

**GOVERNANCE**

**Strategy to Promote Medical, Rural and MICE Tourism**

The Ministry of Tourism has formulated three draft strategies with roadmaps for promoting Medical and Wellness Tourism, for development of Rural Tourism and for promotion of MICE Industry in India. India has been ranked 34th out of 140 countries on the World Travel and Tourism Competitiveness Index 2019, released by the World Economic Forum (WEF).

**Key Points**

**Medical and Wellness Tourism (MWT):**

**About:**

- Describes the rapidly growing practice of travelling across international borders to obtain healthcare services.
- It may be broadly classified into three categories - Medical Treatment, Wellness & Rejuvenation and Alternative Cures. Now it is often referred to as Medical Value Travel (MVT).

**Scope in India:**

- State of the Art Medical Facilities: Top of the line medical and diagnostic equipment from global international conglomerates are available.
- Reputed Healthcare Professionals: Reputation for high-quality medical training and also fluent in English to converse with foreigners.
- Financial Savings: The cost of quality of medical procedures and services are low in India.
- Alternative Cures: India has a unique advantage of offering Yoga, Ayurveda & Naturopathy for treatment.

**Major Strategy:**

- “Heal in India” Brand for promoting India as a MVT destination.
- Capacity building of MVT facilitator, enterprises and staff.
- Setting up of an online MVT Portal to provide one stop solution to facilitate international patients.
- Convergence of Wellness, Hospitality and Travel businesses.

**Rural Tourism:**

**About:**

1. Any form of tourism that showcases the rural life, art, culture, and heritage at rural locations, thereby benefiting the local community economically and socially.
2. It offers an opportunity to promote sustainable and responsible tourism and fulfill the vision of Atmanirbhar Bharat.

**Scope in India:**

1. Indian villages have unparalleled culture, craft, music, dance and heritage to offer to the visitors.
2. Well-developed agriculture and farms to provide stay facilities and experiences.
3. Beautiful climate conditions and Biodiversity.
4. India has coastal, Himalayan, desert, forest and tribal areas amongst others for tourists.

**Major Strategy:**

1. State Assessment and Ranking as a tool for Capacity Building (including that of Panchayati Raj Institutions).
2. Enabling Digital Technologies for Rural Tourism like enabling broadband internet infrastructure to rural areas having tourism potential.
3. Developing clusters for rural tourism.

**MICE (Meetings, Incentives, Conferences and Exhibitions):**

**About:**

1. The main purpose is to create a networking platform for business, industry, government and Academic Community and engage in meaningful conversations.
2. MICE is also known as ‘Meetings industry’ or ‘Events industry’.

**Scope in India:**

1. Core MICE infrastructure amenities are at par with most developed countries.
2. India has consistently improved its rank in World Bank Ease of Doing Business and WEF Travel and Tourism Competitiveness Rank.
3. Growing Economic Strength of India.
4. India has progressed rapidly in the areas like Information Technology, and Scientific Research.

**Major Strategy:**

1. "Meet in India" Brand for promoting MICE Industry.
2. Providing Infrastructure status for financing of MICE infrastructure.
3. Skill development for the MICE industry.

**Significance**

- Multiplier Effect: Not only does the tourism sector provide high-quality jobs, it also enhances investment in India, accelerates development.
- Push to the Service Sector: A large number of businesses engaged in the service sector such as airlines, hotels, surface transportation, etc. grows with the growth of the tourism industry.
- Preservation of National Heritage and Environment and Renewal of Cultural Pride.
- Soft Power: Tourism helps in promoting cultural diplomacy, people to people connect and thereby promotes friendship and cooperation between India and other countries.
- Boost to Other Forms of Tourism: India has huge potential for related areas such as Eco-tourism, Nature Reserves, Wildlife tourism, Himalayan tourism. India has 38 world heritage sites that include 30 Cultural properties, 7 Natural properties and 1 mixed site.

**Constraints**

- Infrastructure and Connectivity: Deficiencies in infrastructure and inadequate connectivity hamper tourist visits to some sites.
- Promotion and Marketing: Although it has been increasing, online marketing/branding remains limited and campaigns are not coordinated.
- Tourist information centers are poorly managed, making it difficult for domestic and foreign tourists to access information with ease.
- Lack of Skills: A limited number of multilingual trained guides, and the limited local awareness and understanding of the benefits and responsibilities associated with tourist growth.
- **Others:**
  1. There is a perception about India not being a very hygienic country. This impacts the choice of India as a medical destination.
  2. Lack of prioritization for rural tourism at the State and National level.
  3. Lack of focussed approach on MICE as an industry.
  4. Major Schemes of the Ministry of Tourism

**Iconic Tourist Sites Initiative**

1. DekhoApnaDesh Campaign
2. PRASHAD Scheme
3. Swadesh Darshan Scheme

**Way Forward**

- 'One India One Tourism' Approach: Tourism encompasses multiple ministries and takes place in and within many states and thus requires collective efforts and cooperation with centre and other states.
- Promoting Ease of Tourism: To truly ensure a seamless tourist transportation experience we need to standardize all interstate road taxes and make them payable at a single point which will facilitate the ease of doing business.

**AGRICULTURE****Biotech-KISAN Programme**

The Ministry of Science and Technology has issued a Special Call for the NorthEast Region as a part of its Mission Programme "Biotech-Krishi Innovation Science Application Network (Biotech-KISAN)".

**Key Points****About:**

- It is a scientist-farmer partnership scheme launched in 2017.
- It is a pan-India program, following a hub-and-spoke model and stimulates entrepreneurship and innovation in farmers and empowers women farmers.
- The Biotech-KISAN hubs are expected to fulfil the technology required to generate agriculture and bio-resource related jobs and better livelihood ensuring biotechnological benefits to small and marginal farmers.
- Farmers are also exposed to best global farm management and practices.

**Ministry:** This is a farmer-centric scheme developed by and with farmers under the Department of Biotechnology, Ministry of Science and Technology.

**Objective:** It was launched for agriculture innovation with an objective to connect science laboratories with the farmers to find out innovative solutions and technologies to be applied at farm level.

**Progress:**

- 146 Biotech-KISAN Hubs have been established covering all 15 agroclimatic zones and 110 Aspirational Districts in the country.
- The scheme has benefitted over two lakhs farmers so far by increasing their agriculture output and income. Over 200 entrepreneurship have also been developed in rural areas.

**About the Present Call:**

- The present call specifically focuses on the North East Region (NER) as it is predominantly agrarian with 70% of its workforce engaged in agriculture and allied sector for livelihood.
- The region produces merely 1.5 % of the country's food grain and continues to be a net importer of food grains even for its domestic consumption.
- The NER has untapped potential to enhance the income of the farming population by promotion of location specific crops, horticultural and plantation crops, fisheries and livestock production.
- The Biotech-KISAN Hubs in NER will collaborate with the top scientific institutions across the country as well as State Agricultural Universities (SAUs)/Krishi Vigyan Kendras (KVKs)/existing state agriculture extension services/system in the NER for demonstrations of technologies and training of farmers.

**Biotechnology in Agriculture**

• **Agricultural Biotechnology:**

1. Agricultural biotechnology is a range of tools, including traditional breeding techniques, that alter living organisms, or parts of organisms, to make or modify products; improve plants or animals; or develop microorganisms for specific agricultural uses.
2. Modern biotechnology today includes the tools of genetic engineering.

• **Examples:**

1. Genetically Modified Organisms (GMO): These are plants, bacteria, fungi and animals whose genes have been altered by manipulation. GM plants (Bt Cotton) have been useful in many ways.
2. Biopesticide: Bacillus thuringiensis is a naturally occurring soil bacterium that causes disease on insect pests. It is accepted in organic farming and is considered ideal for pest management due to its low cost, ease of application, high virulence and narrow host specificity.

• **Benefits:**

1. GMO leads to a number of advantages in the crops which include -there is less loss after harvest, the crops can be modified to have additional nutrients value for human welfare.
2. The use of some of these crops can simplify work and improve safety for farmers. This allows farmers to spend less of their time managing their crops and more time on other profitable activities.

**Disadvantages:**

1. Antibiotic Resistance: There is a concern that new antibiotic-resistant bacteria could emerge which would be difficult to tackle with conventional antibiotics.
2. Potential of 'superweeds': The transgenic plants could pollinate with the unwanted plants (weeds) and thereby relay the gene of herbicide-resistance or pesticide-resistance into them, thereby converting them into 'superweeds'.
3. Loss of Biodiversity in Organisms: The extensive use of agritech varieties of seeds have made some agriculturists fearful as this may hurt the biodiversity of plant species. The extensive use of GMO varieties is because of the fact that they are more profitable and drought resistant which has made farmers abandon their traditional varieties of plants.

**SOCIAL ISSUE**

**World Sickle Cell Disease Day 2021**

To commemorate the World Sickle Cell Disease (SCD) Day on 19th June, the Ministry of Tribal Affairs (MOTA) flagged off mobile vans under the Unmukt project for strengthening screening and timely management of SCD in tribal districts of Jharkhand and Chhattisgarh.

**Key Points**

**Sickle Cell Disease:**

- It is an inherited blood disease which is most common among people of African, Arabian and Indian origin.

- It is a group of disorders that affects hemoglobin, the molecule in red blood cells that delivers oxygen to cells throughout the body.
- People with this disease have atypical hemoglobin molecules called hemoglobin S, which can distort red blood cells into a sickle, or crescent shape. This blocks blood flow and oxygen from reaching all parts of the body.

**Symptoms:** It can cause severe pain, referred to as sickle cell crises. Over time, people with sickle cell disorders can experience damage to organs including the liver, kidney, lungs, heart and spleen. Death can also result from complications of the disorder.

**Treatment:** Medication, blood transfusions and rarely a bone-marrow transplant.

**Related Data:**

- India alone is home to about 1,50,000 patients with SCD and about 88% of Sickle Cell Anemia (SCA) cases in Asia.
- The disease in India occurs predominantly in eastern Gujarat, Maharashtra, Madhya Pradesh, Chhattisgarh, western Odisha and in pockets of the Nilgiri Hills in north Tamil Nadu and Kerala.
- The disease is prevalent among tribal communities (including children). As per MOTA, SCD is affecting more women and children and nearly 20% of tribal children with SCD die before reaching the age of two, and 30% children die before reaching adulthood.

**Challenges:**

- Social Stigma and Prevalence among Tribal Population (where access to care for SCD is limited).
- **School Drop Out:** Children with sickle cell disease often have to drop out from school.
- **Policy Issue:** The delayed implementation of the 2018 draft policy on haemoglobinopathies. The policy aims to provide evidence-based treatment for patients and reduce the number of new-born children with sickle cell disease through initiatives such as the Sickle Cell Anaemia Control Program, screening and prenatal diagnosis.

**Initiatives by India:**

- **Initiative by the Ministry of Tribal Affairs:**
  1. SCD Support Corner, a portal to collect real time data and provide relevant information related to Sickle Cell. It will help in making a Central Repository of data.
  2. An 'Action Research' project under which Yoga dependent lifestyle is promoted to reduce the complications in the patient suffering from this disease.
- **Expanded Screening:**
  1. Certain states, such as Chhattisgarh and Gujarat, have expanded their screening programmes from hospital to school-based screenings.
  2. Extrapolating such screening efforts and implementation strategies to other states will help map the prevalence of the disease.
- **Disability Certificate:** The Ministry of Social Justice and empowerment has increased the validity of disability certificates for SCD patients from 1 year to 3 year.

**ENVIRONMENT AND BIODIVERSITY**

**Black Softshell Turtle**

Recently, the Assam forest department has signed a Memorandum of Understanding (MoU) with two Non-governmental Organizations (NGOs) and adopted a Vision Document to raise at least 1,000 black softshell turtles by 2030.

**Key Points**

**About Black Softshell Turtle:**

- **Scientific Name:** Nilssonina nigricans
- **Features:** They look almost the same as the Indian peacock softshell turtle (Nilssonina hurum), which is classified as Endangered in the IUCN Red List.
- **Habitat:** A freshwater species and there are 29 species of freshwater turtles and tortoises found in India. They are found in ponds of temples in northeastern India and Bangladesh. Its distribution range also includes the Brahmaputra River and its tributaries.
- **Threats:** Consumption of turtle meat and eggs, silt mining, encroachment of wetlands and change in flooding pattern.

**Sea Turtles of Indian Waters:**

- There are five species in Indian waters i.e. Olive Ridley, Green turtle, Loggerhead, Hawksbill, Leatherback.

1. The Olive Ridley, Leatherback and Loggerhead are listed as 'Vulnerable' on the IUCN Red List of Threatened Species.
2. The Hawksbill turtle is listed as 'Critically Endangered' and Green Turtle is listed as 'Endangered' on the IUCN Red List of Threatened Species.
3. They are protected in Indian Wildlife Protection Act of 1972, under Schedule I.

**Turtle Conservation:**

• **National Marine Turtle Action Plan:**

1. It contains ways and means to not only promote inter-sectoral action for conservation but also guide improved coordination amongst the government, civil society and all relevant stakeholders on the response to cases of stranding, entanglement, injury or mortality of marine mammals and also conservation of marine turtles.

• **Indian Ocean Sea Turtle Agreement (IOSEA):**

1. India is a signatory to the Indian Ocean Sea Turtle Agreement (IOSEA) of the Convention on Migratory Species (CMS), a United Nations backed initiative.
2. It puts in place a framework through which States of the Indian Ocean and South-East Asian region, as well as other concerned States, can work together to conserve and replenish depleted marine turtle populations for which they share responsibility.

• **KURMA App:**

1. It has a built-in digital field guide covering 29 species of freshwater turtles and tortoises of India.
  2. It was developed by the Indian Turtle Conservation Action Network (ITCAN) in collaboration with the Turtle Survival Alliance-India and Wildlife Conservation Society-India.
- World Turtle Day is observed every year on 23rd May.

**SCIENCE & TECHNOLOGY**

**Gain-of-function Research**

The Wuhan Institute of Virology was said to have conducted gain-of-function research on coronaviruses which may possibly have caused the lab-leak origin of the SARS-CoV-2 (Covid-19 pandemic).

**Key Points**

**Gain-of-function Research:**

• **About:**

1. In virology, gain-of-function research involves deliberately altering an organism in the lab, altering a gene, or introducing a mutation in a pathogen to study its transmissibility, virulence and immunogenicity.
2. This is done by genetically engineering the virus and by allowing them to grow in different growth mediums, a technique called serial passage. Serial Passage refers to the process of growing bacteria or a virus in iterations. For instance, a virus may be grown in one environment, and then a portion of that virus population can be removed, and put into a new environment.

• **Significance:**

1. This would allow researchers to study potential therapies and ways to control the disease better in future.
2. Gain-of-function studies, which enhance viral yield and immunogenicity (relating to immune response), are required for vaccine development.

**Issues:**

- Gain-of-function research involves manipulations that make certain pathogenic microbes more deadly or more transmissible.
- There is also 'loss-of-function' research, which involves inactivating mutations, resulting in a significant loss of original function, or no function to the pathogen. When mutations occur, they alter the structure of the virus, resulting in altered functions which might weaken the virus or enhance its function.
- Gain-of-function research reportedly carry inherent biosafety and biosecurity risks and are thus referred to as 'dual-use research of concern' (DURC). This indicates that while the research may result in benefits for humanity, there is also the potential to cause harm — accidental or deliberate escape of these altered pathogens from labs may even cause pandemics (Like it is said to be in case of Covid-19).

**Situation in India:**

- All activities related to genetically engineered organisms or cells and hazardous microorganisms and products are regulated as per the “Manufacture, Use, Import, Export and Storage of Hazardous Microorganisms/Genetically Engineered Organisms or Cells Rules, 1989”.
- In 2020, the Department of Biotechnology issued guidelines for the establishment of containment facilities, called ‘Biosafety labs’. The notification provides operational guidance on the containment of biohazards and levels of biosafety that all institutions involved in research, development and handling of these microorganisms must comply with.

**Debate over Gain-of-function:**

- **Proponents:**
  1. It makes science and governments battle-ready for future pandemics.
  2. Proponents of gain-of-function research believe that “nature is the ultimate bioterrorist and we need to do all we can to stay one step ahead”.
- **Critic:**
  1. After the Covid-19 pandemic, more concerns are raised on carrying out such kinds of research.
  2. This may cause the extinction of the living things or may change their genetic makeup forever.

**Way Forward**

- The World Health Organization (WHO) should lead activities on DURC.
- There should be responsible use of life sciences research, focusing on mitigation and prevention of bio-risks and associated ethical issues.
- Develop a Global Guidance Framework for countries to follow.
- There is a need to ensure greater transparency about such research.

**IMPORTANT FACTS FOR PRELIM****International Day of Yoga**

Seventh International Day of Yoga (21st June 2021) is being celebrated by the Ministry of Culture at 75 cultural heritage locations across the country.

**Key Points****Proposed by India:**

- The idea of International Day of Yoga (IDY) was proposed by India during the opening of the 69th session of the United Nations General Assembly (UNGA), held in 2014.
- The UN proclaimed 21st June as IDY by passing a resolution in December, 2014.
- The first Yoga Day celebrations in 2015 at Rajpath in New Delhi created two Guinness World Records.
  1. It was the world's largest yoga session with 35,985 people.
  2. 84 nationalities participated in it.

**About Yoga:**

- Yoga is an ancient physical, mental and spiritual practice that originated in India.
- The word ‘yoga’ is derived from Sanskrit and means to join or to unite, symbolizing the union of body and consciousness.
- Today it is practiced in various forms around the world and continues to grow in popularity.
- Yoga plays an important role in the psycho-social care and rehabilitation of Covid-19 patients in quarantine and isolation.
- The World Health Organisation (WHO) has also asked its member states to practice Yoga and has included it in its Global Action Plan for physical activity 2018-30.

**IDY - 2021:**

- This year's theme is “Yoga for wellness”.
- The extensive drive (Yoga at 75 cultural heritage) has been titled “Yoga, An Indian Heritage”, and is part of India's “Azadi ka Amrit Mahotsav” campaign. Some places in the list of 75 sites are the Agra Fort in Uttar Pradesh, Shanti Stupa in Ladakh, Ellora Caves in Maharashtra and Nalanda in Bihar, Rajiv Lochan Temple, Raipur, Sabarmati Ashram in Gujarat, and Akhnoor Fort in Jammu.
  1. The Prime Minister announced the M-Yoga App which will help in achieving ‘One World One Health’.
  2. The app is a work of collaboration between the World Health Organisation (WHO) and the Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (Ministry of AYUSH), Government of India.

3. In the M-Yoga App, there will be yoga training videos and audio sessions in different languages for people across the world which will play a 'great role' in expanding yoga across the globe.
4. The app is currently available in English, Hindi and French. It will be available in other UN languages in the upcoming months.

**Other Initiatives by India:**

- The Ministry of AYUSH in its 'Common Yoga Protocol' has listed Yama, Niyama, Asana, etc. among popular yoga 'sadhanas'.
- The Beauty & Wellness Sector Skill Council (B&WSSC) has vocational education courses in Yoga for CBSE schools. B&WSSC is established as a non-profit organization under the aegis of National Skill Development Corporation, Ministry of Skill Development and Entrepreneurship.
- Thousands of candidates have been trained as yoga instructors and trainers through various skilling initiatives like the Pradhan Mantri Kaushal Vikas Yojana (PMKVY). PMKVY is the flagship scheme of the Ministry of Skill Development and Entrepreneurship.
- Yoga is also a part of the Fit India Movement. Fit India Movement is a nation-wide campaign that aims at encouraging people to include physical activities and sports in their everyday lives.

**DAILY ANSWER WRITING PRACTICE**

**Qns. India needs to harvest quantum computing for strategic and economic development. Discuss.**

**Ans:**

**Introduction**

Unlike conventional computers which process information in 'bits' or 1s and 0s, Quantum computers compute in 'qubits' (or quantum bits). They exploit the properties of quantum mechanics, the science that governs how matter behaves on the atomic scale. In this scheme of things, quantum computers process information in such a way that it can be a 1 and a 0 simultaneously. This state is called quantum superposition. Due to this, Quantum Technologies not just have ultra-fast computing capabilities, but also has strategic and economic advantages.

**Body**

**Applications of Quantum Computing**

- **Secure Communication:** China recently demonstrated secure quantum communication links between terrestrial stations and satellites. This area is significant to satellites, military, and cybersecurity among others as it promises unimaginably fast computing and safe, unhackable satellite communication to its users.
- **Disaster Management:** Tsunamis, drought, earthquakes, and floods may become more predictable with quantum applications. The collection of data regarding climate change can be streamlined in a better way through quantum technology.
- **Scientific Research:** It can help in solving some of the fundamental questions in physics related to gravity, black hole, etc. Similarly, quantum computing could give a big boost to the Genome India project. This in turn will have a profound impact on agriculture, food technology chains, and the limiting of farmland wastage.
- **Pharmaceutical:** Quantum computing could reduce the time frame of the discovery of new molecules and related processes to a few days from the present 10-year slog that scientists put in. For instance, tracking protein behavior or even modeling new proteins with the help of quantum computers could be made easier and faster. Tackling chronic diseases like cancer, Alzheimer's and heart ailments is a big possibility of the technology.
- **Augmenting Industrial revolution 4.0:** Quantum computing is an integral part of Industrial revolution 4.0. Success in it will help in Strategic initiatives aimed at leveraging other Industrial revolution 4.0 technologies like the Internet-of-Things, machine learning, robotics, and artificial intelligence across sectors will further help in laying the foundation of the Knowledge economy.

**Conclusion**

Realizing the potential application of quantum computing, the government of India launched the National Mission for Quantum Technologies & Applications. Under this government seeks to provide investment on a massive scale and on a par with similar programs announced recently by the United States and Europe. However, the actual realization of this path-breaking technology remains one of the great challenges faced in the fields of Quantum Computing.

**DAILY QUIZ**

Q1. Consider the following statements:

1. Shift of the position of Inter Tropical Convergence Zone (ITCZ) in summer.
2. Presence of the high-pressure area, east of Madagascar, approximately at 20°S over the Indian Ocean.
3. Movement of the westerly jet stream to the north of the Himalayas and the presence of the tropical easterly jet stream over the Indian peninsula during summer.

Which of the above factors influence the formation of South-West Monsoon?

- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2 and 3**

Q2. The 'Bell of Faith' scheme was in news recently, is launched by Kerala for:

- a. orphan children
- b. senior citizens**
- c. police officers
- d. covid warriors

Q3. Consider the following statements about Economic Community of West African States (ECOWAS):

1. It is an intergovernmental body created in 1984 to protect the interests of the West African countries.
2. India acquired 'observer' status in the ECOWAS in 2020.

Which of the given above statements is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2**

Q4. With reference to Rishiganga River, consider the following statements:

1. It is a perennial trans-boundary river originating on the Tibetan Plateau near Lake Manasarovar.
2. It flows into the Dhauliganga River near the village Rini.

Which of the given above statements is/are correct?

- a. 1 only
- b. 2 only**
- c. Both 1 and 2
- d. Neither 1 nor 2

Q5. Consider the following statements about Vitamin D:

1. It is a fat-soluble vitamin.
2. It can cause rickets in children.

Which of the given above statements is/are correct?

- a. 1 only**
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2