


**GEOGRAPHY, ENVIRONMENT, SCIENCE
TECH. & DISASTER MANAGEMENT**

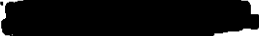
Time Allowed: 3 hrs.

Max. Marks: 250

Q.	Marks	Instructions to Candidate
1.		<ul style="list-style-type: none">• There are 20 questions.• All questions are compulsory.• The number of marks carried by a question is indicated against it.• Answer the questions in NOT MORE THAN 200 words each. Contents of the answer is more important than its length.• Answers must be written within the space provided. <p>Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.</p> 
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Name ANKITA MISHRA

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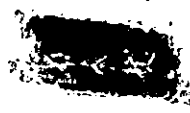
Mobile No. Date 3/04/2017Signature Ankita Mishra

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REMARKS

GS SCORE
GS MAINS TEST SERIES 2017



Q1. There have been increasing incidences of antimicrobial resistance, which could be more disastrous than fighting a war. Discuss various reasons of antimicrobial resistance, how human activities are supporting the superbugs to thrive? What could be the way to handle this problem? (12.5 Marks)

Ans Antimicrobial resistance refers to resistance developed by micro-organisms (like bacteria, viruses, fungi etc.) against the antibiotics used to kill them. As a result, they remain active even on the administration of antibiotics to patients.

REASONS OF ANTIMICROBIAL RESISTANCE:

The reason can be natural evolution of these superbugs to develop resistance as well as human activities which support them to thrive. The human-activities are:

- i) Indiscriminate use of antibiotics sometimes even for infections for which they are not needed like common flu etc.
- ii) Lack of sanitation, hygiene etc.
- iii) Over the counter sale of drugs leading to their indiscriminate use.
- iv) Nexus b/w doctors & pharmaceutical companies.

Remarks

Avoid using such acronym.

- leading the doctors to write them frequently
- v) Unawareness among the people regarding the dose of antibiotic, course completion etc
 - vi) Fixed Dose combination medicines, who are often manufactured & used without proper research into the effect of "combined" drugs

WAYS TO HANDLE:

- i) Research and innovation in development of new class of antibiotics who are effective against superbugs.
- ii) Awareness campaigns to create awareness among the people regarding proper use of antibiotics.
- iii) Strict regulation of fixed dose combination medicines.

Discuss

The role of

- iv) Stop over the counter sale of drugs like antibiotics and ensuring that they are sold only on prescription.

WHO in fact is

The various steps of the government like the ban on 344 fixed dose combination medicines, Red Line Campaign to differentiate certain type of drugs from others, Swachh Bharat Mission etc. are a good steps against tackling antimicrobial resistance.

Remarks
problem

Q2. What is hyper-loop technology? What are its advantages as compared to high speed railway like Bullet trains? Does India need investments in such technologies?

(12.5 Marks)

Ans Hyper-loop technology is a transit technology that uses pods or capsules in a partial vacuum chamber to transfer people from one place to another using magnetism.

ADVANTAGES

- i) Its speed is higher than higher speed railways or even airplane.
- ii) It reduces the time to travel b/w places.
- iii) It is cheaper than bullet train.
- iv) It is earthquake resilient.
- v) It also increases the number of round trips because of its higher speed and hence carry more people.

It cannot be said as it is yet to be tested anywhere

4 1/2

NEED OF INDIA TO INVEST IN SUCH TECHNOLOGIES

The transit environment in India is not very efficient. Its transport system suffers from various lacunae like ^{high} ~~high~~ transportation cost, lack of connectivity,

Remarks.

It can use renewable energy as source of energy.

lack of capacity etc.

In such a situation, it becomes very important for India to invest in such technologies which boost the transportation sector of India.

- i) It will help in reducing the freight & passenger load from railways & airways.
- ii) It will increase connectivity.
- iii) Help businessmen to travel for business meetings in a short span in time.
- iv) Help in manufacturing due to better and timely transportation of raw materials & goods.

Hence, Hyper-loop can go a long way in the growth and development of a country like India by helping in projects like increasing ease of doing business, boosting connectivity etc.

Q3. Indian government announced Digi-Gaon initiative in 2017-18 budget. What are the important components of this initiative? How does it try to achieve the objective of 'inclusive growth'? (12.5 Marks)

Ans: In 2017-18 budget, the Finance Minister announced the Digi Gaon initiative which aimed at providing telemedicine, skill development and enhancing knowledge in digital domain.

The important components of this initiative are:

i) TELEMEDICINE: It aims at connecting the hitherto untouched remote areas to medical facilities digitally through telemedicine. Here, doctors will connect to the villagers through satellite TVs offering them e-healthcare services.

ii) Skill Development: It is the development of skills through digital platforms and also include skillings in digital services.

iii) Education: It is educating the masses through digital platforms through the use of online courses and also increase

Remarks

digital literacy among them.

INCLUSIVE GROWTH.

Digi-Gaon, through its reach in villages and remote areas, ensure the inclusion of hitherto neglected population into the mainstream growth and development process.

Through its components like telemedicine, skill development & education, it will help in providing affordable healthcare to the people. It will help in skilling them to find meaningful employment and educate them to contribute to the rich human resource of the country.

Hence, an ~~also~~ initiative like Digi-Gaon can go a long way in fulfilling the ^{vision} aim of Govt's Digital India & Make in India program and thereby propagating the cause of inclusive growth for our people.

57
 What would all be its benefits

Remarks

Q4. What is Aquaponics? Analyze how it is better as compared to conventional agriculture practices? How it can help in tackling climate change in agriculture? (12.5 Marks)

~~The~~ Aquaponics is the development of plants in water with nutrients without the use of soil.

Advantages over conventional agriculture:

- i) The problem of soil like acidity, alkalinity etc can be solved.
- ii) Moreover the problems like weeding, spraying of pesticides can be solved.

you seem to be unaware of this concept

Remarks

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Remarks

Q5. India is going global through its collaborations in various megaprojects in research and development. Discuss India's efforts in this direction and the significance of these projects. (12.5 Marks)

Ans: India is emerging as a major player in key research and development projects around the globe.

Various Indian organizations like ISRO, DRDO etc. has put India in the forefront of various innovative initiatives. Some of India's effort in this direction include:

i) INO - Indian Neutrino Observatory is a multilateral international effort aimed at solving the mystery regarding neutrinos & dark matter.

ii) LIGO INDIGO - India's contribution in detecting the gravitational waves in the LIGO (Laser Interferometer Gravitational Wave Observatory) has led the international community to believe in its capacity to open an observatory in India (INDIGO).

iii) India is an important part of the research going on regarding the 'Neglected

Remarks:

Discuss :-
 - Thirty Meter Telescope.
 - Associate Membership of CERN
 - Collaboration with Italy.

Tropical Diseases

iv) International Solar alliance: India took the initiative to form this global alliance for research and development in solar energy.

v) India is the leading destination for clinical trials in the world ~~with~~ with rich source of expert doctors.

SIGNIFICANCE FOR INDIA:

i) Will help India in maintaining an important position in the global world.

ii) Will help in increasing its knowledge base which can help in solving many domestic problems.

iii) Can also help in earning revenue in the long run if the projects become successful.

In the present day of increased research and development, India cannot afford to be left out and hence, it should take active steps to further improve its R & D environment.

Remarks

Q6. Net Metering is an encouraging mechanism to promote the generation of renewable power on small scale. In this reference discuss net metering mechanism. Also discuss its advantage as India is facing huge challenge to provide affordable and easily accessible energy to all its residents. (12.5 Marks)

Ans. Net metering is a form of smart metering mechanism. It aims at incentivise the consumers who use solar energy for their needs by connecting them with the grid and ensuring that any excess or shortage of energy is taken care of by the grid.

Net metering Mechanism:

Net metering mechanism ensures that the consumer is charged only on his net usage. If there is an excess of solar energy, it is transferred to the grid and if there is shortage in energy, energy from the grid is transferred to him to power his house. In this whole process, the meter reading is also adjusted accordingly and the final reading shows the net reading that is = energy from the grid.

you seem to be repeating some thing

Remarks

Discuss more advantages of Net metering.

energy supplied to the grid,

ADVANTAGES:

- i) Helps in incentivising the consumers who go for renewable energy like solar,
- ii) Helps in transferring excess energy to the grid which otherwise would have gone wasted.
- iii) Will make renewable energy affordable

Hence, net metering is a very noble step towards promoting renewable energy and hence meeting India's energy security.

Remarks

Q7. What is the importance of Kigali Agreement and how it is different from Paris Climate Deal? What is Indian commitment under the deal and what are the likely challenges to be faced by India in this? (12.5 Marks)

Ans. Kigali Agreement is an amendment to Kyoto Protocol which aims at phasing out HFCs (which is not an ozone depleting substance but a very potent green house gas).

It is different from Paris Climate in the sense that —

- i) It is a legally binding agreement.
- ii) It is not based on INDCs (Intended Nationally Determined Contributions).

However, — it is based on CBDR (Common But Differentiated Responsibility) and hence setting out different targets for different countries.

INDIA'S COMMITMENT AND CHALLENGES.

India committed to phase out HFCs by 2049. However, there are

It is not Montreal Kyoto Protocol.
You need to differentiate Kigali Agreement with Paris Climate Deal.

Remarks

several challenges faced by it in the implementation:

- i) India is a ^{fast} growing tropical country where the use of ACs is increasing. Therefore, to phase out HFCs (used in ACs, refrigerators etc) it needs to find out a suitable alternative.
- ii) India cannot invest much in alternative technologies due to financial constraints & depend on developed countries for fund & technology transfer.
- iii) Moreover, India contributes very less as compared to the developed countries. However the timeline given to it is quite strict.

Hence, there are many challenges in the implementation of Kigali Agreement. However, in the wake of increasing climate change and its associated repercussions, India should try and work out solutions to implement this agreement which would

Remarks

also go a long way in meeting Paris India's NDC targets.

Q8. The union Environment Ministry recently notified a 'Graded Response Action Plan' against air pollution for Delhi and the National Capital Region. How does it tries to control pollution level and what are the likely challenges to be faced?

(12.5.Marks)

Ans. The MoEF recently notified a 'Graded Response Action Plan' in the light of deteriorating air quality in the Delhi-NCR region. This plan is based on dividing the air quality into four categories from poor to extremely severe and then take measures to improve it accordingly.

Emergency, severe, poor, moderate, poor

For eg. if the air quality is poor or moderate, moderate steps are taken like use of sprinklers; however if the air quality is extremely severe then greater steps like odd-even rationing, closing of industries, stopping construction work etc are taken.

CHALLENGES TO BE FACED:

1. The main challenge is the accurate measurement of particulate matter in the

Remarks

air and then its proper categorization,

ii) The implementation of this scheme involves various stakeholders and to achieve coordination among them is difficult.

iii) Most of the pollution in Delhi-NCR region is from adjoining areas and unless steps to prevent pollution there are taken, true results can't be obtained.

iv) It will be difficult to explain the plan to the public whose cooperation would be very important for the plan's success.

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However, the success of odd-even plan in Delhi shows that it would not be too difficult to tackle the above challenges. Moreover, the increasing air pollution in Delhi-NCR region calls for taking such Herculean steps to curb this menace.

Remarks

Q9. Discuss the major provisions of Regional Centre for Biotechnology Bill, 2016. How it would provide a skill base for wider adoption of Biotechnology in every walk of life in future? (12.5 Marks)

Ans Regional Centre for Biotechnology Bill, 2016 aims at opening a centre of excellence for carrying out research & development in Biotechnology.

Major Provisions:

- i) The centre would create a conducive environment for promoting research & development in biotechnology.
- ii) It will help in garnering international cooperation in the field of biotechnology.
- iii) It will help in nurturing a pool of biotech scientists and students.
- iv) It will help in developing new & novel solutions to many practical problems like food security, ~~new~~ renewable energy, medicine etc.
- v) Help in attracting investment & private participation.

Remarks

Use of Biotechnology :

Agriculture : Help in the development of GM crops with better yield, pest resistance, and climate resistance.

Healthcare : It will help in gene mapping, gene-editing, development of new drugs and better techniques to treat diseases.

Energy : Help in the use of organisms like algae, bacteria etc to produce energy through photosynthesis which can be used by humans to power their vehicles, houses etc.

3-D Printing : This uses bio-ink to develop organisms, tissues, organs etc, and can go a long way in medical field.

Hence, biotechnology can go a long way in ensuring a promising and sustainable environment for growth and development.

Remarks

6
Good
Approach

Q10: India's sugar industry is the second largest agro-based industry in India; however, the production of sugar is skewed towards the states like Maharashtra, Tamilnadu, and Karnataka, which are not very suitable for sugarcane cultivation and have been suffering from water shortages. Analyse the reasons behind this trend? What are the problems faced by the sugar industry in India and the possible measures to overcome the crisis?

(12.5 Marks)

Ans: India is the second largest producer of sugar in the world. It has the largest area under sugarcane cultivation. Sugarcane cultivation is dominant in the northern belt of UP and Bihar and the peninsular India including Maharashtra, TN etc. However, this distribution is more skewed towards the south because

- i) Tropical variety of sugarcane grown in South India has better yield and ~~but~~ more sucrose content.
- ii) South India has better growing season i.e. from November till June (6-7 months) while North India has a smaller growing season.
- iii) South India has better developed cooperatives which help in better supply of raw materials & better marketing of products.

Remarks

ii) They are nearer to ports helping in export.

iii) Sugar cultivation in South India started late & hence they have better machinery.

Challenges

i) Over regulation by the govt. in the form of Fair Remunerative price, compulsory Jute Packing (20%), Cash Remuneration Area etc.

ii) Lack of new technology.

iii) Shorter growing season.

iv) Regional disparity in sugarcane production.

v) Less productivity.

Measures

i) Rangarajan-Committee recommendations can be followed by relaxing government controls.

ii) Introduction of new technology.

iii) Use of new research and dev to develop new varieties of sugarcane.

iv) Using agro-climatic based production of sugarcane.

- Govt needs to incentivise this industry.

Remarks

- Byproduct should be used properly.

Q11. Analyze whether the monsoon rains play a role in reducing air pollution in Indian cities. State the reasons why air pollution has increased in Indian cities post monsoon and winter. (12.5 Marks)

Ans Monsoon plays a significant role in reducing air pollution by:

- i) washing down pollutants from the air.
- ii) It settles down dust otherwise suspended in the air.
- iii) It prevents burning of materials in the open hence reducing air pollution.
- iv) It adds water in lake, ponds etc thus increasing their CO₂ carrying capacity.
- v) It also adds greenery which acts as carbon sinks.

However, monsoon can help in preventing air pollution only till an extent beyond which it has little role in being able to control it. Moreover, it also shifts problem from one area to another. For eg, pollutants after mixing with water forms acids (like carbonic acid, sulphuric acid) which falls on

write only what is required to be written

Remarks

ground leading to ~~air~~ soil & water pollution.

REASONS for the increase in air pollution
post monsoon and in winters;

- 52
- i) Post monsoon, the pollutants remain suspended in the air, and the lower temperature, makes the water vapour in the atmosphere condense near the earth surface whose mixing with water produces smog.
 - ii) Increased burning of fossil fuels to generate heat in winters.
 - iii) Many festivals like Dusali, Lohri etc contribute to air pollution.
 - iv) Burning of agricultural waste in this season.
 - v) Poor convection current ^{& weak wind system} during this time make the pollutant remain suspended in the air.

Hence, monsoon plays an important role in curbing air pollution in India.

Remarks

Q12. Why are North Eastern states preferred for palm cultivation in India? Discuss the government's measures to support this. (12.5 Marks)

Palm
Ans: Oil Palm is the highest oil yielding crop. It is a plantation crop and requires certain conditions which are favourable for its growth.

Reason for North Eastern States to be preferred for palm cultivation

Palm crop requires —

i) Temp — 20° to 30°C for its growth

ii) Rainfall = 50 - 100 cm.

iii) Slope — It requires a sloping surface so that the water does not stand.

iv) It requires well drained soil like alluvial.

All the above conditions are met in North Eastern states and hence they are preferred for palm cultivation. Moreover, the potential of palm cultivation to develop these areas is an important factor in.

Remarks

Geographical factor as well economic factor is also there

You have to be very sure of factual thing

encouraging their cultivation in this area.
Governments Initiative:

- 4 1/2
- i) Government has allowed 100% FDD in palm oil cultivation.
 - ii) National Mission on Oilseeds and Oil Palm focussing on the cultivation of oil palm and other oil seeds.
 - iii) Steps like easy credit, irrigation facilities through Kisan Manti Kishi Sanchayi Yojana, PM Fasal Bima Yojana etc. Various can also go a long way in encouraging their growth.

other initiatives ~~to~~ therefore, India needs to encourage domestic oil production to cut down of its ~~own~~ oil import bills especially when it has the necessary capacity and capability to produce oil domestically.

Govt in this direction

Remarks

Q13. The contribution of Gujarat to India's pharmaceutical and health sectors can be gauged by the fact that this Western State, having only 4 per cent of the country's population, accounts for more than 40 per cent of medicines manufactured in India. Why is the pharmaceutical industry concentrated in the western region? (12.5 Marks)

Ans. India is a major player in global pharmaceutical sector with the second largest producer of drugs in the world.

However, in India the contribution of Gujarat has been phenomenal in helping India secure this position on the global platform.

Reason for concentration of pharmaceutical industry in the western region:

- i) Proximity to ports: This ensures easy availability of raw materials (APIs) from China as well as export of finished products (drugs) to other countries.
- ii) These states being developed has good power generation capacity required for pharmaceutical industries.
- iii) Easy tax regimes.

Be aware of factual things.

5

6/12

Remarks

i) These areas are also one of the richest areas (like Mumbai, Gujarat) and hence have better investment environment to set up such industries.

ii) Government regulations have also been favourable here.

iii) Availability of educated and skilled man force.

Geographical reasons are also there.

All these factors have made western states the main centers of pharma industry in India. However, ~~at~~ India needs to work on its import of Active Pharmaceutical Ingredients from China to develop self sufficiency in them to become a topper in this sector.

- Strong sense of self & culture of entrepreneurship is also there.

Remarks

Q14. Lack of professionalism and autonomy of the major port boards led to the dismal performance to the ports in India. Critically comment in the light of Major ports authorities act, 2016. (12.5 Marks)

Ans Government enacted the Major-Ports Authorities Act, 2016 to replace the Port Trust Authority Act of 1963.

Major Provisions:

- i) Reducing the size of the Board from 19 members to 11 members.
- ii) Giving autonomy to the board to set tariffs, issue certificates, raise loans etc.
- iii) Lease land for port related activities for 40 yrs & non-port related activities for 20 yrs without the approval of the government.
- iv) Internal accounting & auditing of the 12 major ports in line with companies Act.
- v) Modernisation of the ports.
- vi) Government to take control only in extreme situation.
- vii) Formation of a Review Board to review the working.

Remarks

Positives :

- i) Increase transparency, accountability and efficiency of the ports.
- ii) provides greater autonomy and hence the ports can work in better manner deciding their own policies away from one size - fit all approach.
- iii) Can work like private entities by incorporating PPP model, having CSR responsibilities etc.

Concerns

- i) Fear among the employees regarding privatization.
- ii) Can fail to generate revenue.
- iii) No clarity on how the transition will take place.

However, the enactment of this act is a positive step towards moving towards landlord-tenant model providing greater autonomy to ports in doing their business.

Remarks

Q15. While India has retained a near monopoly regarding naval presence in Indian Ocean; it has recently been challenged aggressively, by China. Examine the geopolitical significance of the Indian Ocean region in context of the above statement.

(12.5 Marks)

Ans. Indian Ocean region

India, historically, has occupied a very significant role in Indian Ocean Region and its rim countries. It has deep cultural and trade links with these nations.

Therefore, the Indian Ocean region is strategically very important for India. As such, India has been the net security provider in this region with Indian ship guarding the EEZ of countries like Seychelles, Mauritius etc.

However, China has recently been challenging Indian naval presence in this region through development of Hambantota port in Sri Lanka, ^{Gwadar} ~~Chabahar~~ port in Pakistan, the naval base Djibouti and extension of its Maritime Silk Road Project.

Remarks

What are the geopolitical significances of IOR?

All this has been taken very seriously by India as this region holds great importance for it:

- (i) Rich energy source.
- (ii) Important transit routes pass through Indian Ocean (Strait of Malacca, Hormuz etc)
- (iii) for India's security
- (iv) for trade.
- (v) for maintaining soft diplomacy with neighbouring countries.

Hence, India has challenged

China's growing assertiveness in this

region through its Chabahar port project

in Iran, Project Mausam, Project Spice

Route, Project Cotton Route & exercises like Malabar

Moreover, the great repertoire shared

by India with 20+ nations will also

go a long way in helping India maintain

its position in this region.

(5)

What is India doing to strengthen its position

Remarks

Q16. A mass bleaching event on the Great Barrier Reef this year killed more corals than ever before sounding the alarm over the delicate ecosystems. What is coral bleaching? Discuss the conditions favourable for coral formation. What are the recent environmental conditions that are leading to mass bleaching events? (12.5 Marks)

Corals are symbiotic association of coral polyps and algae zooxanthellae where algae provides food to the polyp & it provides moisture & nutrients to the algae.

However under extreme environmental conditions this symbiotic association is broken where the polyp expell the algae. This process is called coral bleaching as the expulsion of algae leaves the corals white as the algae were responsible for their colour.

Conditions

i) Temp: 20-30°C (warm waters) found only in tropical & subtropical regions. However cannot survive in temp 18°C & temp > 33°C.

ii) Sunlight: They require sunlight hence the ~~water~~ depth should not be more than 60-65 m deep.

iii) They require sediment free clean water for

Remarks

iv) It can grow in shallow water only.

sunlight to penetrate.

- ii) They require salinity between ~~27~~ ~~27~~ ppm to 40 ppm.

REASON FOR THEIR MASS BLEACHING

- 52
- i) Climate change leading to global warming increasing the temp. of water.
- ii) Extreme water pollution through oil spills, eutrophication etc.
- iii) Over fishing, mining etc.
- iv) Increased acidity in oceans due to increase CO_2 .

Coral Reefs are 'rainforests of the Ocean' and hence they need to be protected to maintain their rich biodiversity.

Various efforts like NASA's CORAL

airborne experiment can go a long way in understanding corals. Moreover experts say that there are certain varieties of corals which can sustain greater range of temperature. Therefore, there is a need that we

Remarks

work towards finding these varieties and restoring these reefs which are of immense importance to mankind.

Q17. Habitat-III conference of the United Nations came with a new urban agenda that sets the global vision of urbanisation for the next 20 years. Discuss this new urban agenda and how far the smart cities mission is able to achieve the objectives.

(12.5 Marks)

Ans India is a fast growing economy with a high rate of urbanization. Acc. to census-2011, 33% of Indian population stays ~~not~~ in urban areas and this will increase to 50% by 2030.

Hence, there is a need for India to focus on the new Urban agenda developed in Habitat-III conference of United Nations.

This agenda aims at;

i) Developing planned urban areas with all the facilities like health, education, sanitation etc.

ii) Improve transit facilities in urban areas.

iii) Development of green & Blue spaces.

iv) Focus on increasing employment in urban areas.

v) De-burdening these areas by planned area through conversion of slums into better

Don't write back of cover

Come to the point direct

1 1/2

Remarks

Discuss Goal 11 of SDGs substantiate your answer

to

~~to~~ ~~but~~ infrastructure for slum dwellers to stay.

(iii) Focus on developing alternate sources of energy, boosting digital infrastructure etc.

Smart Cities of India, with their aim to develop 100 smart cities with smart infrastructure, smart transportation smart services like e-governance etc can go a long way in implementing the New Urban Agenda as both of them converge in their objectives to develop smart cities.

Remarks

Q18. What do you understand by carrying capacity of ecology? Answer in context of India, where many states have reached the limits of their capacity, due to mass tourism.

(12.5 Marks)

Ans. Carrying capacity of the ecology refers to the maximum population it can support beyond which it will start getting deteriorated.

Many states in India like Uttarakhand, Himachal Pradesh etc. have reached the limits of their capacity due to mass tourism. The same can be seen in the greater instances of disasters like land slides, avalanches, flash flood, earthquakes etc. in these regions.

These regions are the 'cradle of scenic beauty' in India. However increased pressure on them due to huge influx of tourists started deteriorating the environment & ecology of these areas.

Therefore, following steps need to be

Remarks

taken to restore them :

(5) i) Reduce the number of tourists in these areas by issuing coupons to the tourists who can enter ^{ie by} putting a ^{limit on the no} of tourists in these areas.

ii) Promoting homestay tourism to prevent pressure due to increased construction of hotels & encroachment in these areas.

iii) Creating awareness among the people.

iv) Restricting vehicles in these areas to reduce pressure on these areas & preventing air pollution.

All the above steps can go a long way in maintaining the pristine and beautiful environment of these hill stations.

Eco-friendly practices should be adopted to keep ecological balance.

Remarks

Q19. Recently IMD has declared that, during year 2017, summers will be hotter than normal. In such circumstances what preventive steps should be taken to ensure that such situations does not affect normal life and turn into disaster? (12.5 Marks)

Ans Due to increasing climate change and global warming, each successive year is turning hotter and hotter. Recently IMD declared that, during year 2017, summers will be hotter than normal.

Preventive steps that can be taken are:

i) Better capacity building against heat wave — better identification of heat stroke in hospitals.

— creating awareness among the people to drink lots of water & fluids.

— creating blue & green spaces to provide relief against heat wave.

— regulating office & school hours to prevent exposure to heat.

ii) Rainwater harvesting practices to be followed to store water.

iii) Developing a proper plan to ensure proper coordination among various stakeholders.

Remarks

It leads to various kind of problems like air pollution, water scarcity, power shortage, etc.

like centre, states and local bodies to tackle with such a situation.

iv) Relief to poor and farmers as they will be the worst affected.

v) Development of shelters to protect people from heat wave.

vi) Ensuring food security and declaring MSPs in a manner that water guzzling crops are discouraged in areas of ~~the~~ water scarcity.

~~Such~~ such a climate change will also need some long term solutions like development of drought resistant varieties of crops, new innovative methods of water conservation, developing a culture among the people and educating them on tackling such situations etc.

Remarks

Q20. Sendai Framework adopted during 3rd UN World Conference on Disaster Risk Reduction, in Japanese city of Sendai is the first major UN agreement on the post 2015 development agenda. In this regard discuss India's Post Sendai initiatives. (12.5 Marks)

Ans Sendai framework was adopted during the 3rd UN World Conference on Disaster Risk Reduction ~~which~~ succeeding the Hyogo framework.

It identifies 4 priority areas for disaster risk reduction and they are:

- i) ~~the~~ Understanding Risk;
- ii) Increasing Disaster Risk Governance;
- iii) Investing in Disaster Risk Resilience;
- iv) Enhancing capabilities in Disaster Risk Reduction and developing build back better mechanism.

In addition to this, it has also laid down 7 targets to be achieved by 2020 which includes points like reducing mortality, affected person, economic loss etc.

India has been termed a champion in Disaster Risk Reduction in this conference.

Remarks

The ~~various~~ steps
 India has taken various steps post Sendai initiative. It has drafted National Disaster Risk Management Plan in accordance with Sendai framework which envisages horizontal & vertical integration among ministries & departments as well as local governments to tackle disasters. It has also strengthened its NDRF team to enhance its capability to deal with disasters.

It has also taken active steps with other nations to develop a more efficient early warning system.

Hence, India has taken some very active steps towards disaster risk prevention & mitigation.

Discuss various other steps taken by India with regard to Sendai framework.

Remarks