

GENERAL STUDIES (Test Code : 485), 7 September

Name of Candidate	<u>Pavan Agsamal</u>	Registration No.	<u>1649</u>
Schedule	<u>B</u>	Module	<u>152</u>
Place	<u>M/N</u>	Time	<u>10:00 AM</u>
Date	<u>05/10/2014</u>		
Classroom <input checked="" type="checkbox"/>	Distance Learning <input type="checkbox"/>	Classroom & Distance Learning <input type="checkbox"/>	

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Q. No.	Maximum Marks	Marks Obtained
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Total Marks Obtained

Remarks:

Signature of Examiner

INSTRUCTIONS

- Do furnish the appropriate details in the answer sheet (viz. Name, ID Number and Test Code).
उत्तर-पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न-पत्र कोड, विद्यार्थी क्रमांक नम्बर आदि।
- There are TWENTY-FIVE questions printed both in HINDI and in ENGLISH.
इसमें पच्चीस प्रश्न हैं तथा हिन्दी और अंग्रेजी दोनों में दिये हैं।
- All questions are compulsory.
सभी प्रश्न अनिवार्य हैं।
- The number of marks carried by a question/part is indicated against it.
प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
- Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other than the authorized one.
प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश-पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका के मुख-पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
- Word limit in questions, if specified, should be adhered to.
प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
- Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.
उत्तर-पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

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GENERAL STUDIES (Test Code : 485)

Overall Macro comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

VISION IAS
No. 10
8
4.

5.

All The Best

1. Describe the salient features which characterize tropical cyclones. Why, with only about 6 % of world tropical cyclones, the Indian sub-continent is one of the worst cyclone affected areas of the world? 10
- उष्णकटिबंधीय चक्रवातों के मुख्य अवयवों के आधार पर इसकी प्रमुख विशेषताओं को बताइए। विश्व में मात्र 6% उष्णकटिबंधीय चक्रवात ही आते हैं फिर भी भारतीय उप महाद्वीप विश्व के सबसे बुरी तरह चक्रवात प्रभावित क्षेत्रों में आता है, क्यों?

Ans→

Tropical cyclones are low pressure
circular systems in the atmosphere
which causes great devastation in
the coastal areas. These form in
the tropics but not between 5°N &
5° south due to absence of coriolis force.

The conditions favourable for formation
of tropical cyclones are-

- ① sea surface temp > 27°C.
- ② Presence of coriolis force.
- ③ Adequate amount of moisture
which provides energy to cyclone.
- ④ Absence of vertical winds
- ⑤ Presence of low pressure zone

These cyclones move from east
to west. They cause heavy rain and

damage. They travel at speeds more than 200 km/hr. Indian coastal areas face damage due to cyclones every year (particularly eastern coast).

Main reason behind Indian sub-continent being affected by cyclones are

- ① Bay of Bengal is relatively closed sea without any prominent ocean current. This leads to well developed cyclones.
- ② Bay of Bengal is connected to Pacific ocean also, so it attracts cyclones from there also.
- ③ West coast generally don't fall in area of cyclones developed over Arabian sea but the cyclones developed ~~to~~ over Indian ocean & ~~to~~ sometimes strike at

Gujrat and Maharashtra coast
 (4) Indian coastal areas are heavily populated, increasing the damage.

2. When the Earth warms up, a large number of changes take place in the atmosphere, the oceans and on the land surface. Some of these changes can, in turn, affect the temperature. These are called feedback effects. Some of these 'feedback effects' increase global warming, while others reduce it. Explain the feedback effects associated with the following: 10

(i) Water vapour

(ii) Snow and ice cover

(iii) Clouds

जब पृथ्वी गरम होती है, वायुमंडल, समुद्र एवं भू-तल में बड़ी संख्या में परिवर्तन होता है। इनमें से कुछ बदलाव तदनुसार ताप में भी परिवर्तन करते हैं, इसे प्रतिपुष्ट प्रभाव कहते हैं। इनमें से कुछ प्रतिपुष्ट प्रभाव वैश्विक तापमान को बढ़ाते हैं तथा कुछ घटाते हैं। प्रतिपुष्ट प्रभाव को निम्न के सन्दर्भ में समझाइए-

(1) जल वाष्प

(2) तुषार एवं हिम चादर

(3) बादल

Ans→

Feedback effects associated with the following are-

(i) Water vapour → As the temperature of earth increases, ability of air

to retain moisture also increases

This leads to increase in amount of water vapour in atmosphere.

This increased water vapour also leads to increase of temperature further (as water vapour also acts as green house gas). However there are vast variations in the concentration of water vapour in the atmosphere.

(iii) Snow and Ice cover - Snow^{s ice} reflects some part of insolation back towards the space. As temperature increases, snow and ice melts. This in turn reduces amount of insolation reflected (albedo). This leads to further increase

the temperature and vicious cycle starts.

(iii) Clouds → ~~As clouds are essentially water vapour~~ As the temperature increases it will lead to more clouds formation. Clouds can act both as an agent to further enhance temperature or reduce it depending on the type & location of clouds. Some clouds reflect back solar insolation whereas other absorb terrestrial radiation.

3. Explain the issue of 'Loss and Damage' with respect to UNFCC climate talks. Also examine the demand for creation of a third pillar in UNFCC deliberations, in addition to the two pillars of mitigation and adaptation, associated with loss and damage demands. 10

UNFCC की जलवायु सम्बन्धी वार्ता के संदर्भ में, 'हानि और क्षति' के मुद्दे को व्याख्यायित कीजिये। इसके साथ ही UNFCC के विचार-विमर्श में हानि एवं क्षति से सम्बन्धित दो स्तम्भों न्यूनीकरण और अनुकूलन के आलावा एक तीसरे स्तम्भ के निर्माण की माँग का भी परीक्षण कीजिये।

Ans → In the recent round of climate talks under UNFCC, the issue of loss and damages was raised.

This was in particular because of cyclones hitting Philippines and causing devastation which is supposed to happen because of extreme weather events due to climate change. The loss and damage are

① loss → It refers to permanent loss which can not be repaired.

It can be social, economic as well as culture. For example-

loss of life of people, extinction
of a particular culture or species
etc due to climate change.

② Damage - It refers to damages
which can be repaired if
sufficient action is taken
For example - deforestation or
rise in temperature due to
green house gases.

Along with pillars of
mitigation and adaptation, there
is need to include loss and
damage pillar due to -

① It is becoming significant in
light of extreme weather events
example - floods in Jammu and
Kashmir etc

② Survival question is there for some small countries.

Though this pillar will put further strain in talks as unanimous agreement is not there on other issues of as well but still world leaders must come together.

4. Recently, Genetic Engineering Appraisal Committee (GEAC) gave approval for field trials of a whole range of genetically modified crops in India. Should GM crops be allowed? Discuss with special reference to environment and biodiversity.

10

हाल ही में, जैव प्रौद्योगिकी मूल्यांकन समिति (जी ई ए सी) ने भारत में आनुवंशिक रूप से संशोधित फसलों की एक पूरी श्रृंखला को क्षेत्र परीक्षण की स्वीकृति प्रदान की है। क्या जीएम फसलों के प्रयोग की अनुमति दी जानी चाहिए? पर्यावरण और जैवविविधता के विशेष संदर्भ में चर्चा कीजिये।

Ans

Genetically modified crops have been point of contention since the time they have been developed. ~~There need has further as~~ Recently genetic engineering appraisal committee gave approval for field trials.

There are various environmental and biodiversity issues associated.

① loss of biodiversity → genetically modified crops pose dangers to the biodiversity. They threaten the traditional crops.

② Can lead to resistant pests → These can lead to mutations in the pests and insects harming the crops.

③ Induction of these crops in the environment is an irreversible process. It can not be taken back once allowed.

④ These crops require higher can lead to monopoly of few companies.

Despite of all these problems

genetically modified crops are needed to feed the ever growing population and to mitigate the vagaries of climate change.

In this light, it is important that a full proof regulatory institution is developed which scrutinise these on scientific principles taking into account social, economic, environmental implications. Till then, these crops should not be allowed.

5. (a) 'Ozone depletion and the formation of Polar Ozone Holes doesn't lead to a further warming of the troposphere, but to a slight cooling.' Explain. 5
ओजोन क्षरण एवं ध्रुवीय ओजोन छिद्र के बनने से क्षोभमण्डल और अधिक गरम नहीं होता बल्कि थोड़ा ठण्डा हो जाता है। व्याख्या कीजिए।

Ans

Ozone depletion and ozone holes
is because of decrease in
the concentration of ozone in
the atmosphere. Rather than
heating the troposphere it cools
it slightly because of -

① Ozone is a green house gas. It
is present in upper troposphere.
Lack of it in upper troposphere
leads to decreased green house
effect.

② Ozone in the stratosphere (lower)
absorbs ultraviolet rays and
gets heated. This heat is
passed to troposphere also in
form of conduction. There also

reduces which leads to cooling.

③ formation of ozone hole is over
Antarctica which is snow covered.

This snow reflects back the ultra
violet radiation leading to
sight cooling.

5. (b) How has the use of science and technology facilitated disaster prevention planning?

विज्ञान एवं प्रौद्योगिकी के प्रयोग ने किस प्रकार से आपदा प्रतिकार योजना को सुदृढ़ किया है।

Ans Science and technology has improved disaster management planning at all its stages from preparation, mitigation, adaptation response, recovery and rehabilitation.

① Pre-disaster stage → Science and technology has made the weather forecasting possible whether in case of Tsunami or flood or cyclone.

Development of drought resistant and flood resistant seeds have helped mitigate effect of these disaster. Building material quality and architecture has improved in earthquake and land slide areas.

② During-disaster → Science and technology has enabled better response, rescue and relief during the disaster. With the help of aircrafts help can be sent in inaccessible areas.

③ Post-disaster → In the recovery, rehabilitation and reconstruction also technology plays an important role. Evaluating and assessing the disaster and better planning can mitigate disasters in future.

6. Do you agree that there is a drive towards increasing use of fossil fuels after the Fukushima nuclear disaster? Discuss the availability of coal in the world and in India.

10

क्या आप समझते हैं कि फुकुशीमा परमाणु आपदा के बाद विश्व जीवाश्म ईंधन की ओर तेजी से उन्मुख हुआ है? विश्व एवं भारत में कोयले की उपलब्धता पर चर्चा कीजिए।

Ans →

Fukushima nuclear disaster has put a question mark over the viability of nuclear power as a sustainable and alternative source. It has led to demands of abolishing nuclear power in many parts of the world.

This has led to increase of fossil fuels world over. Germany has declared to be nuclear power free after 2022. In other countries ~~also~~ including India, also, the protests against nuclear power have delayed nuclear power increasing dependence on fossil fuels in near term.

There is need to relook at safety and security architecture of nuclear energy ~~and~~ so that it can be developed as a sustainable alternative.

Coal availability in the world and India is as follows.

① India → In India coal is mainly found in gondwana type of sedimentary rocks which are founds in basins of son, godavari, Damodar and ~~6~~ Mahanadi. Major coal producing states are Jharkhand, Madhya Pradesh, Tamil Nadu, Chattisgarh etc. Most of the coal is of bitumen type. Coal in form of lignite is found in Rajasthan and Neyveli (Tamil Nadu). India lacks good quality

coking coal and has to import

② World → Australia, Indonesia, China, United States etc are major producers of coal in the world. Australian coal is of better quality. India also imports from Australia.

7. Even after taking many preventive steps there have been several fire accidents in trains recently. Explain the possible reasons behind it and suggest few remedies. 10

यहाँ तक कि कई निवारण कदम उठाने के बाद भी हाल में ही ट्रेनों में कई अग्नि दुर्घटनाएं हुई हैं। इसके पीछे के संभावित कारणों की व्याख्या कीजिये और कुछ उपायों को भी सुझाइए।

Ans Despite many preventive steps, recent fire accidents in trains puts a question mark on the safety mechanisms applied.

Many of the reasons behind it are -

① Lack of enforcement of

guidelines of not carrying inflammable substances in the trains. Passengers are not fully aware of these guidelines.

② Most of the fires occur due to failure of electric circuits.

③ There is lack of advance fire warning systems in the trains. If it is there, it is limited to few trains.

④ lack of capacity of railway staff in prevention of these accidents, their focus is only on relief and rescue.

To improve fire safety following measures are required

- ① Awareness generation among citizens and strict enforcement of the guidelines.
- ② Fire safety drills and training programmes should be conducted more regularly.
- ③ Installation of fire warning systems in the trains.
- ④ Availability of fire extinguishers in coaches and their easy accessibility should be ensured.

8. What is greenhouse effect and what gases are responsible for it? Describe the potential social, economic and environmental impacts of the continued increase in greenhouse gases. 10

हरित गृह प्रभाव क्या है एवं कौन-सी गैसों इसके लिए उत्तरदायी हैं? हरित गृह गैसों के लगातार बढ़ोत्तरी के सामाजिक, आर्थिक एवं पर्यावरणीय प्रभाव को समझाइए।

Ans → Green house effect is related to ability of certain gases to be transparent to opaque incoming solar insolation and opaque to outgoing terrestrial radiation.

This leads to increase in the temperature of atmosphere. Major greenhouse gases are carbon dioxide, methane, nitrogen oxides, chlorofluoro carbon, ozone, carbon NF₃ etc.

Water vapour also generates greenhouse effect but its concentration is variable and temporary so it is not included.

Effect of increase in concentration of green house gases-

- ① Rise in temperature is causing increase in frequency of extreme weather events. This leads to great loss of life, economy and environment. Example - floods in Jammu & Kashmir.
- ② Rise in sea level can lead to submerging of coastal cities and small island nations. It will create social problems of refugees and issue of rehabilitation.
- ③ Loss in productivity of crops - This can lead to food insufficiency which can cause social and economic problems.
- ④ Increase in pests and diseases is

also happening due to increase in temperature.

⑤ loss of bio-diversity → many species are becoming extinct because of not being able to adapt to climate change.

9. Describe the formation of flood plains. Also illustrate why people live in flood prone zones. 10

बाढ़ के मैदानों के बनने की व्याख्या कीजिए। यह भी बताइए कि क्यों लोग बाढ़ आशंकित क्षेत्रों में रहते हैं?

Ans Flood plains are formed due to sediments carried by the rivers. When river floods, these sediments are carried to surrounding regions and give birth to flood plains.

In India flood plains are

of two types.

① khadar → These are flood plains which get new sediments almost every year. These ~~are~~ are nearer to main river course.

② Bangar → These are old flood plains. River water does not reach there every year.

Despite danger of flooding people keep living in flood plains-

① There are fertile areas because of sediments brought by the river. They are cultivated extensively.

- ② River flood plains ensure availability of water for domestic, agricultural and industrial uses inviting people.
- ③ These are plain areas so all kind of construction is easy.
- ④ Because of population pressure also people tend to encroach the flood plains.

10. What are the types and sources of air pollution and how does it affect living organisms? List a few measures to control air pollution. 10

वायु प्रदूषण के स्रोतों एवं प्रकारों की चर्चा कीजिए। यह किस प्रकार से जैविक संरचनाओं को प्रभावित करता है? वायु प्रदूषण कम करने के तरीकों को सूचीबद्ध कीजिए।

Ans-

Air pollution refers to change in composition of air unfavourable to life forms and presence of foreign ~~particles~~ elements like particulate matter and pathogens in it.

Various sources of Air pollution are-

① Consumption of fossil fuels → Consumption of fossil fuels in vehicles, industries, power plants generate gases like CO_2 , NO_2 , SO_2 , CO etc polluting the air. Incomplete combustion of fire wood etc leads to black carbon emission.

② Agriculture and livestock activities
Paddy agriculture and livestock leads to release of methane.

③ From landfills etc., toxic gases and particles pollute the air

It has profound impact on living organisms.

① It can lead to many respiratory diseases, skin irritation etc. Various carcinogenic substances are also present.

② Smog and photochemical smogs are generated because of air pollution.

③ It can cause acid rains (presence of CO_2 & SO_2) which is harmful to living organisms.

Some of measures to control air pollution -

① Aforestation leads to decrease in air pollution.

② Improvement in quality of fuels in vehicles and also raising the

emmission standards.

③ Development of technology to capture CH_4 (methane) from crops and landfills etc.

④ Development of efficient public transportation system.

⑤ Conservation of natural water bodies.

11. Even though Africa is very rich in natural resources, it is the most backward continent. Comment.

यद्यपि अफ्रीका प्राकृतिक संसाधनों में बहुत समृद्ध हैं, फिर भी यह सबसे पिछड़ा महाद्वीप है। टिप्पणी कीजिए।

Ans Africa is one of the very rich continents in terms of natural resources however this is most backward because of lack of skilled workforce, technology for exploitation of resources, Absence of value addition, lack of capital and lack of market etc.

- ① Lack of skilled workforce → In Africa, there is general lack of technical expertise which has been a hindrance in its development.
- ② Technology is lacking in both for exploitation of resources and processing and value addition. They export raw material and import finished products.
- ③ Absence of energy resources → There is general lack of coal, hydropower potential is there but not exploited and oil is limited. Because of this industrial development has not been proper.

④ Civil wars and regional strifes
also have held Africa back.
Most of these resources are
wasted to tackle these problems.

⑤ Lack of financial capital and
not fully developed market is
also responsible for backwardness.

⑥ Colonialism is also responsible
for its backwardness.

12. (a) What are ocean currents? How do they affect the climate of coasts? Illustrate. 5

समुद्री धाराएँ क्या होती हैं? ये तटीय क्षेत्रों की जलवायु को कैसे प्रभावित करती हैं? व्याख्या कीजिए।

Ans- Ocean current refers to sub-surface circulation of ocean water. It happens because of temperature variations and gradient created by it. These are assisted by wind movements and coriolis force.

Ocean currents have immense impact on climate of coastal areas. ~~Some~~ Cold currents decrease the temperature whereas hot/warm currents increase the temperature. Some of the examples are -

① North Atlantic drift increases the temperature in North western countries like Norway.

It makes weather more moderate.

- ② ~~Warming of east pacific equatorial~~
Peruvian current makes fishing
industry thriving in Chile and
Peru. It also has role in
③ development of El-Nino and
La-Nina affecting the weather
world over.

12. (b) Salinity and temperature variations determine the stratified structure of oceans. Examine. 5

लवणता एवं ताप में विविधता समुद्रों की स्तरीय संरचना को निर्धारित करते हैं। परीक्षण कीजिए।

Ans→

Salinity and temperature variations are responsible for stratification of ocean waters. Cold water and more saline water is more dense than warm and less saline water. That is the reason salinity increases and

Temperature decreases with depth in the ocean.

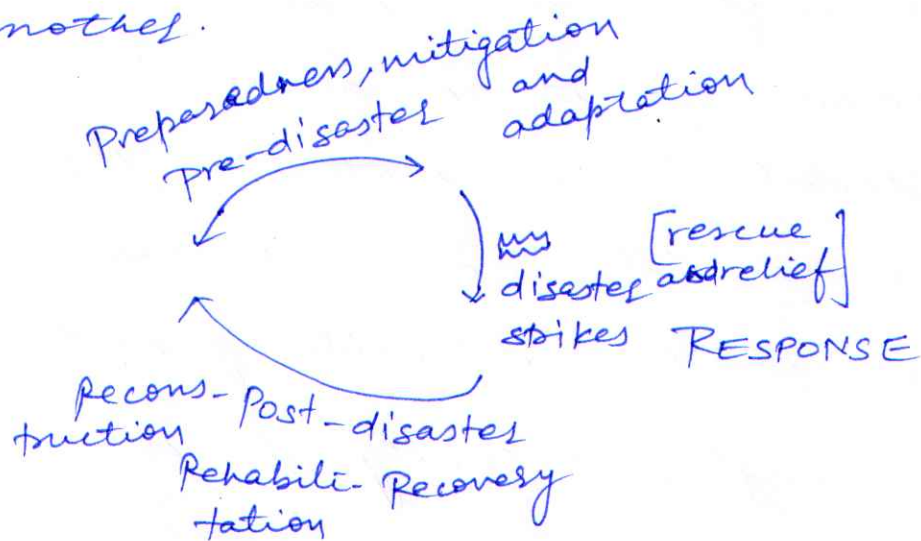
It also leads to movement of ocean water both in form of currents as well as vertical movement. Warm water expands, so it creates a gradient which makes water of equatorial oceans towards higher latitude. Similarly water with higher salinity sinks.

13. Establish the paradigm of 3R's of Disaster Management with special emphasis on the continuum of their relation. 10

आपदा प्रबंधन की 3R मिसालों का उनके अंतर्संबंध के विशेष सन्दर्भ में सम्बन्ध स्थापित कीजिए।

Ans→

Disaster management is a continuous process in which recovery, response and rehabilitation are linked to one another.



Disaster management continuum

All three stages of disaster management are inter-linked and make it holistic.

Rehabilitation and reconstruction
has to be done keeping in mind
mitigation and adaptation
needs. For example - buildings
in earthquake affected area
have to be made keeping in
mind mitigation and adaptation
aspects.

Also preparedness and mitigation
plays an important role during
disaster response. Better
preparedness and response will
lead to low damage which
will require less amount of
rehabilitation and reconstruction

Thus all the steps are

interlinked. Disaster risk reduction should be an integration of part of developmental projects.

14. (a) Illustrate the role of 'Crisis Mapping' in Disaster Management. 5
आपदा प्रबंधन में संकट चित्रण की भूमिका की स्पष्ट व्याख्या कीजिए।

Ans → crisis mapping is an important aspect of the disaster management. It refers to estimation or prediction of frequency of disaster hazard, its severity and intensity as well as vulnerability of the population. This can lead to following advantages -

- ① It makes aware of various disasters which can happen in a particular area, thus mitigation and adaptation could be planned.
- ② Depending on severity, the scale of response, recovery and rehabilitation can be found out.
- ③ Steps can be taken to mitigate the disaster and develop the capacity of population.
- ④ Alternative communication systems, food stuff and other essential goods can be collected for response.

14. (b) Differentiate between Risk Assessment and Risk Evaluation.

5

आपदा आंकलन एवं आपदा मूल्यांकन, इनमें अन्तर बताइए।

Ans →

15. Analyze the difference in approach to Disaster Management of the 1999 Orissa supercyclone and the 2013 Phailin cyclone. 10
1999 में ओडीसा के उत्कृष्ट चक्रवात तथा 2013 के फयलीन चक्रवात में आपदा प्रबंधन के तरीकों का विश्लेषण कीजिए।

Ans

1999. Orissa supercyclone cause devastating loss of life, property and crops whereas this loss was minimal in 2013 phailin cyclone. The main difference was reactive versus proactive approach to disaster management.

1999 approach was reactive and focussed only on response, recovery which causes widespread loss. In that case the administration came into action after the onset of the cyclone. Also lack of capacity and co-ordination was there.

2013 approach was a pro-active approach. It focussed on all three phases pre-disaster, post disaster and during disaster.

① Pre-disaster → These was forecast prepared by Indian meteorological department which was communicated to all levels through various modes. Administration took proactive steps to evacuate

people in a coordinated way.

② during-disaster - Administration and people were fully prepared. Continuous monitoring of the cyclone was there, providing information. Also disaster response force, local government and other stakeholders worked.

③ Post-disaster - Well planned response led to very little loss of life and property requiring less rehabilitation.

Thus 2013 cyclone, is a lesson to tackle disasters in future.

16. Despite Disaster Management Authority being institutionalized in 2005, it has failed to develop sufficient capacity in preparedness as well as relief and rescue operations. Discuss. 10

आपदा प्रबंधन प्राधिकरण के 2005 में ही स्थापित हो जाने के बावजूद भी ऑपरेशनों में यह उचित तैयारी, राहत एवं बचाव की क्षमता को विकसित करने में असफल रहा है। चर्चा कीजिए।

Ans-1

Disaster management authority was institutionalised at central, state and district level in 2005. However it has not been effective in preparation, relief and rescue because of following.

① The responsibility of providing immediate relief and rescue lies at the district level. However the district authorities are not properly equipped, understaffed and lacking finances.

② There is general lack of co-ordination in state and centre which is affecting

efficiency.

- ③ At state level also, there is lack of funds. Though state disaster funds are provided support from National disaster relief fund but that is not adequate. And this is further plagued due to corruption and diversion.

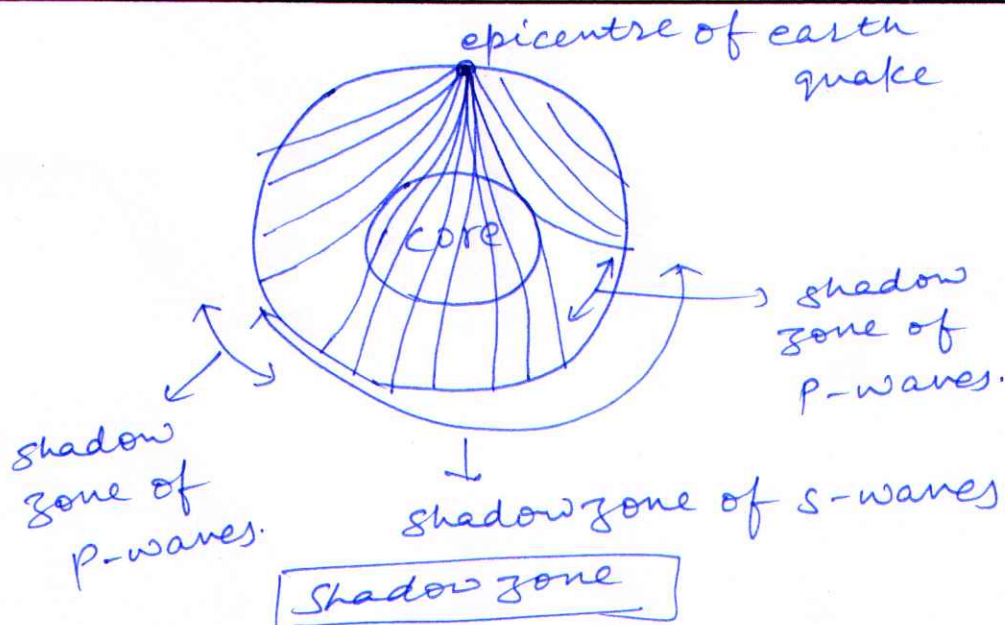
17. Why do earthquake waves develop shadow zones? Also explain the significance of such zones in providing information about the interior of the earth.

10

भूकंपीय तरंगे छायाक्षेत्र क्यों विकसित करती हैं? पृथ्वी की आंतरिक संरचना की सूचना के सन्दर्भ में इन क्षेत्रों के महत्त्व की व्याख्या कीजिए।

Ans-

Earthquake generate three type of waves - primary, secondary and surface. Primary and secondary waves create a shadow zone because of property of secondary waves that can travel only through solids.



the shadow zone of s-waves is larger than the shadow zone of p-waves.

These shadow zone have importance in the internal structure of the earth. The bigger shadow zone of s-waves tell that the core of earth is in liquid state and the mantle and crust is in solid state.

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18. What do you understand by shifting of wind belts? Illustrate their impact on climate of a region. 10

वायु पट्टी के खिसकाव से आप क्या समझते हैं? इसका किसी क्षेत्र की जलवायु पर पड़ने वाले प्रभाव की व्याख्या कीजिए।

Ans → Shifting of wind belts refers to movements in the wind belts due to intense heating and cooling. This shifting happens to restore the heat balance of earth and has important impact on climate of regions.

① It can ~~change~~ affect the direction of winds in a particular area causing change in precipitation, temperature etc. For example - In winters shifting of subtropical high pressure belt towards south

leads to rain in mediterranean
type of climate in winter.

~~It happens because of winds~~
~~offshore~~
~~carrying moisture~~

~~② It ^{helps} causes the monsoons~~

② shifting of wind belt leads
to formation of desert. Shifting
of subtropical high pressure belt
causes desert formation of
western parts of continents.

③ It helps in monsoon winds
which causes rain in the
Indian sub continent.

19. What are the various statutory procedures of conducting Environmental Impact Assessments? How do these procedures ensure public participation in development process? 10
- पर्यावरणीय प्रभाव आंकलन करने हेतु विभिन्न सांविधिक प्रक्रियाएं क्या हैं? किस प्रकार से ये प्रक्रियाएँ विकास की प्रक्रिया में जन सहभागिता को सुनिश्चित करती हैं?

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20. (a) What do you understand by the phenomenon of 'coral bleaching'? Discuss the threats that corals are facing. 5

प्रवाल विरंजन की परिघटना से आप क्या समझते हैं? प्रवाल किस प्रकार के खतरों का सामना कर रहे हैं। चर्चा कीजिए।

Ans → Coral bleaching refers to loss of calcium carbonate in corals. This is causing loss of corals.

Main reasons are -

① Acidification of oceans -

Because of increases CO_2 in atmosphere and its absorption by the oceans. The acidity of oceans is affecting the corals negatively.

② Corals are also facing dangers because of developmental and mining activities in the surrounding areas.

③ Corals also get affected
because of discharge of sewage.

20. (b) National River linking project of India aims to transfer water from surplus regions to deficit parts of the country. Analyse. 5
भारत की राष्ट्रीय नदी जोड़ो परियोजना का उद्देश्य अधिक पानी वाले क्षेत्रों से कम पानी वाले क्षेत्रों में पानी का स्थानांतरण है। विश्लेषण कीजिए।

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21. Do you agree that multinational companies are shifting their center of gravity towards Asia? Comment with justification. 10
क्या आप यह समझते हैं कि बहुराष्ट्रीय कंपनियों का केन्द्र स्थल एशिया की ओर हो रहा है? न्यायपूर्ण टिप्पणी कीजिए।

Ans Many of the multinationals are shifting their operations towards Asia both in service as well as manufacturing sector. The various reason available are -

① Presence of vast market - Asia is a home to more than half the population of the world. With rising middle class, it presents big market.

② Availability of cheap labour - The labour cost is very high in western industrialised countries. Due to high population, labour is relatively cheap in Asia providing cost advantage.

③ Relaxed environmental, labours
and social regulations also
are providing incentive to
them.

④ Presence of skilled, English
speaking population is promoting
outsourcing of services. It
has led to growth of BPO
industry in India and Philippines.

All these reasons are
providing opportunities to
multinationals to shift to
Asia. Also as the Asian
economies are growing at
faster rate, it provides better
return on investment.

22. The lure of mineral wealth has attracted many immigrants into desert regions. Explain the above statement by giving examples of desert regions around the world that have been transformed by the discovery of mineral resources. 10

खनिज संपदा के प्रलोभन ने रेगिस्तानी क्षेत्रों में कई आप्रवासियों को आकर्षित किया है। खनिज संसाधनों की खोज द्वारा विश्व भर में परिवर्तित हो रहे रेगिस्तान क्षेत्रों के उदाहरण देकर उपर्युक्त कथन कि व्याख्या कीजिये।

Ans→

Desert regions have traditionally been inhospitable and unattractive because of harsh climates. However discovery of mineral resources have attracted immigrants into desert regions. some of the example are -

① Arabian desert → discovery

of oil and gas has completely transformed the gulf states.

This has led to development of those regions and also attracted immigrants from many countries including India.

② Sahara desert → In quest of exploiting mineral resources, many people have settled.

It has caused mass deforestation in surrounding areas, indiscriminate mining. This has led to degradation of Sahel region and it is also converting to desert.

③ Thar desert → Recent discovery of oil and gas in Barmer,

Jaisalmer areas have attracted immigrants. Also proposed refinery has caused increased opportunities.

Discovery of these natural resources on one hand improve the economic opportunities, on the other hand it puts tremendous strain on fragile eco-system of desert. So these resources must be exploited sustainably.

23. Elaborate on the measures that can be taken to mitigate the effect of tsunamis. What global mechanisms are in place for providing early warning related to tsunamis? What are the different technologies used for detecting the presence of tsunami waves? 10

सुनामी को निष्प्रभावी करने के तरीकों की व्याख्या कीजिए। सुनामी के पूर्व चेतावनी हेतु किस प्रकार की वैश्विक तंत्र स्थापित है? सुनामी तरंगों की उपस्थिति की पहचान हेतु किस प्रकार की तकनीकी प्रयुक्त की जाती हैं?

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24. In the beginning of 2014, North America was badly affected by a cold wave – a fallout of Polar Vortex. What do you understand by Polar Vortex? How does it affect ozone depletion? 10

वर्ष 2014 के प्रारम्भ में उत्तरी अमेरिका ध्रुवीय भंवर (Polar Vortex) के कारण ठंडी हवाओं से बुरी तरह से प्रभावित हुआ था। ध्रुवीय भंवर से आप क्या समझते हैं? ओजोन क्षरण को यह किस प्रकार से प्रभावित करता है?

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25. Critically analyze the factors for the centralization of IT industry in India. 10
भारत में सूचना प्रौद्योगिकी कंपनियों के केन्द्रीकरण के कारकों की आलोचनात्मक व्याख्या कीजिए।

Ans → The IT industry in India is relatively centralised, though it has been more distributed in recent past.

Main reasons for this are-

- ① government policy → Due to initiatives taken by state governments eg. Karnataka and Andhra Pradesh. It led to development of cities like Bangalore and Hyderabad.
- ② Due to presence of engineering colleges in these areas also initially led to its development by providing skilled workforce.

③ IT Industry is mostly concentrated to metro cities because of english speaking population.

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