involvement of developed nations adds credibility to the initiative and generates awareness about methane as a GHG.

Limitations of Global Methane Pledge

⇒ India and several other developing nations have not committed to the Global Methane Pledge as it is discriminatory in nature:

① Bulk of methane emissions is released by developing countries as major sources of methane are:

(a) Agriculture ⇒ paddy cultivation
⇒ primary source of employment in developing countries.

(b) Enteric fermentation ⇒ India has the largest livestock population in the world.

(c) Wetlands ⇒ important for coastal ecology of tropical countries like India.

Therefore, Global Methane Pledge is a promising initiative, but its success depends on including the interests of developing countries.

3. Climate change mitigation and adaptation strategy is not only about reducing future emissions but also involves active removal of already released carbon into the atmosphere. In this context what do you understand by the concept of Carbon Capture, Utilisation and Storage (CCUS) and discuss the progress of the international community in this regard.

(Answer in 150 words) 10 Marks

Carbon capture, utilisation and storage refers to the process of capturing the emissions of CO_2 , effectively re-utilising it and storing it, through geo-engineering & technological solutions.

Concept of CCUS

⇒ Mainly relies on sequestration of carbon i.e. 'Blue carbon'.

⇒ Aims to reduce the impact of climate change through preventing the release of CH_4 into atmosphere.

Various methods of CCUS

① Afforestation ⇒ increasing absorption of carbon

② Ocean area fertilisation - increase the capacity of oceans to sequester carbon.

③ Aquifers / Rivers $\Rightarrow$ to capture carbon and release it in a safe environment.

④ Blue Hydrogen production $\Rightarrow$ capturing of CH_4 in electrolysis process.

Progress of carbon CCS

① Iceland $\Rightarrow$ 'carbfix' $\Rightarrow$ to capture carbon released from industries.

② Near Norway, carbon is stored under the water.

③ In India, Gujarat refinery $\Rightarrow$ sequestered carbon underground.

④ USA $\Rightarrow$ coal bed methane to reduce and sequester carbon.

Therefore, CCS is an alternative to reducing emissions of carbon and thereby limiting the impact of climate change.

4. How does the draft Environment Impact Assessment (EIA) Notification, 2020 differ from the existing EIA Notification, 2006? (Answer in 150 words) 10 Marks

Environment Impact Assessment refers to the scoping of any infrastructure projects and its economic, ecological and environmental impacts.

Differences b/w EIA Notification

2006	2020
① Time for discussion of proposed report with local stakeholders was <u>30 days</u> .	① Time for discussion reduced to <u>20 days</u> .
② The preparation of EIA report was conducted by an <u>autonomous and independent third-party</u> .	② conducted by a <u>government-appointed / private company</u> who proposed the infrastructure project.

② EIA clearance
required for
sensitive projects

③ No EIA clearance
required for
strategic infrastructure
in Himalayan states.

④ Local community
could raise
complaints about
violation of
EIA norms.

④ only government
can raise issues

⑤ No post-mortem
analysis allowed.

⑤ Allows post-
mortem EIA analysis

Challenges with EIA, 2020

① Reduce participation by local
community.

② Excessive centralisation of EIA
process.

③ Conflict of interest.

④ Post mortem analysis ⇒ EIA analysis
after completion of project.

Therefore, EIA notification 2020
needs to be re-examined to
ensure efficiency and effectiveness
of EIA.

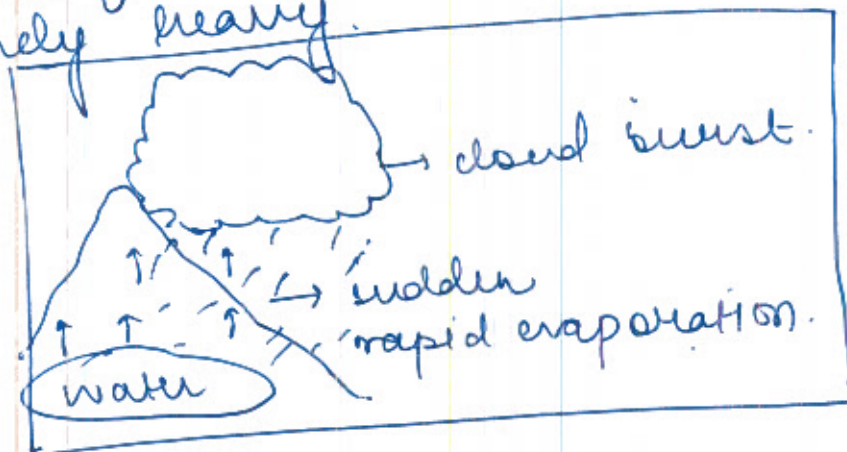
5. Explain the mechanism and occurrence of cloudburst in the context of the Indian subcontinent. Discuss two recent examples. (Answer in 150 words) 10 Marks

cloud burst refers to the excessive precipitation caused by mono-nimbus clouds, accentuated by several climatological, physiographic and hydrological factors.

Mechanism of cloud burst

⇒ cloud formation occurs with the condensation of water droplets at an altitude.

⇒ when sudden condensation takes place ⇒ due to excessively rapid evaporation or sudden cooling of large amounts of moisture ⇒ cloud burst can occur, as the weight of water droplets becomes extremely heavy.



Occurrence of Cloud Burst $\Rightarrow$ usually occurs in hilly regions :

(a) Amarnath, Jammu & Kashmir,
2022 $\Rightarrow$ sudden flash floods
caused due to heavy precipitation
(10cm/hour) due to cloud burst.

$\Rightarrow$ Peaks of Himalayas obstruct the
movement of clouds $\Rightarrow$ orographic
affects causes rainfall.

(b) Kudavenath cloud burst, Uttarakhand,
2013.

$\Rightarrow$ excessive melting of glaciers $\Rightarrow$
water pool for evaporation $\Rightarrow$
orographic influence of Himalayas
 $\Rightarrow$ sudden ascent of moisture $\Rightarrow$
cloud burst.

Therefore, cloud burst is a natural
phenomena but its severity and
frequency has increased due to
global warming and climate
change.

6. What are the key lessons for disaster management and environmental conservation in the Himalayan region, in light of the recent disaster in Joshimath, Uttarakhand?

(Answer in 150 words) 10 Marks

Recently, Joshimath experienced land subsidence, caused due to several natural and anthropogenic factors like hydrology, drainage, deforestation, unplanned urbanisation etc.

key lessons for disaster management

(A) Mitigation

① To reduce the unsustainable urbanisation.

② Afforestation

③ creation of blue-green infrastructure

(B) Preparedness

① Risk and vulnerability assessment of any Himalayan infrastructure project.

② community-based disaster management on principle of subsidiarity.

③ creation of shelter homes and evacuation drills.

③ Response

- ① Emergency evacuation programmes
- ② Early warning systems
- ③ Disposal of NDRF, SDRF, army etc. in a swift and efficient manner.

④ Resilience/Recovery

- ① Assessing soil carrying capacity.
- ② Construction of infrastructure after analysing EIA, slope stability etc.

Key lessons for Environment conservation

- ① Afforestation is needed to ensure slope stability, absorption of water etc.
- ② Protection of bio-diversity
- ③ Unsustainable projects should not be undertaken in seismological & landslide prone areas.

- ④ Settlements should be constructed after estimating carrying capacity

Therefore, the recent disaster in Jodhpur should be taken as a warning for future Himalayan disaster, if the unsustainable development continues.

7.

The COVID-19 pandemic has highlighted the importance of disaster management in public health. Discuss the key strategies and challenges for managing pandemics and other infectious disease outbreaks. (Answer in 150 words) 10 Marks

Public Health Disaster Management is increasingly becoming important in the context of epidemics & infections like COVID-19, Nipah virus, Influenza etc.

Key strategies for managing pandemics

(A) Mitigation

- ① Reducing human-wildlife interaction ⇒ decreases risk of transfer of zoonotic diseases.
- ② De-congesting urban areas & slums ⇒ to reduce population density.
- ③ Development of rural health infrastructure.

(B) Preparedness

- ① Monitoring of genome sequences & consequent vaccine development.
- ② Scientific agricultural practices with regular veterinary health inspection. Eg swine flu.
- ③ Spreading awareness about social distancing, vaccines, health and hygiene etc.

③ Response

- ① Amping up hospital infrastructure and lab facilities.
- ② Quick identification of cases and isolation treatment.
- ③ Protection of vulnerable citizens first.
- ④ Restrictions on movement.

Challenges

- ① Frequent mutation of viruses and other pathogens $\Rightarrow$ un-predictability.
- ② Low levels of healthcare infrastructure
Eg: only one lab, NIV in Pune can detect cases of Nipah virus.
- ③ Low levels of literacy $\Rightarrow$ myths & superstitions (especially in rural areas)
- ④ Conflict with fundamental rights
Eg: lockdown $\Rightarrow$ in violation of Article 19 & 21.

Therefore, public health management has gained central position and needs structural and non-structural measures to deal with epidemics.

8. Poor building design, flagrant violations of building and fire safety norms and overcrowding of spaces are responsible for the rising risk of fires in urban areas. (Discuss)

(Answer in 150 words) 10 Marks

As per data by the Fire Department, on an average 20 calls / hour are received by the fire services in Delhi.

Rising risk of fires $\Rightarrow$ Reasons

① Poor building design $\Rightarrow$ low quality construction material, lack of efficient evacuation exits, poor architectural planning etc. $\Rightarrow$ makes buildings more prone to fires and makes evacuation difficult.

② Flagrant violations of fire safety norms $\Rightarrow$ due to corruption, tax implementation, dispensal of licenses without proper checks. $\Rightarrow$ especially relevant in case of commercial buildings.

Eg: recent fire in coaching institute in Delhi $\Rightarrow$ No emergency exit

③ overcrowding $\Rightarrow$ slums, high rise buildings, offices $\Rightarrow$ overly congested $\Rightarrow$ increases vulnerability of people to fires. $\Rightarrow$ makes disposal difficult.

④ Lack of awareness & education $\Rightarrow$ use of one socket for multiple devices; less efficient electronic appliances $\Rightarrow$ short circuits $\Rightarrow$ fires.

Measures

- ① strict implementation of fire & building safety norms.
- ② Education and awareness about causes of fires, what to do in case of fire etc.
- ③ Building assessment for its carrying capacity.
- ④ re-congestion of slums.
- ⑤ Fire-resistant building material etc.

Therefore, urban fires can be effectively mitigated, with appropriate de-centralised disaster management.

9. How do the Puranas contribute to our understanding of ancient Indian culture and history?

(Answer in 150 words) 10 Marks

Puranas are literary texts composed in ancient India, that were based on the social set up of the time and reflects ancient Indian culture and history.

Contributions of Puranas

- ① Decentralised and democratised access to literary texts ⇒ made mythological texts accessible to shudras and women, unlike the Vedas.
- ② Reflected the occupational and hierarchical set up of the time.
Eg: Vishnu puran
- ③ Reflected a dissentment and discontent with caste system ⇒ first waves of alternative social set ups. Eg: reduced influence of priests.
- ④ Deepened and extended the spread of education.

⑥ presents an account of social
rules, systems of marriage, status
of women etc.

Therefore, Puranas have played an
undeniable role in the re-construction
of our understanding of ancient
India.



10.

What were the factors leading to the deindustrialization of India under British colonial rule? Also, discuss the economic and social impact of the decline of India's indigenous industries during this period. (Answer in 150 words) 10 Marks

Deindustrialisation refers to the fall of indigenous industries without a simultaneous rise of modern industries.

Factors leading to de-industrialisation

- ① Fall of Mughal empire and other local kingdoms $\Rightarrow$ shutting down of royal 'karkhanas' $\Rightarrow$ centres of production.
- ② With the coming of British weapons like swords, spears etc. become redundant $\Rightarrow$ closing of weapons manufacturing.
- ③ One way free trade policy of British $\Rightarrow$ influx of cheap machine made goods of England and expensive customs duty on Indian products $\Rightarrow$ reduction in domestic and industrial demand.
- ④ British gained monopoly over raw materials and final products $\Rightarrow$ artisans & traders made huge losses.

Economic Impacts

- ① loss of employment
- ② Decline in precious gold & silver,
brought in as payment of Indian goods.
- ③ Increased burden on agriculture $\Rightarrow$
declining productivity of soils $\Rightarrow$
food shortages.
- ④ Delayed development of modern
industries in India $\Rightarrow$ Industrial
revolution in Britain at cost of
indigenous Indian Industries.

Social impacts

- ① Rural migration $\Rightarrow$ movement of
workers from urban to rural areas.
- ② Increasing pressure on land $\Rightarrow$
society became increasingly feudal.
- ③ Development of railways $\Rightarrow$
de-urbanisation.
- ④ Premise of absentee landlords,
commodification of land etc.

Therefore, de-industrialisation led to
colonisation of India, based on its
rural-agrarian economy.

11. Explain the purpose of the Mangrove Alliance for Climate launched at the COP27 UN Climate Change Conference in Egypt in November 2022. Elaborate on the importance of mangroves in maintaining the coastal ecology of tropical nations.

(Answer in 250 words) 15 Marks

Mangrove Alliance for climate
is a grouping launched at COP
27 including countries like India,
Indonesia, Spain, Japan, UAE etc.

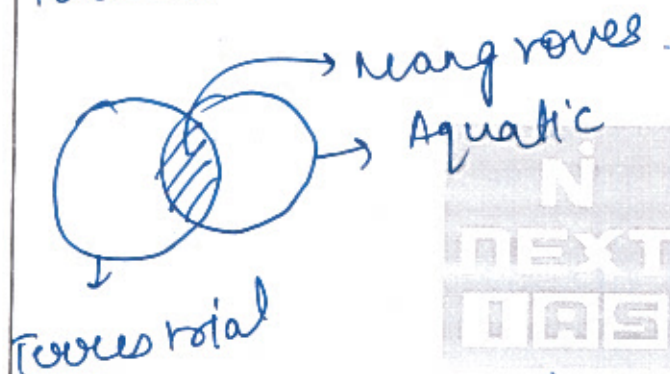
Purpose of Mangrove Alliance

- ① Awareness and education -
to spread information about the
importance of mangroves.
- ② Joint collaboration to deal
with issues pertaining to protection
of mangroves.
- ③ mobilisation of funds and
resources.
- ④ better management of
mangroves $\Rightarrow$ emulating global
best practices etc.

⑤ Forum of global south to
raise voice for climate change.

Importance of mangroves

mangroves are inter-tidal,
coastal forests, with salt
tolerant varieties.



① Act as barriers or shields
against tropical cyclones.

② Help in sequestration of
carbon $\Rightarrow$ sequester nearly
4000 tonnes of CO_2 .

③ supermarkets of biodiversity $\Rightarrow$
their dense roots support a
number of species like fishes,
crabs, snakes, shrimps etc.

- ④ helps in preventing soil erosion and loss of rich nutrients $\Rightarrow$ dense buttress roots hold the soil.
- ⑤ helps prevent coastal landslides.
- ⑥ helps to generate local employment.

Therefore, mangroves are precious habitats of the coastal ecology. Programmes like NISHTI, mangrove campaign, coastal zone regulation management are important steps to conserve mangroves.

12. Trace the evolution of the Loss and Damage fund. What are major developments related to loss and damage funds in COP 27? What are the commitments made by India in this conference?
(Answer in 250 words) 15 Marks

One of the crucial elements of combatting climate change is the mobilisation of funds to compensate for inequitable burden of emissions and their consequent impacts.

Evolution of Loss & Damage Fund

① At Rio conference, 1992 ⇒ first time the principle of common but differentiated responsibilities for recognised ⇒ compensatory fund for developing countries due to inequitable contributions to emissions.

② Nagoya Protocol (Kuala Lumpur) amendment ⇒ compensation through loss & damage fund.

③ Warsaw COP-2013 of UNFCCC ⇒
mechanism for funding.

major developments at COP 27

① Loss - Damage fund ⇒ developed
countries will contribute
\$1 Billion by 2025 for the
developing countries.

major commitments by India ⇒
short, medium & long term
strategy for emission-reduction:

① mobilisation of funds from
developed countries.

② boost to electric - vehicles.

③ green hydrogen ⇒ consequently
launched National green
hydrogen mission.

④ Nuclear Power for non-fossil
energy ⇒ focus on developing
small modular reactors.

Therefore, COP-27 was been a monumental
forum but more efforts are
needed.

13. The recent amendments in the Wildlife Protection Act provide a framework to prevent illegal trade in wild animals and plants to ensure that their survival is not threatened. In this regard, mention the implications of illegal wildlife trade in India and analyse the effectiveness of the recent amendments to address the issue.

(Answer in 250 words) 15 Marks

Illegal wildlife trade remains a recurrent and threatening issue to conserve and protect bio-diversity.

Implications of Illegal Wildlife Trade

⇒ mostly of exotic species as it is unevaluated.

① Illegal hunting and poaching activities continue despite of statutory provisions.

② Trade of primates and avian species increases the risk of transfer of zoonotic diseases.

③ Exotic foreign trade ⇒ big racket ⇒ finances illegal activities, increases money laundering.

④ Destruction of habitats due to trade of species.

⑤ India's international collaborations and commitments to protect biodiversity seem weak.

⑥ Reduces the effectiveness of conservation programmes and increases the risk of extinction of sensitive species.

Eg: Pangolin.

Effectiveness of Amendments

① Amendments to Wildlife Protection Act, 1972 $\Rightarrow$ reduced previous I schedules to IV schedules.

② Requirement of licenses for regulation of foreign trade of exotic species.

③ wildlife crime control Bureau

to effectively check the illegal trade of species.

Advantages

- ① strict statutory provisions with penalisation measures to deter illegal wildlife trade.
- ② simplification of act by reducing number of schedules.
- ③ regulates, not prohibits trade $\Rightarrow$ helped in translocation of cheetah from Africa.

Disadvantages

- ① wildlife is a subject of concurrent list $\Rightarrow$ but with effective power to wildlife crime control Bureau $\Rightarrow$ involvement of state governments is reduced.
- ② licensing mechanisms $\Rightarrow$ corruption
 $\times$ tax implementation.

Therefore, the wildlife protection act is an effective statutory tool, but appropriate decentralisation, transparency and community involvement is imperative.

14. Elaborate on the reasons behind the rise in human-wildlife conflicts in India. What measures can be undertaken to ensure the peaceful co-existence of humans and wildlife?

(Answer in 250 words) 15 Marks

As per data by MOEFCC, the rise of conflicts between humans and wildlife led to 205 deaths in 2022.

Reasons for rise in human-wildlife conflicts

① Increasing population pressure
⇒ more space for residential and economic activities.

② Increasing urbanisation and industrialisation ⇒ encroachment on forest lands ⇒ more interaction with wildlife.

③ Climate change ⇒ reduced food availability due to erratic climate patterns ⇒ outward movement of wildlife to look for resources.

Eg: The movement of elephants in China ⇒ entered Beijing city

④ Forest-dependent economy $\Rightarrow$ agriculture economy, especially in tribal districts
 $\Rightarrow$ change in historical relations
between communities and wildlife.

⑤ infrastructure creation $\Rightarrow$ eg:
death of animals in Nilgiris
due to construction on highways;
railway and electric accidents.

Measures

① Eco-tourism $\Rightarrow$ the co-habitation
of wildlife & humans can be
institutionalised through homestay
tourism $\Rightarrow$ source of revenue for
locals $\Rightarrow$ more welcoming of
wildlife conservation.

② construction of wildlife corridors
 $\Rightarrow$ for smooth movement of
animals.

Eg: Raziranga National park.

③ Involvement of indigenous tribal
communities in the conservation

of species, in exchange for financial incentives.

④ creation of natural boundaries to protect animals from entering human settlements.

Eg: use of bamboo + hot chilli oil and bees to prevent elephant attack.

⑤ Agro-forestry $\Rightarrow$ creation of forests on the peripheral fields $\Rightarrow$ food for animals.

Therefore, the co-existence of humans and wildlife is necessary for continued sustainability and productivity of ecosystems.

15. The Formation of the Coalition for Disaster Resilient Infrastructure brings more robustness to the Disaster Management approach in India. Comment and justify the need for a new strategy to tackle Disasters in India. (Answer in 250 words) 15 Marks

In 2019 at the New York climate summit, coalition for disaster resilient infrastructure was launched.

Robustness of disaster management Approach

① Creation of an international forum, led by India $\Rightarrow$ reflects the commitment of disaster management policy to build a safer world.

② Generation of awareness and importance of disaster resilient infrastructure in mitigation and preparedness.

③ Collaboration of CDRI with IRIS $\Rightarrow$ small island states $\Rightarrow$ global cooperation is easy

channelisation of funds.

④ Our NDRF and SDRF can learn from the global best practices.

⑤ Involvement of local communities across the world, to benefit from indigenous knowledge sharing about different construction materials.

⑥ Keep in fulfilling of sendai framework for disaster risk reduction and sustainable development goals, as envisaged in Paris summit 2015.

Need for new strategy

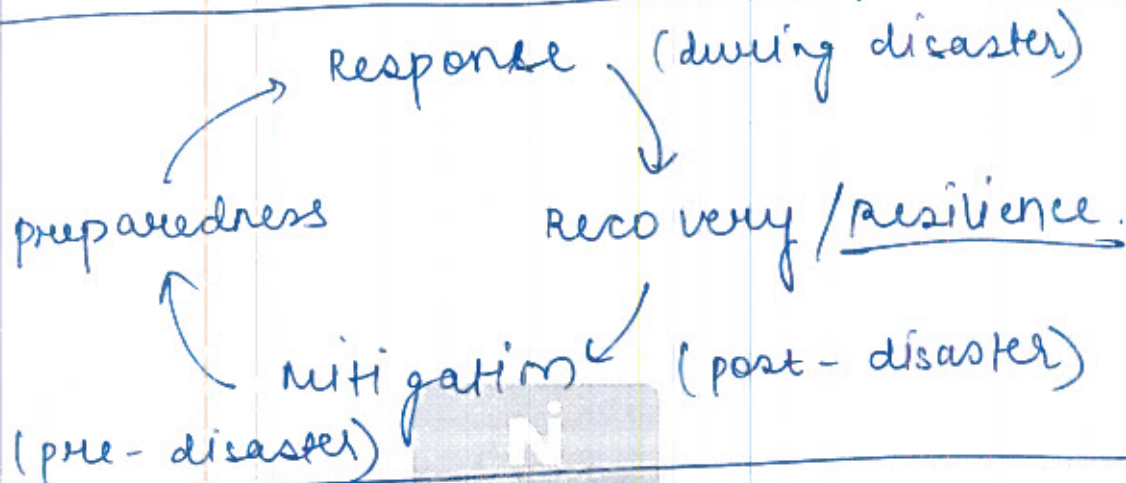
① Rising unpredictability of disasters due changing climate.

Eg: Floods & droughts at the same time in Bihar and Telangana, respectively.

- ② Increasing frequency and intensity of disasters
Eg: cyclones in Arabian sea are becoming more frequent.
- ③ Focus on resilience of communities to survive the increasing frequency & unpredictability of disasters.
Eg: construction of disaster resilient infrastructure.
- ④ Redundancy of old laws like NDMA, 2005, Disaster Management policy $\Rightarrow$ does not address new disasters like heatwaves, coldwaves, epidemics etc.
- ⑤ Importance of bottom up disaster management, focussing on community-based disaster management.
Therefore, with global warming, disaster management has become all the more crucial and required caution policy approach.

16. Disaster management is not just about responding to emergencies but also about building resilient communities. Discuss the key strategies that can be used to build community resilience and reduce the impact of disasters. (Answer in 250 words) 15 Marks

Disaster management cycle
consists of four stages.



Importance of Resilient Communities

- ① community-based, bottom up disaster management ⇒ more suited to local needs.
- ② Reduces the negative impacts of disasters ⇒ less damage.
- ③ social and economic prosperity of the community by focusing on resilience.

Strategies for building community resilience

- ① Involvement of local communities
⇒ strengthening community-based disaster management.
- ② Creation of sustainable and disaster resilient infrastructure
⇒ reduce the impact of disasters.
Eg: use of wood for construction of houses in earthquake prone areas.
- ③ Identification of vulnerabilities through risk and vulnerability assessment ⇒ in terms of social, economic and demographic constitution of the community.
- ④ Conduction of regular mock drills, evacuation mechanisms etc ⇒ awareness of communities.

Case study : Odisha

⇒ After the 2001 super cyclone,
the members of local community
focused on building resilience,
led to reduction in deaths and
destruction during 2004 tsunami.

Therefore, resilience, i.e. the
ability of community to minimize
disaster losses, is a key
component of disaster management
and requires decentralisation
of disaster management on
the principle of subsidiarity.

17. Analyze the factors that contribute to the increased incidence and severity of floods in urban areas and the measures that can be taken to reduce the risk and enhance the resilience of the population.
(Answer in 250 words) 15 Marks

The instances of urban floods have been increasing, as observed through Delhi floods (2023), Guwahati (2022), Chennai (2015), Ahmedabad, Hyderabad, Mumbai etc.

Factors contributing to Urban floods

① Increase in impervious surface area due to concretisation of surface $\Rightarrow$ as per data, with every 1% increase in impervious surface area, the risk of urban floods increases by 3.3%.

② Encroachment of wetlands, lakes, mangroves etc., which act as sponges $\Rightarrow$ absorb the excess water.

Eg: Mumbai mangroves have been destroyed upto 90%.

③ Weak infrastructure and corruption & political turmoil in urban areas
eg: Recent floods in Derna, Libya
⇒ breakdown of dams which were in fragile conditions.

④ modifications to local relief hydrology and drainage.
eg: Hydrabad floods caused due to alteration of slope ⇒ accumulation of floods.

measures

(i) To reduce the risk

① construction of blue-green infrastructure.

② creation of shelter homes in upland areas ⇒ quick restoration and help to victims.

- ③ Avoidance of construction in flood-plain (river basin areas) $\Rightarrow$ allowing the river to shift its course.
- ④ community-based disaster management.
- (i) to increase resilience
- ① Protection and expansion of wetlands, lakes etc. to absorb excess water.
eg: Mission Amrit Sarovar.
- ② Construction of roads with asphalt cement $\Rightarrow$ To increase absorption capacity of surfaces.
- ③ Afforestation and urban forestry $\Rightarrow$ to increase water absorption capacity $\Rightarrow$ use of Miyawaki method.
- ④ Local drills, evacuation mock etc to generate awareness among the urban communities.

Therefore, urban floods are a recurring disaster, needs to be addressed through cross-sectoral collaborations & stakeholder participation.

18. 'The system of judges appointing judges is a distinctive element of the Indian judicial system'. How does the process of judicial appointment in India differ from that of the United Kingdom and the United States? (Answer in 250 words) 15 Marks

Supreme court in III Judges case, 1998 proclaimed that a collegium, comprising of CJ and senior most supreme court judges, will be responsible for judicial appointments in India.

Process of Judicial Appointments

(i) India $\Rightarrow$ Article 124 of the constitution $\Rightarrow$ President shall appoint the judges, in consultation with CJ and any other SC judges.

(ii) collegium system $\Rightarrow$ recommends the name of judges to the Ministry of Law $\Rightarrow$ is clearance $\Rightarrow$ appointment by President.

The advice of the collegium system is binding on the president.

(ii) United Kingdom

⇒ Parliamentary sovereignty ⇒
∴ the parliament appoints the
judges, after conducting a
detailed scrutiny.

(iii) United States

→ The Congress / Senate nominates
members for the appointments as
judges.

→ The nominations are then subjected
to a detailed back-ground check,
interviews, scrutiny by a neutral
committee.

→ The President of USA appoints the
judges after completion of the
scrutiny.

Hence, the process of judicial
appointments through a collegium

system is a unique feature of
the indian polity.



19. Highlighting the reasons for the increasing criminalization of politics in India, discuss the need for reforms in various sections of the Representation of People Act, 1951.

(Answer in 250 words) 15 Marks

As per a survey by Association for Democratic Reforms, nearly 21% of the MP's have severe criminal cases registered against them.

Reasons for criminalisation of Politics

① Increase in the influence of money and muscle power in elections $\Rightarrow$ criminals usually have black money businesses $\Rightarrow$ easily available funds for election process.

② Nexus between politicians and criminals $\Rightarrow$ vicious cycle.
Political parties field candidates with criminal cases.

③ Rising pendency of cases in judiciary $\Rightarrow$ delayed convictions $\Rightarrow$ contest elections.

④ Winnability factors $\Rightarrow$ locals

perceive them to be influential and resourceful $\Rightarrow$ capable of getting work done.

⑤ Easier to suppress dissent and opposition $\Rightarrow$ resources and crimes against political opponents.

Reforms in Representation of People's Act, 1951

Need for reforms

$\rightarrow$ section 8 of RPA deals with disqualification of candidates (MP's/MLA's) upon conviction.

$\rightarrow$ sec 123 does not define new crimes like vote buying, paid media etc.

$\rightarrow$ No follow ups by ECI for undisclosure of criminal cases by candidate.

→ Lack of quick and smooth conviction
proceedures for easy dismissal of
criminal candidates.

Reforms

① ECI should be given with adjudicatory
powers to deal with serious cases
of crime, to reduce dependence on
judiciary.

② Immediate disqualification from
contesting elections in case of non-
disclosure of criminal records.

③ As suggested by Indrajit committee,
partial state funding can be explored
to reduce influence of wealthy
criminals in politics.

④ Amendments to section 123 of RPA
to deal with new crimes and
reduce influence of criminals.

Therefore, RPA, 1951 needs to be
amended to ensure that the
rising influence of criminals
in politics can be curbed.

20. Analyse the factors influencing the spatial distribution of population in India, with emphasis on the regional differences in population density distribution. Also, suggest policy measures to tackle the challenges posed by uneven population distribution.

(Answer in 250 words) 15 Marks

Population distribution refers to the spatial concentration or spacing of population on any surface, as expressed through population density.

Factors influencing spatial distribution of Population

① Geographical Factors

1) Water availability $\Rightarrow$ most densely populated settlements are found near river valleys.

Eg: UP and Bihar $\Rightarrow$ population density $\Rightarrow$ 700 persons/km².

(2011 census)

2) Soil $\Rightarrow$ fertile soil $\Rightarrow$ support agriculture $\Rightarrow$ larger population base.

Eg: Ganga valley $\Rightarrow$ fertile alluvial soil $\Rightarrow$ 60% of popn

3) climate $\Rightarrow$ moderate climate supports higher popn density.

Eg: Thar desert $\Rightarrow$ harsh climate $\Rightarrow$ less than 50 persons / km².

4) Relief $\Rightarrow$ steep slopes make infrastructure creation harder.

Eg: Leh Ladakh - 23 persons / km².

⑤ Socio-economic Factors

① Urbanisation and industrialisation
 $\Rightarrow$ Delhi NCR $\Rightarrow$ 11000 persons / km².

② Mining activities $\Rightarrow$ concentration of industries $\Rightarrow$ attracts population.

③ Political Turmoil $\Rightarrow$ out migration
 $\Rightarrow$ reduces popn density
eg: Jammu & Kashmir.

Policy Measures

① Development of resource base $\Rightarrow$ local resource mobilisation
will improve income levels,
access to resources $\Rightarrow$ reduce the impact of unequal popn distribution.

② Creation of rural employment, infrastructure, amenities $\Rightarrow$ to control outward migration of people from rural to urban areas $\Rightarrow$ equitable distribution of popⁿ.

③ Creation of schools, hospitals, employment opportunities etc. in remote areas to better the development prospects.

Eg: Eco-tourism in Arunachal Pradesh.

④ Focus on women empowerment, improvement of literacy levels etc. to generate skill development $\Rightarrow$ better harnessability of resources.

Thus, uneven population distribution is a natural phenomena, but its anthropogenic extremities can be reduced by inclusive and sustainable policy measures.

Space for Rough Work



Space for Rough Work

Candidates must not
write on this margin

