

ForumIAS

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## Prelims Marathon

15th to 21st June,  
2020

HISTORY

ECONOMICS

POLITY

SCIENCE AND TECHNOLOGY

GEOGRAPHY AND ENVIRONMENT

## *History*

**Q.1)** Consider the following statements regarding the **Harappan economy**:

1. Harappans carried out both internal and external trade extensively.
2. Harappan seals have been found in Mesopotamian cities shows there is metallic money in circulation.

Which of the statements given above is/are correct?

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

**ANS) A**

**Explanation:** The inferences about Harappan Economy have been derived from its flourishing trade relations with its contemporary Mesopotamian and Persian civilisations.

- **Seals** hold a special significance in the Harappan context. **Every merchant probably had a seal bearing an emblem, often of a religious character and a name / brief description on one side.**
- The standard Harappa seal was a square / oblong plaque made of steatite stone. **Though its primary purpose is inferred to mark the ownership of property, they may also have served as amulets.**
- They carried out internal and external trade. There was no metallic money in circulation and trade was conducted by means of barter.
- Inland transport primarily employed bullock carts. **Harappans seals have been found in Mesopotamian cities like Susa and Ur.**
- In Nippur, a seal has been found bearing Harappan script and a unicorn. Recently, some ancient sites in the Persian Gulf like Failaka and Bahrain have also yielded Harappan seals.

**Q.2)** Which of the following **Upanishad** has complete details/concepts about **four ashramas**?

- a) Chhandogya Upanishad
- b) Brahadarankya Upanishad
- c) Jabala Upanishad
- d) None

**ANS) C**

**Explanation:** The literal meaning of Upanishad is to sit near someone. There are 108 Upanishads, of which 13 are the most prominent. The Upanishads dwell on the Atman and Brahman, and focus a lot on the philosophy about life, universe, self, body, sacrifice, etc. They emphasise that the knowledge of the self or atman should be acquired and that the relation of the atman with the Brahman should be properly understood.

- **Chhandogya Upanishad:** First three ashramas (Brahmacharya, Garhasthya, Vanaprastha).
- **Brahadarankya Upanishad:** Samsara (transmigration of soul).
- **Jabala Upanishad:** Four ashrams (Brahmacharya, Garhasthya, Vanaprastha, Sannyas).

**Q.3)** Consider the following statements regarding the **Second Urbanisation**:

1. The centre of economic and political activity shifted from the North-West, Punjab and Haryana to Central UP (Agra) and present day Madhya Pradesh.
2. The use of better iron tools and weapons enabled some territorial states to become very large and called as Mahajanapadas.

Which of the statements given above is/are correct?

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

**ANS) B**

**Explanation:** The **sixth century BCE is known as an era of Second Urbanisation** in the Indian Subcontinent. After the decline of the Harappan towns and nearly after a gap of more than a thousand years, urban centres emerged again but not in the Indus plain.

- The **centre of economic and political activity shifted from the North-West, Punjab, Haryana, and Western UP, to Eastern UP and Bihar (Ganga Basin).**
- This region was not only fertile on account of better rainfall and river systems, but was also closer to the iron production centres.
- The **new iron agricultural tools and implements** (such as the ploughshare) enabled the people to clear thick forest cover and cultivate the hard soil of this area.
- Also, iron weapons made the warrior class more important, and slowly, people gained a strong allegiance to the territory they belonged to rather than the Jana or tribe.
- **The use of better iron tools and weapons enabled some territorial states to become very large, and they came to be called Mahajanapadas** (large territorial states) in North India (cities and states became visible in South India a few centuries later).
- **Most of the Mahajanapadas were situated in the north of Vindhyas, between Bihar in the east to the north-west frontier of the subcontinent.**

**Q.4)** Consider the following statements regarding the **Uttarapatha and Dakshinapatha**:

1. Uttarapatha route stretches from North-west India to present day Gujarat coast.
2. Dakshinapatha route stretches from port city of Tamralipti to Arikamedu.

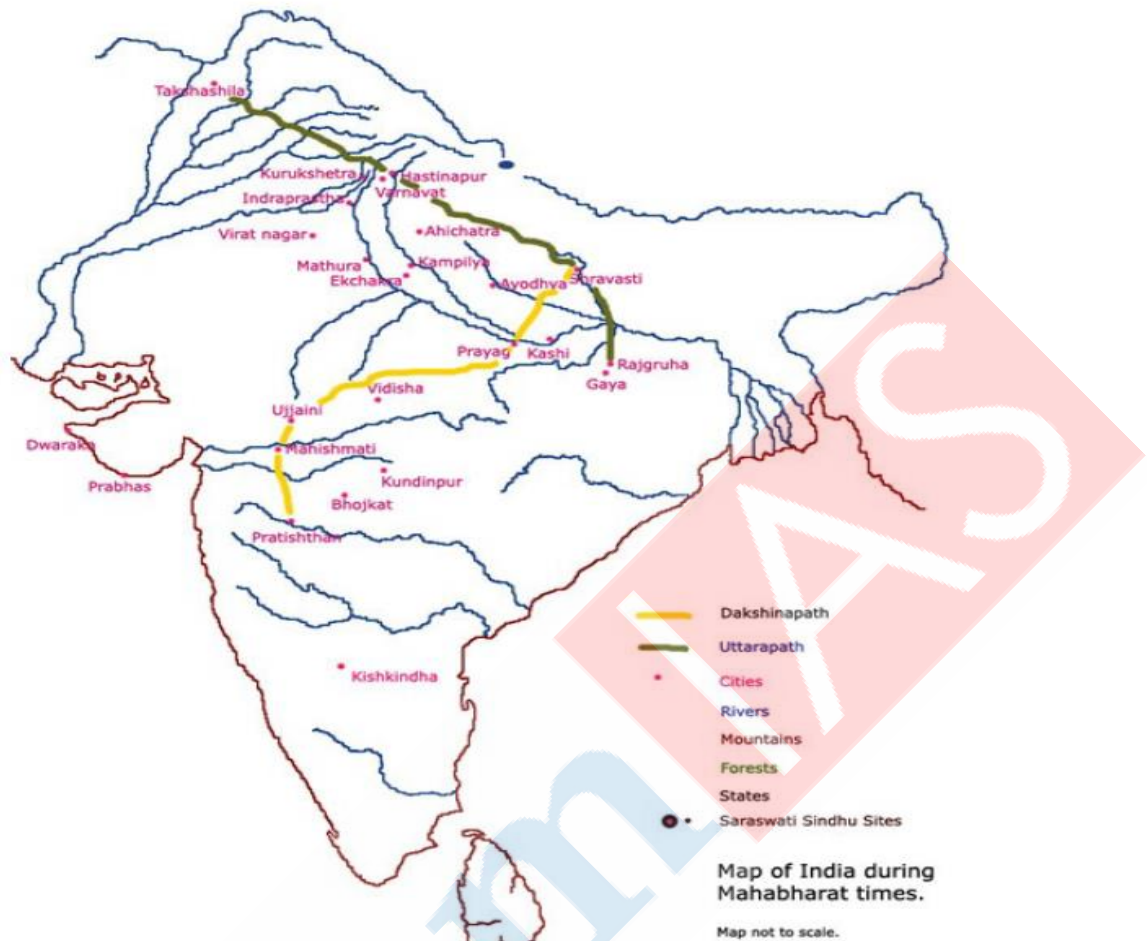
Which of the statements given above is/are correct?

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

**ANS) D**

**Explanation:** Craft products like textile goods, ivory products, pots, etc., were exported over long distances by merchants. All the major cities were situated on river banks and trade routes, and were connected with each other.

- The two major trans-regional routes of the time were known as Uttarapatha (of northern India, stretching from the north-west across the Indo-Gangetic plains to the port city of Tamralipti on the Bay of Bengal).
- Dakshinapatha (of southern India, stretching from Pataliputra in Magadha to Pratishthana on the Godavari, and connected to ports on the western coast).



**Q.5)** Which of the following is/are correct matched?

<b>Buddhist Writer</b>	<b>:</b>	<b>Book/works</b>
1. Ashavaghosha	:	Visuddhimagga
2. Buddhaghosa	:	Buddhacharita
3. Vasubandhu	:	Abhidharmakosa

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 3 only
- d) 2 and 3 only

**ANS) C**

**Explanation:** Important Buddhist writers and their works.

- **Asvaghosha:** Author of the **Buddhacharita** in Sanskrit. Contemporary of Kanishka. He was a poet, dramatist, musician, scholar, and debater.
- **Asanga and Vasubandhu:** Two brothers who flourished in the Punjab region in the fourth century CE. Asanga was the most important teacher of Yogachara or Vijnanavada school founded by his guru, Maitreyanatha. Vasubandhus greatest work, **Abhidharmakosa**, is still considered an important encyclopaedia of Buddhism.
- **Buddhaghosa:** He lived in the fifth century and was a great Pali scholar. His best-known work is the **Visuddhimagga (Path of Purification)**, a comprehensive

summary and analysis of the Theravada understanding of the Buddhas path to liberation.

- **Nagarjuna:** He is considered to be the **founder of the Madhyamaka school of Mahayana Buddhism**. He was a friend and contemporary of Satvahana King Gautamiputra of Andhra.

**Q.6) Patanjali**, the notable grammarian who wrote the Mahabhasya was a contemporary of which of the following?

- a) Pushyamitra Sunga
- b) Devabhuti
- c) Simuka
- d) Milinda

**ANS) A**

**Explanation:** Patanjali, the notable grammarian who wrote the Mahabhasya was a contemporary of **Pushyamitra Sunga**.

**Q.7)** The term “**yavanapriya**” is related to which of the following Spices?

- a) Cardamom
- b) Cinnamon
- c) Pepper
- d) Cloves

**ANS) C**

**Explanation:** The most important feature of the Sangam economy was flourishing trade with the Roman world.

- The best account of Indo-Roman trade is given in the book called the Periplus of the Erythrean Sea, which was written in the first century CE by an anonymous author.
- Major items of export to the Romans were the Indian products such as spices (included **yavanapriya or pepper**), perfumes, jewels, ivory and fine textiles (muslin especially), several precious and semi-precious stones like diamond, carnelian, turquoise, agate, sapphire, and so on, besides pearls, indigo, sandalwood, iron and steel cutlery.

**Q.8)** Consider the following statements regarding the **Iqtadari system**:

1. It was introduced by Sher Shah Suri.
2. Under this system, the entire empire was very evenly divided into several large and small tracts of land, called the Iqtas.
3. The Iqtas were non-transferable (fixed).

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 only
- d) 2 and 3 only

**ANS) C**

**Explanation:** The Delhi Sultanate was divided into smaller provinces for it was convenient for the ministers to help them in the administration. They were called IQTAS.

- The **Iqtadari was a unique type of land distribution and administrative system evolved during the sultanate of Iltutmish**.

- **Under this system, the entire empire was very evenly divided into several large and small tracts of land, called the Iqtas.**
- These plots of land were assigned to the various nobles, officers and soldiers for the purpose of easy and flawless administration and revenue collection.
- **The Iqtas were transferable**, i.e., the holders of Iqtas-Iqtadars-were transferred from one region to other every three to four years.
- The holders of small Iqtas were individual troopers. They had no administrative responsibilities.

**Q.9)** Which of the following monument/monuments is/are built by **Alauddin Khalji**?

1. Alai Darwaza
2. Hauz Khas
3. Jamait Khana Mosque

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

**ANS) D**

**Explanation:** Although the Sultan (Alauddin Khalji) was illiterate, he patronised poets like Amir Khusrau and Mir Hasan Dehlvi. **He also built a famous gateway known as Alai Darwaza, Hauz Khas, Mahal Hazaar Satoon, Jamait Khana Mosque, Alai Minar, and constructed a new capital at Siri.**

**Q.10)** Arrange the following **dynasties of Vijayanagar kingdom** in chronological order:

1. Saluva
2. Sangama
3. Aravidu
4. Tuluva

Select the correct answer using the code given below:

- a) 1-2-3-4
- b) 2-1-3-4
- c) 2-1-4-3
- d) 1-2-4-3

**ANS: C**

**Explanation:** The **Vijayanagar kingdom constituted four dynasties — Sangama (c.1336–1485 CE), Saluva (c.1485–1503 CE), Tuluva (c.1503–1570 CE) and Aravidu (till the end of the 17th century).** There are varied sources for the study of the Vijayanagar kingdom, such as literary and archaeological sources, as well as numismatics. Krishnadevaraya's Amukthamalyada, Gangadevi's Maduravijayam, and Allasani Peddanna's Manucharitam are some of the indigenous literature of this period.



## *Economy*

**Q.1)** Consider the following statements regarding the **Index of Industrial Production (IIP)**:

1. The all-India IIP is being released as a monthly series since 1950.
2. The base year of IIP is 2014-15.
3. There is a lag of three weeks in the publication of the IIP index data after the reference month ends.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 2 only
- c) 3 only
- d) 1, 2 and 3

**ANS) A**

**Explanation:** In India, the first official attempt to compute the Index of Industrial Production (IIP) was made much earlier than the first recommendation on the subject came at the international level.

- The **Office of the Economic Advisor**, Ministry of Commerce and Industry made the first attempt of compilation and release of IIP with base year 1937, covering 15 important industries, accounting for more than 90% of the total production of the selected industries.
- The **all-India IIP is being released as a monthly series since 1950**. With the inception of the Central Statistical Organization in 1951, the responsibility for compilation and publication of IIP was vested with the same.
- When the index was commenced in India, **the base year adopted was 1937 and this was revised successively** to 1946, 1951, 1956, 1960, 1970, 1980-81, 1993-94, 2004-05 and recently to 2011-12.
- The IIP number measures the industrial production for the period under review, usually a month, as against the reference period. IIP is a key economic indicator of the manufacturing sector of the economy. **There is a lag of six weeks in the publication of the IIP index data after the reference month ends.**

**Q.2)** Consider the following statements regarding the **Gross Fixed Capital Formation**:

1. There is a continuous decline in Gross Fixed Capital Formation in India from 2008 to 2018.
2. The World Bank tracks gross capital formation, which it defines as outlays on additions to fixed assets and excludes net changes in Inventories.

Which of the statements given above is/are correct?

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

**ANS) D**

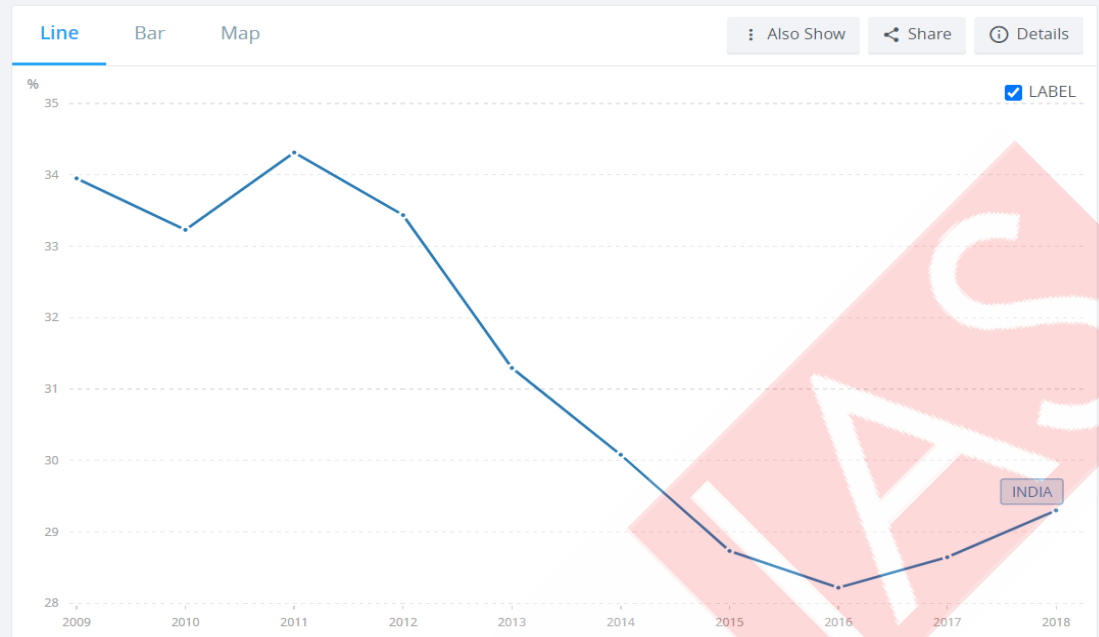
**Explanation:** Capital formation is a term used to describe the net capital accumulation during an accounting period for a particular country. The term refers to additions of capital goods, such as equipment, tools, transportation assets, and electricity.

Statement 1 is incorrect: GFCF in India is not following a particular trend in last 12 years.

### Gross fixed capital formation (% of GDP) - India

World Bank national accounts data, and OECD National Accounts data files.

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**Statement 2 is incorrect:** Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories.

- Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases;
- And the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings.
- Inventories are stocks of goods held by firms to meet temporary or unexpected fluctuations in production or sales, and work in progress. According to the 1993 SNA, net acquisitions of valuables are also considered capital formation.

**Q.3)** Consider the following statements regarding the **Startups in India**:

1. Maharashtra, Karnataka and Delhi are the top three performers in terms of State-wise distribution of recognized startups in India.
2. As per industry-wide distribution of recognized startups, Healthcare and life sciences tops the list.

Which of the statements given above is/are correct?

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

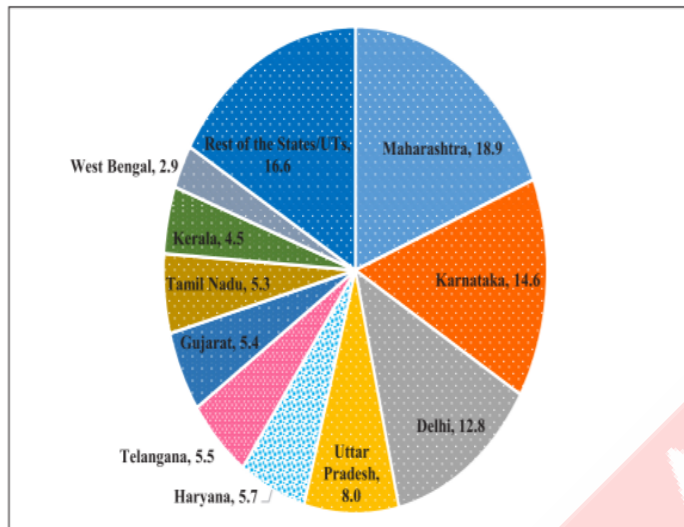
**ANS) A**

**Explanation:** Startups drive economic growth, create employment and foster a culture of innovation. In order to promote innovation and entrepreneurship among enterprising youth, the Hon'ble Prime Minister of India had announced the "Startup India, Stand-up India" initiative on August 15, 2015.

**Statement 1 is correct:** Maharashtra, Karnataka and Delhi are the top three performers in terms of State-wise distribution of recognized startups in India.



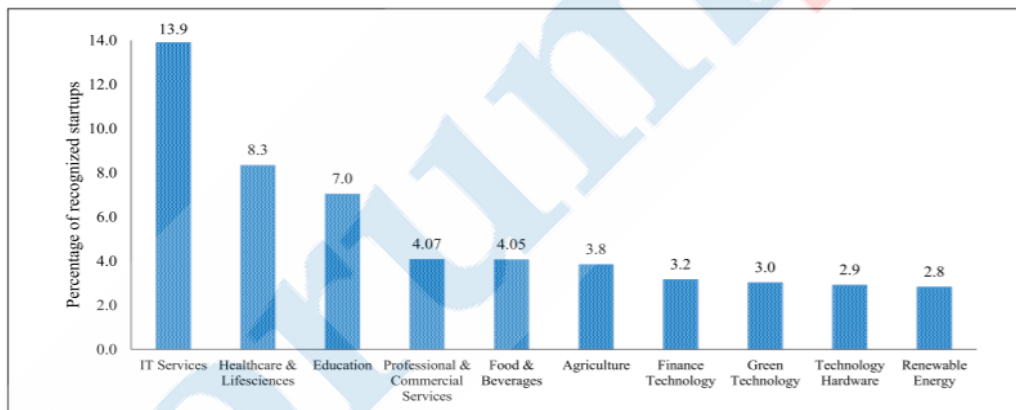
**Major State-wise distribution of recognized startups in India (in per cent)**



Source: DPIIT.

**Statement 2 is incorrect:** As per industry-wide distribution of recognized startups, IT Services accounted for 13.9 per cent followed by Healthcare and Life Sciences (8.3 per cent) and education (7.0 per cent).

**Figure 8: Major Industry-wise distribution of recognized startups in India (in per cent)**



Source: DPIIT.

**Q.4)** Consider the following statements regarding the **coal production** in India:

1. Overall production of raw coal in India has continuously increased from 2008 to 2018.
2. The coal imports of India has continuously increased from 2008 to 2018.

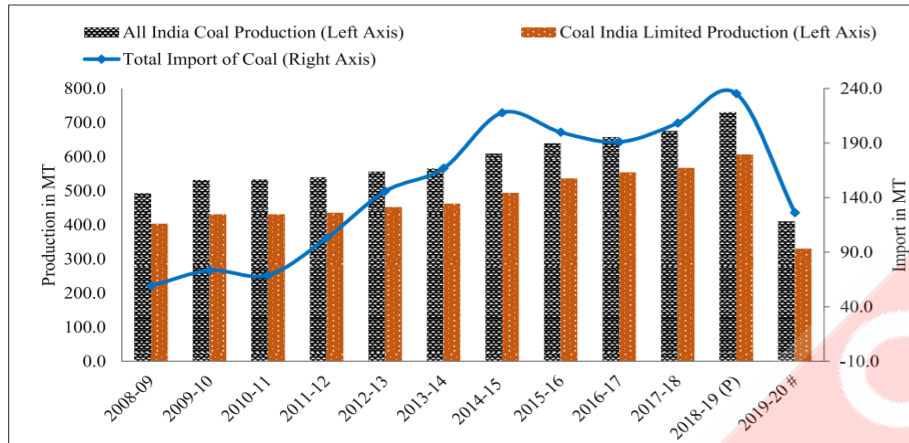
Which of the statements given above is/are correct?

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

**ANS) A**

**Explanation:** According to the economic survey 2018-19, the overall production of raw coal in India is increased from 2008 to 2018.

**Figure 13: Production and import of Coal in India (in million tonnes)**



Source: Ministry of Coal.

Note: (P)- Provisional; #-Production figures upto November 2019 and import figures upto September 2019.

**Q.5)** Arrange the following states in ascending order of **rice production in India**:

1. West Bengal
2. Andhra Pradesh
3. Tamil Nadu
4. Uttar Pradesh
5. Punjab

Select the correct answer using the code given below:

- a) 2-3-5-4-1
- b) 3-2-5-4-1
- c) 2-3-4-5-1
- d) 3-2-4-5-1

**ANS) A**

**Explanation:** Owing to the large rice production area of the country, preferential soil, and climate conditions, India is the largest rice producing country in the world after China. Rice contributes more than 40 per cent of the country's total food grain production.

- **West Bengal** is the largest rice producing state in India. Almost half of its arable land is under rice cultivation. In the fiscal year 2016, the state produced about 15.75 million tonnes of rice over 5.46 million hectare cultivable area.
- **Uttar Pradesh** is the second largest rice producing state with almost 5.86 million hectare land under rice cultivation producing about 12.5 million tonnes of rice.
- The third largest rice producing state in the country is **Punjab** which produced about 11.82 million tonnes of rice during 2015-2016. The area on which rice was cultivated in the state amounted to 2.97 million hectares.
- **Tamil Nadu** produces 7.98 million tones.
- **Andhra Pradesh** produces 7.49 million tones.

**Q.6)** Consider the following statements regarding the **Agriculture credit** in India:

1. Reserve Bank of India fixes agriculture credit disbursement targets for the banking sector every year.
2. Domestic Scheduled Commercial Banks are required to lend 18% of the Adjusted Net Bank Credit (ANBC) or Credit Equivalent to Off-Balance Sheet Exposure (CEOB), whichever is higher, towards agriculture.
3. Regional Rural Banks are required to lend 18% of their total outstanding advances towards agriculture.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

**ANS) C**

**Explanation:** Agriculture Credit.

**Statement 1 is incorrect:** Government fixes agriculture credit disbursement targets for the banking sector every year.

**Statement 2 is correct:** As per RBI directions, **Domestic Scheduled Commercial Banks are required to lend 18% of the Adjusted Net Bank Credit (ANBC)** or Credit Equivalent to Off-Balance Sheet Exposure (CEOBE), whichever is higher, towards agriculture.

A sub-target of 8% is also prescribed for lending to small and marginal farmers including landless agricultural labourers, tenant farmers, oral lessees and share croppers.

**Statement 3 is correct:** Similarly, in the case of **Regional Rural Banks 18% of their total outstanding advances** is required to be towards agriculture and a sub-target of 8% has been set for lending to small and marginal farmers.

**Q.7)** Consider the following statements regarding the **production of Milk in India:**

- 1. India is the largest producer of milk in the world.
- 2. The production of milk is continuously increased in the last ten years.
- 3. The per capita availability of milk in India is less than 250grams/day.

Which of the statements given above is/are correct?

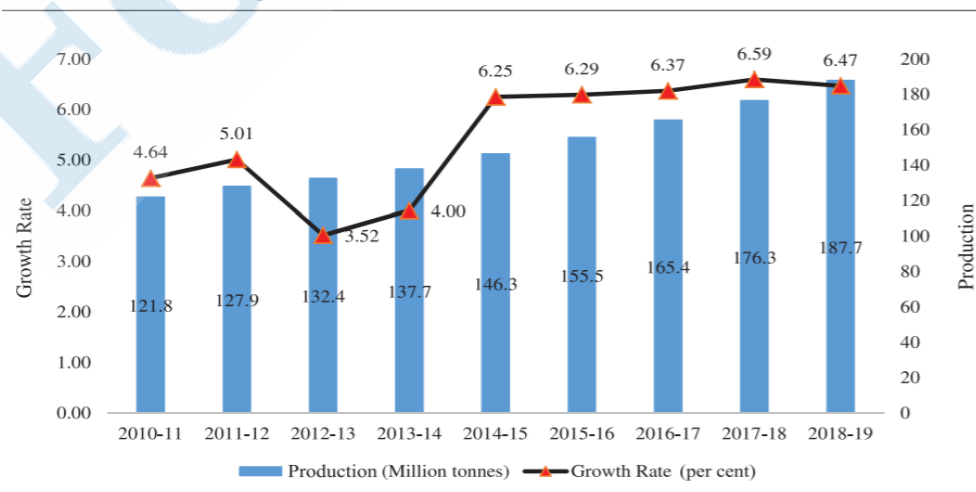
- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

**ANS) B**

**Explanation:** Milk production in India.

- India continues to be the largest producer of milk in the world.
- Milk production in the country was 187.7 million tonnes in 2018-19 and registered a growth rate of 6.5 per cent over the previous year.
- The per capita availability of milk has reached a level of 394 grams per day during 2018-19.

**Figure 4: Milk Production and its Growth Rate**



Source: Department of Animal Husbandry & Dairying (DAHD)

**Q.8)** Which of the following is/are consists of the Economic Cost of food-grains to **Food Corporation of India (FCI)**?

1. Pooled cost of grains
2. Procurement incidentals
3. Cost of distribution

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

**ANS) D**

**Explanation:** The Economic Cost of food-grains consists of three components, namely, pooled cost of grains, procurement incidentals and the cost of distribution. The pooled cost of food grains is the weighted MSP of the stock of food-grains available with FCI at the time of calculating the economic cost.

**Q.9) Private Entrepreneurs Guarantee (PEG) Scheme** is related to which of the following?

- a) Export Sector
- b) Food storage
- c) Financial services
- d) None

**ANS) B**

**Explanation: Private Entrepreneurs Guarantee Scheme was formulated in 2008**, for construction of storage godowns in Public Private Partnership (PPP) mode through private entrepreneurs, Central Warehousing Corporation (CWC) and State Warehousing Corporations (SWCs) to overcome storage constraints and ensure safe stocking of food-grains across the country.

- Assessment of additional storage capacities required under the scheme is based on the overall procurement/ consumption pattern and storage space already available.
- To augment the existing storage capacity, construction of godowns has been undertaken in PPP mode in 22 States under Private Entrepreneurs Guarantee (PEG) Scheme through private sector as well as CWC and SWCs.

**Q.10)** The term “**Smurfing**” is related to which of the following?

- a) Ransomware
- b) Money laundering
- c) Round tripping
- d) None

**ANS) B**

**Explanation:** Smurfing (also called structuring) is a method in which small sizes of money is kept in several number of bank accounts to hide the real identity of the real owner.

- This has been a very commonly used **method of money-laundering**.
- During the reform period, as more prudential norms of banking regulation evolved, such acts declined in India.
- ‘Smurfer’ (or ‘money mule’) is a person who does this.

## *Polity*

**Q.1)** Consider the following statements regarding the **Open Government Data Platform India**:

1. It is a platform for supporting Open Data initiative of Government of India.
2. It is a joint initiative of Government of India and US Government.

Which of the statements given above is/are correct?

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

**ANS) C**

**Explanation:** Open Government Data (OGD) Platform India - data.gov.in - is a platform for supporting Open Data initiative of Government of India.

- The portal is intended to be used by Government of India Ministries/ Departments their organizations to publish datasets, documents, services, tools and applications collected by them for public use.
- It intends to increase transparency in the functioning of Government and also open avenues for many more innovative uses of Government Data to give different perspective.
- The Open Government Data Platform India is a joint initiative of Government of India and US Government.
- Open Government Data Platform India is also packaged as a product and made available in open source for implementation by countries globally.

**Q.2)** The term “**e-Pramaan**” is related to which of the following?

- a) Land records
- b) Authentication
- c) Health services
- d) None

**ANS) B**

**Explanation:** e-Pramaan is a National e-Authentication service offered by DeitY.

- e-Pramaan provides a simple, convenient and secure way for the users to access government services via internet/mobile as well as for the government to assess the authenticity of the users.
- e-Pramaan builds up confidence and trust in online transactions and encourages the use of the e-services as a channel for service delivery.

**Q.3)** Which of the following is the **first state in India** to operationalise a law that makes **social audit** of government programmes and schemes a part of government practice?

- a) Meghalaya
- b) Tripura
- c) Andhra Pradesh
- d) Kerala



**ANS) A**

**Explanation:** Meghalaya became the first state in India to operationalise a law that makes social audit of government programmes and schemes a part of government practice. Chief Minister of Meghalaya launched 'The Meghalaya Community Participation and Public Services Social Audit Act, 2017', at a national convention in Shillong.

**Q.4)** Consider the following statements regarding the **Legal Information Management and Briefing System (LIMBS)**:

1. It is a web based application created by the Department of Electronics and Information Technology (DeITY).
2. It is applicable to civil cases only.

Which of the statements given above is/are correct?

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

**ANS) B**

**Explanation:** Legal Information Management and Briefing System (LIMBS) is a web based application created by the **Department of Legal Affairs under the Ministry of Law and Justice**.

- The idea is to make the legal data available at one single point and streamline the procedure of litigation matters conducted on behalf of Union of India.
- It is in line with Digital India to digitalise the details of court cases and bring various stakeholders on a single platform.
- **At present it is applicable to civil cases only.**

**Q.5)** "**COMMIT (Comprehensive Online Modified Modules on Induction Training)**" is developed by Department of Personnel & Training (DoPT) with the help of which of the following?

- a) United Nations Development Programme (UNDP)
- b) Asian Development Bank (ADB)
- c) World Economic Forum (WEF)
- d) World Bank

**ANS) A**

**Explanation:** COMMIT (Comprehensive Online Modified Modules on Induction Training) is developed by **DoPT in collaboration with United Nations Development Programme (UNDP)**.

- Comprehensive Online Modified Modules on Induction Training (COMMIT) for State Government officials.
- The objective of this training programme is to improve the public service delivery mechanism and provide citizen centric administration through capacity building of officials who interact with the citizens on day-to-day basis.
- Advantage of COMMIT is that it is cost effective and has the potential to cover about 3.3 lakh officials annually, compared to 10,000 officials under existing 12-Day Induction Training Programme (ITP).

**Q.6)** Consider the following statements regarding the **National Consumer Disputes Redressal Commission**:

1. It was established by executive resolution.



2. The commission is headed by secretary of consumer affairs ministry.  
Which of the statements given above is/are correct?

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

**ANS) D**

**Explanation: Statement 1 is incorrect:** The National Consumer Disputes Redressal Commission (NCDRC), India is a **quasi-judicial commission in India which was set up in 1988 under the Consumer Protection Act of 1986**. Its head office is in New Delhi.

**Statement 2 is incorrect:** The **commission is headed by a sitting or retired judge of the Supreme Court of India**. The commission is presently headed by Justice R K Agrawal, former judge of the Supreme Court of India.

**Q.7)** Consider the following statements regarding the “**Law Commission of India**”:

- 1. It is a statutory body.
- 2. It is constituted for every five years.

Which of the statements given above is/are **NOT** correct?

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

**ANS) C**

**Explanation:** The Law Commission of India is a **non-statutory body** constituted by the Government of India from time to time.

- The Commission was originally constituted in 1955 and is re-constituted **every three years**.
- The tenure of twenty-first Law Commission of India was upto 31st August, 2018.
- The various Law Commissions have been able to make important contribution towards the progressive development and codification of Law of the country.
- The Law Commission has so far submitted 277 reports.

**Q.8)** Consider the following statements regarding the **Advertising Standards Council of India (ASCI)**:

- 1. It is a self-regulatory body.
- 2. Members of ASCI consumer council consists of Advertising Practitioners, Civil society members and representatives from government.

Which of the statements given above is/are correct?

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

**ANS) A**

**Explanation:** The Advertising Standards Council of India (ASCI), established in 1985, is committed to the cause of **Self-Regulation** in Advertising, ensuring the protection of the interests of consumers.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE (THIRD WEEK), 2020

- ASCI was formed with the support of all **four sectors connected with Advertising, viz. Advertisers, Advertising Agencies, Media (including Broadcasters and the Press) and others like PR Agencies, Market Research Companies** etc.
- The Consumer Complaints Council is ASCI's heart and soul. It is the dedicated work put in by this group of highly respected people that has given tremendous impetus to the work of ASCI and the movement of self- regulation in the advertising.

### ABOUT ASCI

A self regulatory voluntary organization of the Advertising Industry.

#### Our Mission

To maintain and enhance the public's confidence in Advertising.



**Q.9)** Consider the following statements regarding the **Integrated Grievance Redress Mechanism (INGRAM)**:

1. Integrated Grievance Redress Mechanism (INGRAM) is a website launched by Department of Administrative Reforms and Public Grievances.
2. This portal will also act as a central registry to lodge complaints of Employees of central Government.

Which of the statements given above is/are correct?

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

**ANS) D**

**Explanation:** The **Department of Consumer Affairs** has launched a portal (Website) as an integrated Grievance Redress Mechanism (INGRAM) for bringing all Stakeholders such as Consumers, Central and State Government Agencies, Private Companies, Regulators, Ombudsmen and call centres etc. onto a single platform.

The portal will also help in creating awareness among consumers to protect their rights and inform them of their responsibilities. Consumers can register online their grievances through this portal.

**Q.10)** Which of the following is/are correctly matched?

**Government to Consumer (G2C) initiative**                      **State**

1. e-Seva : Tamil Nadu
2. Sukhmani centres : Haryana
3. Lok-mitra project : Rajasthan

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 3 only

**ANS) D**

**Explanation:** A key component of e-governance is to provide governments with a citizen-friendly face. Naturally, G2C (government-to-citizens) is an important element of all e-governance projects.

- FirstGov in the US, e-Envoy of the UK, e-Taiwan, e-Citizen in Singapore, e-Korea, e-Malaysia, Victoria Online in Australia and Government Online in Canada are award-winning G2C services in the world.
- Closer home, **e-Seva in Andhra Pradesh, Friends in Kerala, Sukhmani centres in Punjab, the Lok-Mitra project in Rajasthan**, Coimbatore-Online in Tamil Nadu and BangaloreOne in Karnataka are some of the pioneering G2C initiatives in India.

## *Science and technology*

**Q.1)** “The indigenously developed Cryogenic Upper Stage (CUS) forms the third stage of GSLV Mk II”. **Cryogenic engine fuel is a mix of** which of the following?

- a) Liquid Nitrogen and Liquid Hydrogen
- b) Liquid Hydrogen and Liquid Oxygen
- c) Liquid Oxygen and Liquid Nitrogen
- d) Liquid Nitrogen and mono-methyl-hydrazine

**ANS) B**

**Explanation:** Geosynchronous Satellite Launch Vehicle Mark II (GSLV Mk II) is the largest launch vehicle developed by India, which is currently in operation.

- This fourth generation launch vehicle is a three stage vehicle with four liquid strap-ons.
- The indigenously developed cryogenic Upper Stage (CUS), which is flight proven, forms the third stage of GSLV Mk II.
- **Cryogenic engine makes use of Liquid Oxygen (LOX) and Liquid Hydrogen (LH2) as propellants which liquefy at -183 deg C and -253 deg C respectively.**
- LOX and LH2 are stored in their respective tanks. From there they are pumped in to turbo pump by individual booster pumps to ensure a high flow rate of propellants inside the combustion/thrust chamber.
- The major components of a cryogenic rocket engine are combustion/thrust chamber, igniter, fuel injector, fuel cryo pumps, oxidizer cryo pumps, gas turbine, cryo valves, regulators, the fuel tanks and a rocket engine nozzle.

**Q.2)** The **Vikas engine** is/are the workhorse for which of the following Launch Vehicles?

- 1. Augmented Satellite Launch Vehicle (ASLV)
  - 2. Polar Satellite Launch Vehicle (PSLV)
  - 3. Geo-synchronous Launch Vehicle (GSLV)
- Select the correct answer using the code given below:
- a) 1 only
  - b) 1 and 2 only
  - c) 2 and 3 only
  - d) 1, 2 and 3

**ANS) C**

**Explanation:** **Vikas Engine is the workhorse liquid rocket engine** powering the second stage of India's **Polar Satellite Launch Vehicle (PSLV)**, second stage and the four strap on stages of **Geosynchronous Launch Vehicle (GSLV)** and the **twin engine core liquid stage (L110) of GSLV Mk-III**.

**Q.3)** The **DART mission** is going to launch by **NASA** in July 2021 is related to which of the following?

- a) Asteroids
- b) Jupiter Planet
- c) Sun
- d) Venus Planet

**ANS) A**

**Explanation:** The **Double Asteroid Redirection Test (DART) mission** is directed by NASA to the Applied Physics Laboratory (APL) with support from several NASA centers: the Jet Propulsion Laboratory (JPL), Goddard Space Flight Center (GSFC), Johnson Space Center (JSC), Glenn Research Center (GRC), and Langley Research Center (LRC).

- **DART is a planetary defense-driven test of technologies for preventing an impact of Earth by a hazardous asteroid.**
- DART will be the first demonstration of the kinetic impactor technique to change the motion of an asteroid in space.
- The DART mission is in Phase C, led by APL and managed under NASA's Solar System Exploration Program.

**Q.4)** Which of the following is/are mission/missions related to **Mars Planet**?

1. Magellan
2. Phoenix
3. Maven

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

**ANS) C**

**Explanation:** Mars Missions by NASA:

- Mariner
- Mars Resonance Orbiter
- Phoenix
- MAVEN
- In-Sights Lander
- Curiosity Rover

NOTE: Magellan mission is related to Planet Venus.

**Q.5)** Which of the following are examples of **Ballistic missiles**?

1. Agni Missile
2. Prithvi Missile
3. Dhanush Missile
4. BrahMos Missile

Select the correct answer using the code given below:

- a) 1, 2, 3 and 4
- b) 2, 3 and 4 only
- c) 1 and 2 only
- d) 1, 2 and 3 only

**ANS) D**

**Explanation:**

(i) **Cruise Missile:** A cruise missile is an unmanned self-propelled (till the time of impact) guided vehicle that sustains flight through aerodynamic lift for most of its flight path and whose primary mission is to place an ordnance or special payload on a target. They fly within the earth's atmosphere and use jet engine technology. These vehicles vary greatly in their speed and ability to penetrate defences. Cruise missiles can be categorised by size, speed (subsonic or supersonic), range and whether launched from land, air, surface ship or submarine.

Depending upon the speed such missiles are classified as:

- 1) Subsonic cruise missile
- 2) Supersonic cruise missile
- 3) Hypersonic cruise missile

**Subsonic cruise missile** flies at a speed lesser than that of sound. It travels at a speed of around 0.8 Mach. The well-known subsonic missile is the American Tomahawk cruise missile. Some other examples are Harpoon of USA and Exocet of France.

**Supersonic cruise missile** travels at a speed of around 2-3 Mach i.e.; it travels a kilometre approximately in a second. The modular design of the missile and its capability of being launched at different orientations enable it to be integrated with a wide spectrum of platforms like warships, submarines, different types of aircraft, mobile autonomous launchers and silos. The combination of supersonic speed and warhead mass provides high kinetic energy ensuring tremendous lethal effect. **BRAHMOS** is the only known versatile supersonic cruise missile system which is in service.

**Hypersonic cruise missile** travels at a speed of more than 5 Mach. Many countries are working to develop hypersonic cruise missiles. BrahMos Aerospace is also in the process of developing a hypersonic cruise missile, **BRAHMOS-II**, which would fly at a speed greater than 5 Mach.



(ii) **Ballistic Missile:** A ballistic missile is a missile that has a ballistic trajectory over most of its flight path, regardless of whether or not it is a weapon-delivery vehicle. Ballistic missiles are categorised according to their range, maximum distance measured along the surface of earth's ellipsoid from the point of launch to the point of impact of the last element of their payload. The missile carry a huge payload. The carriage of a deadly warhead is justified by the distance the missile travels. Ballistic missiles can be launched from ships and land based facilities. For example, Prithvi I, Prithvi II, Agni I, Agni II and Dhanush ballistic missiles are currently operational in the Indian defence forces.

**Q.6)** Consider the following statements regarding the **Government Instant Messaging System (GIMS)**:

1. GIMS is the instant messaging platform for Government communication.
2. GIMS is being packaged for employees of Central, State and Local government departments and organizations for intra and inter organization communications.
3. Like WhatsApp, GIMS employs end-to-end encryption for one-to-one messaging.

Which of the statements given above is/are **NOT** correct?

- a) 1 only
- b) 1 and 2 only
- c) 2 only
- d) 2 and 3 only

**ANS) C**

**Explanation:** GIMS is the instant messaging platform for Government communication.

- GIMS platform provides GIMS mobile client for instant messaging and GIMS Portal for administration and monitoring of platform.
- Designed to suit the hierarchy and communication policies of the government.
- **Adaptable to both the central and state government organizations for intra and inter organization communication.**
- It is being developed as a secure Indian alternative without the security concerns attached with apps hosted abroad or those owned by foreign entities.
- **Like WhatsApp, GIMS employs end-to-end encryption for one-to-one messaging.**



**Q.7)** Recently which **state police** has adopted a unique bar-coding software - **Trakea** - to ensure that thousands of forensic reports that form the backbone of the criminal investigation system?

- a) Andhra Pradesh
- b) Uttar Pradesh
- c) Maharashtra
- d) Haryana

**ANS) D**

**Explanation:** Haryana Police has adopted a unique barcoding software — **Trakea** — to ensure that thousands of forensic reports that form the backbone of the criminal investigation system and subsequent trials in the courts of law, are not tampered with.

- According to the police, **Trakea ensures foolproof security of the samples collected from the scene of crime**, and the forensic analysis reports, and is different from traditional methods that the state police force has been following for decades.
- **Haryana Police claims it is the country's first police force** to have introduced this unique barcoding for forensic reports.

**Q.8)** Consider the following statements regarding **e-waste clinic** in India:

1. India's first e-waste clinic has been inaugurated in Indore, Madhya Pradesh.
2. It would enable segregation, processing and disposal of waste from both household and commercial units.
3. The clinic is set up in accordance with the Solid Waste Management Rules adopted in 2016.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) 1 and 3 only
- d) 2 and 3 only

**ANS) D**

**Explanation:** India's first e-waste clinic has been inaugurated in Bhopal and will enable segregation, processing and disposal of electronic waste from both household and commercial units.

- It was set up by the Bhopal Municipal Corporation and the Central Pollution Control Board.
- The e-waste clinic is developed on the bases of a three-month pilot project and, if successful, more clinics will be built throughout the country.
- **The clinic is set up in accordance with the Solid Waste Management Rules adopted in 2016.**

**Q.9)** Consider the following statements regarding the **IndiGen programme**:

1. IndiGen programme aims to undertake whole genome sequencing of ten thousand Indian individuals representing diverse ethnic groups from India.
2. IndiGen is funded by the Council for Scientific and Industrial Research (CSIR).

Which of the statements given above is/are correct?

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

**ANS) B**

**Explanation:** IndiGen programme aims to undertake whole genome **sequencing of a thousand Indian individuals** representing diverse ethnic groups from India.

- The objective is to **create a pilot dataset to enable genetic epidemiology of carrier genetic diseases** towards enabling affordable carrier screening approaches in India.
- We also hope to **mine allele frequencies** for genetic variants for estimating population scale prevalence for diverse clinical applications.
- The human genome data sets would also be **utilized for prioritizing Pharmacogenomics variants** specific for Indian population for optimizing therapy and minimizing adverse events.
- IndiGen is **funded by the Council for Scientific and Industrial Research (CSIR)**.

**Q.10)** Consider the following statements regarding the **Indian Science Congress Association (ISCA)**:

1. It was the brainchild of Acharya Sir Prafulla Chandra Ray.
  2. Indian Science Congress is organized by the ISCA every year in the first week of January.
- Which of the statements given above is/are correct?

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

**ANS) B**

**Explanation:** The Indian Science Congress Association (ISCA) **owes its origin to the foresight and initiative of two British Chemists, namely, Professor J. L. Simonsen and Professor P.S. MacMahon.**

- It occurred to them that scientific research in India might be stimulated if an annual meeting of research workers somewhat on the lines of the British Association for the Advancement of Science could be arranged.
- The first meeting of the Congress was held from January 15-17, 1914 at the premises of the Asiatic Society, Calcutta, with the Honourable Justice Sir Asutosh Mukherjee, the then Vice-Chancellor of the Calcutta University, as President.
- One hundred and five scientists from different parts of India and abroad attended and the papers numbering 35 were divided into six sections-Botany, Chemistry, Ethnography, Geology, Physics, Zoology under six Sectional Presidents.
- Indian Science Congress is organised by the Indian Science Congress Association every year in the **first week of January**.

## Geography

**Q.1)** Arrange the following **Himalayan ranges** from South to North:

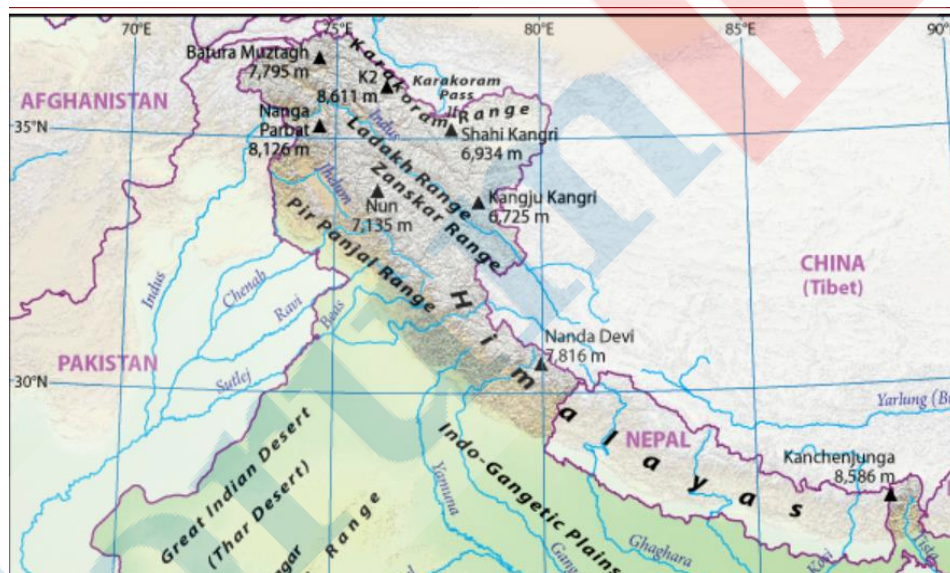
1. Pir Panjal Range
2. Ladakh Range
3. Zaskar Range
4. Karakoram Range

Select the correct answer using the code given below:

- a) 1-2-3-4
- b) 1-3-2-4
- c) 2-1-4-3
- d) 2-1-3-4

**ANS) B**

**Explanation:** The main geographic sections of the Kashmir Himalayan range are the Pir Panjal, Kashmir Valley, Zaskar, Ladakh and Karakoram.



**Q.2)** Arrange the following **hills** of North East from North to South:

1. Daffa hills
2. Mishmi hills
3. Mikir hills
4. Jaintia hills

Select the correct answer using the code given below:

- a) 2-1-3-4
- b) 1-2-3-4
- c) 2-1-4-3
- d) 1-2-4-3

**ANS) A**

**Explanation:** The Himalayas bend sharply to the south beyond the Dihang gorge and move outwards to form a covering the eastern boundary of the country. They are known as 'the Eastern or Purvanchal Hills'.

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- **Daffla Hills:** It is situated to the north of the Tezpur and North Lakhimpur, and is bounded on the west by the Aka Hills and on the east by the Abor Range.
- **Mishmi Hills:** These hills are located in the southward extension of the Great Himalayan ranges and its northern and eastern parts touches China.
- **Mikir Hills:** It is located to the south of the Kaziranga National Park. It is part of the Karbi Anglong Plateau. Radial drainage pattern is the best characteristic of this region where Dhansiri and Jamuna being the main rivers.
- **Jaintia Hills:** It is located further to the east from the Khasi Hills.



**Q.3)** Arrange the following **rivers** from North to South:

1. Mahanadi River
2. Vamsadhara River
3. Brahmani River
4. Subarnarekha River

Select the correct answer using the code given below:

- a) 2-1-4-3
- b) 2-1-3-4
- c) 4-3-2-1
- d) 4-3-1-2

**ANS) D**

**Explanation:**





**Q.4)** Which of the following is/are **minor industrial regions** of India?

1. Kanpur-Lucknow Industrial Region.
2. North Bihar and Eastern Uttar Pradesh Industrial Region.
3. Amritsar-Jalandhar-Ludhiana Industrial Region.

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

**ANS) D**

**Explanation:** Some of the **Minor Industrial regions of India** are:

- **Kanpur-Lucknow Industrial Region:** Cotton, woollen and jute textiles, leather goods, fertilisers, chemical, drugs, pharmaceuticals, electric goods, and light machinery.
- **Assam Valley Industrial Region:** This region has the industries of petro-chemical, jute and silk textiles, tea-processing industry, paper, plywood, match, and food processing industries. Important industrial centres are: Bongaigaon, Dibrugarh, Digboi, Guwahati, Noonmati, and Tinsukia
- **Darjeeling-Siliguri Industrial Region:** Tea-processing industry and tourism.
- **North Bihar and Eastern Uttar Pradesh Industrial Region:** Sugar, cement, glass, jute, fertilisers, locomotive, paper, and food processing are the main industries of

this region. The main industrial centres are Allahabad, Dalmianagar (Bihar), Gorakhpur, Patna, Sultanpur, and Varanasi.

- **Indore-Ujjain Industrial Region:** Main industries are cotton textile, chemicals, drugs, electronic and engineering goods, and food processing.
- **Amritsar-Jalandhar-Ludhiana Industrial Region:** Sports goods, cotton and woollen, textiles, hosiery, food-processing, and tourism are the main industries of this region.
- **Nagpur-Wardha Industrial Region:** Textiles, engineering, chemicals, and food processing are the main industries of this region.

**Q.5)** Which of the following is/are correctly matched?

**Lake/ Reservoir : State/Union Territory**

1. Stanley Reservoir : Kerala
2. Linganamakki Sagar : Tamil Nadu
3. Tso Moriri : Ladakh

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 3 only

**ANS) D**

**Explanation: Stanley Reservoir:** Stanley Reservoir is one of largest fishing reservoirs in South India. Its main source of water is the River Kaveri. Three minor tributaries – Palar, Chennar and Thoppar – enter the Kaveri on her course above Stanley Reservoir. The water is retained by the Mettur Dam, Tamil Nadu.

**Linganamakki Sagar:** Water from the Linganamakki reservoir in Karnataka's Sagar taluk is being released into the Sharavathi River as the level is nearing its maximum capacity.

- The reservoir is the source for the Sharavathi hydel power project that has an installed capacity to generate 1,469 MW power that includes 1,035 MW from the Sharavathi Generating Station, 240 MW from the Gerusoppa Power Station, 139 MW from the Mahatma Gandhi Power House and 55 MW from the Linganamakki Dam Power House.
- The Jog Falls, located downstream of Linganamakki reservoir where Sharavathi river takes the plunge from a height of 830 ft, has regained its glory, owing to the discharge of water.

**Tso Moriri:** Tso Moriri or Lake Moriri or "Mountain Lake", is a lake in the Changthang Plateau in Ladakh in Northern India. The lake and surrounding area are protected as the Tso Moriri Wetland Conservation Reserve. The lake is at an altitude of 4,522 m.

**Q.6)** Arrange the following **National Parks** from North to South:

1. Indravati National Park
2. Kanger Ghati National Park
3. Guindy National Park
4. Silent Valley National Park

Select the correct answer using the code given below:

- a) 1-2-3-4
- b) 2-1-3-4
- c) 1-2-4-3
- d) 2-1-4-3



**ANS) A**

**Explanation:** **Indravati National Park** is the most famous wildlife sanctuary of the state of Chhattisgarh. It has several wildlife sanctuaries in secure areas such as Barnawapara Wildlife Sanctuary, Tamor Pingla, **Kanger Ghati National Park**, Pamed, Sanjay National Park, Semarsot, Sitanadi Wildlife Sanctuary, Udanti Wildlife Sanctuary, Achanakmar Wildlife Sanctuary, Badalkhol, Bhairamgarh, Gomarda wildlife sanctuaries etc.

**Guindy National Park** is a 2.70 km<sup>2</sup> (1.04 sq mi) protected area of Tamil Nadu, located in Chennai, India, is the 8th-smallest National Park of India and one of the very few national parks situated inside a city.

**Silent Valley National Park** is located at Palakkad district in Nilgiri Mountains of Kerala. It is at the heart of Nilgiri Biosphere Reserve and consists of areas of South Western Ghats rain forests and tropical wet evergreen jungle. River Kunthi passes through it.



**Q.7)** Arrange the following **Seas of Europe Continent** from North to South:

1. Baltic Sea
2. White Sea
3. Ionian Sea
4. Adriatic Sea

Select the correct answer using the code given below:

- a) 1-2-3-4
- b) 2-1-3-4
- c) 2-1-4-3
- d) 1-2-4-3

**ANS) C**

**Explanation:**



**Q.8)** Which of the following is/are correctly matched?

Mountain/Hill Range		Continent
1. Atlas Mountain Range	:	Africa
2. New England Range	:	Australia
3. Cantabrian Mountain	:	Europe

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

**ANS) D**

**Explanation:** Atlas Mountain Range: The Atlas Mountains are a mountain chain located in North Africa.

- The Atlas mountain chain stretches across North Africa through Algeria, Tunisia, and Morocco.
- The mountains formed over millions of years, gaining their present-day shape when the African continent collided with the Iberian peninsula, in what is known as a convergent plate boundary.
- Because of their extensive range, the Atlas Mountains are divided into seven different sub-regions, each with their own unique ecosystem.
- Overall, however, the Atlas can be categorized as a semi-arid mountain range between the tropical waters of the Atlantic Ocean/Mediterranean and the massive Sahara Desert.

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- The highest mountain in the Atlas is Mount Toubkal. Mount Toubkal measures nearly 14,000 feet, and is located in southwestern Morocco.

**New England Range:** New England Range, also called New England Tableland, or Northern Tableland, section of the Eastern Highlands, or Great Dividing Range, northeastern New South Wales, Australia.

- The range extends 200 mi (320 km) north from the Moonbi Range (near Tamworth) to the Queensland border and 80 mi from east to west (10–50 mi inland from the coast).
- It is Australia's largest plateau, having 9,000 sq mi (23,000 sq km) above an elevation of 3,000 ft (900 m).

**Cantabrian Mountain:** The Cantabrian Mountains or Cantabrian Range are one of the main systems of mountain ranges in Spain. They stretch for over 300 km across northern Spain, from the western limit of the Pyrenees to the Galician Massif in Galicia, along the coast of the Cantabrian Sea. Their easternmost end meets the Sistema Ibérico.

**Q.9) Bougainville Island** is recently in news is located in which of the following Ocean?

- a) Indian Ocean
- b) Pacific Ocean
- c) Atlantic Ocean
- d) Arctic Ocean

**ANS) B**

**Explanation:** On December 11, 2019, the **South Pacific Archipelago** of Bougainville voted to become independent of Papua New Guinea.

- Around 98% of 1,81,067 voters voted to get independent from Papua New Guinea. It is the largest island of the Solomon Islands Archipelago.
- The island has the world's largest copper deposits. The most widely spoken language in the country is Halia.
- The country is yet to prove its recognition in the United Nations.

**Q.10) The oldest known natural pearl in the world was discovered at a Neolithic site on Marawah Island** is located at which of the following?

- a) Persian Gulf
- b) Gulf of Oman
- c) Gulf of Aden
- d) Gulf of Suez

**ANS) A**

**Explanation:** The oldest known natural pearl in the world was discovered recently off the coast of Abu Dhabi, United Arab Emirates (UAE) by Abu Dhabi archaeologists working at a Neolithic site on Marawah Island (Persian Gulf).

- It has been dubbed as 'Abu Dhabi Pearl'.
- It was discovered in soil layers that have been radiocarbon dated to 5,800-5,600 BCE, during the Neolithic period.



## *Environment*

**Q.1)** Consider the following statements regarding the **seabuckthorn plant**:

1. The plant is hard and it can withstand extreme temperatures from -43 degree Celsius to +40 degree Celsius and it is considered to be drought tolerant.
2. Over 70% of the Seabuckthorn natural resource is in Ladakh.
3. Seabuckthorn berries are among the most nutritious of all fruits.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1, 2 and 3

**ANS) D**

**Explanation:** Seabuckthorn (*Hippophae* spp. L.) is an ecologically and economically important plant of trans-Himalayan Ladakh.

- The **plant is hard and it can withstand extreme temperatures from -43°C to 40°C** and it is considered to be drought tolerant.
- **Seabuckthorn berries are among the most nutritious of all fruits.**
- Seabuckthorn grows naturally in Ladakh without much of human interference.
- After the transfer of a Seabuckthorn-based technology by Defence Institute of High Altitude Research (DIHAR) to a private firm in year 2001, collection of berry has become an important income generating activity.
- **Ladakh remains the major site for natural Seabuckthorn resource with over 70%** of the total area (13,000 ha) under Seabuckthorn in the country.

**Q.2)** The “**Shannon-Weiner Index**” is related to which of the following?

- a) Bio-diversity
- b) Ocean Acidification
- c) Ozone Measurement
- d) Food Web

**ANS) A**

**Explanation:** **Shannon-Wiener index of diversity** (information index) a measure derived from information theories developed by Claude E. Shannon and Norbert Wiener and published in 1949 by Shannon and Warren Weaver, which is used by ecologists when a system contains too many individuals for each to be identified and examined.

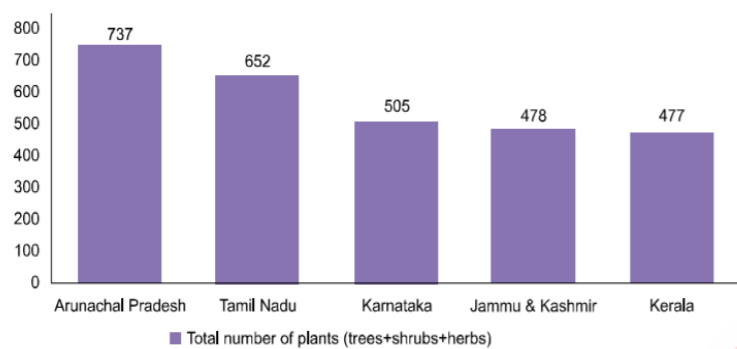
**Q.3)** According to the India State of Forest Report (ISFR) 2019, which of the following state has **highest Plant (tree + shrub + herb) Species richness**?

- a) Tamil Nadu
- b) Karnataka
- c) Arunachal Pradesh
- d) Jammu & Kashmir

**ANS) C**

**Explanation:** The top five Species richness states are Arunachal Pradesh, Tamil Nadu, Karnataka, Jammu & Kashmir and Kerala.

**FIGURE 4.8d** Species Richness of top five States for plants



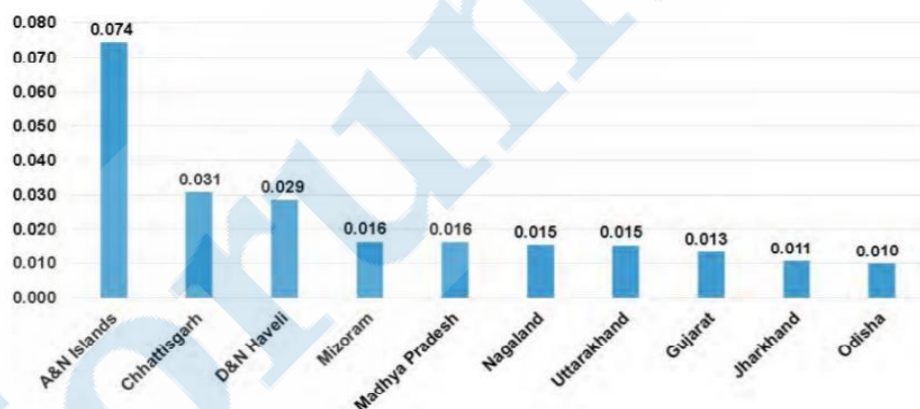
**Q.4)** According to the India State of Forest Report (ISFR) 2019, which of the following has **highest per capita dependence on forests for Bamboo?**

- a) Andaman & Nicobar Islands
- b) Chhattisgarh
- c) Madhya Pradesh
- d) Tamil Nadu

**ANS) A**

**Explanation:** Andaman & Nicobar Islands has highest per capita dependence on forests for Bamboo.

**FIGURE 10.6** (c) Top 10 states in terms of per capita dependence on forests for Bamboo (tonnes)



**Q.5)** The Intergovernmental Panel on Climate Change (IPCC) has categorized Land Use, Land Use Change and Forestry (LULUCF) into **six land use classes** to estimating Green House Gases (GHGs). Which of the following are land use classes?

- 1. Forest Land
- 2. Crop Land
- 3. Grass Land
- 4. Wetlands
- 5. Settlements
- 6. Other Lands

Select the correct answer using the code given below:

- a) 1, 2, 3, 5 and 6 only
- b) 1, 2, 3 and 6 only
- c) 1, 2, 3, 4 and 6 only
- d) 1, 2, 3, 4, 5 and 6

**ANS) D**

**Explanation:**

The 'Good Practices Guidance' (GPG) 2003<sup>3</sup> released by Intergovernmental Panel on Climate Change (IPCC) is the universally accepted source book for concepts, definitions, various pools, methods, default values, equations etc for assessing forest carbon stocks. The GPG 2003 has categorised LULUCF sector into six land use classes viz Forest land, Cropland, Grassland, Wetlands, Settlements and Other lands for estimating greenhouse gases. The 'forest land' is divided into three sub categories namely 'forest land remaining forest land', 'land converted to forest land' and 'forest land converted to other land'.

**Q.6)** Which of the following is/are correctly matched?

- | <b>Lake</b>      | : | <b>State</b>      |
|------------------|---|-------------------|
| 1. Haflong Lake  | : | Arunachal Pradesh |
| 2. Hamirsar Lake | : | Punjab            |
| 3. Badkhal Lake  | : | Rajasthan         |

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 3 only
- d) None

**ANS) D**

**Explanation:**

List of important Lakes in India	
Lakes in India	State
Pulicat lake	Andhra Pradesh
Kolleru Lake	Andhra Pradesh
Haflong Lake	Assam
Deepor Beel	Assam
Chandubi Lake	Assam
Kanwar lake	Bihar
Hamirsar Lake	Gujarat
Kankaria Lake	Gujarat
Badkhal Lake	Haryana
Brahma Sarovar	Haryana
Chandra Taal	Himachal Pradesh
Maharana Pratap Sagar	Himachal Pradesh
Dal Lake	Jammu Kashmir
Wular Lake	Jammu Kashmir
Agara Lake	Karnataka
Ulsoor Lake	Karnataka
Kuttanad Lake	Kerala

**Q.7)** The **Gothenburg Protocol** seeks to reduce the harmful effects of air pollution such as acid rain and ground-level ozone by targeting emissions of which of the following **pollutants**?



1. Sulphur (SO<sub>2</sub>)
2. Nitrogen oxides (NO<sub>x</sub>)
3. Volatile organic compounds (VOCs)
4. Ammonia (NH<sub>3</sub>)
5. Carbon Dioxide (CO<sub>2</sub>)

Select the correct answer using the code given below:

- a) 1, 2, 3 and 4 only
- b) 1, 2 and 3 only
- c) 1, 2, 3, and 5 only
- d) 1, 2, 3, 4 and 5

**ANS) A**

**Explanation:** The Executive Body adopted the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone in Gothenburg (Sweden) on 30 November 1999.

- The **Protocol sets national emission ceilings for 2010 up to 2020 for four pollutants: sulphur (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), volatile organic compounds (VOCs) and ammonia (NH<sub>3</sub>).**
- These ceilings were negotiated on the basis of scientific assessments of pollution effects and abatement options.
- The Protocol also sets tight limit values for specific emission sources (e.g. combustion plant, electricity production, dry cleaning, cars and Lorries) and requires best available techniques to be used to keep emissions down.
- VOCs emissions from such products as paints or aerosols also have to be cut.
- Finally, farmers have to take specific measures to control ammonia emissions.

**Q.8)** Which of the following benefits would accrue to the society while implementing the **India Cooling Action Plan (ICAP)**?

1. Thermal comfort for all – provision for cooling for EWS and LIG housing.
2. Doubling Farmers Income.
3. Sustainable cooling – low GHG emissions related to cooling.

Select the correct answer using the code given below:

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

**ANS) D**

**Explanation:** The India Cooling Action seeks to

- reduce cooling demand across sectors by 20% to 25% by 2037-38,
- reduce refrigerant demand by 25% to 30% by 2037-38,
- reduce cooling energy requirements by 25% to 40% by 2037-38,
- recognize “cooling and related areas” as a thrust area of research under national S&T Programme,
- training and certification of 100,000 servicing sector technicians by 2022-23, synergizing with Skill India Mission. These actions will have significant climate benefits.

The following **benefits would accrue** to the society over and above the environmental benefits:

- **Thermal comfort for all** – provision for cooling for EWS and LIG housing,
- **Sustainable cooling** – low GHG emissions related to cooling,

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- **Doubling Farmers Income** – better cold chain infrastructure – better value of produce to farmers, less wastage of produce,
- **Skilled workforce** for better livelihoods and environmental protection,
- **Make in India** – domestic manufacturing of air-conditioning and related cooling equipment's,
- **Robust R&D** on alternative cooling technologies – to provide push to innovation in cooling sector.

**Q.9)** Consider the following statements regarding the **Forest-PLUS 2.0**:

1. It is a joint initiative of India and Germany.
2. It is a ten-year programme initiated in December 2018 that focuses on developing tools and techniques to bolster ecosystem management and harnessing ecosystem services in forest landscape management.

Which of the statements given above is/are **NOT** correct?

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

**ANS) C**

**Explanation:** Forest-PLUS 2.0.

**Statement 1 is incorrect:** US Agency for International Development (**USAID**) and India's Ministry of Environment, Forest and Climate Change (**MoEF&CC**) have launched Forest-PLUS 2.0.

**Statement 2 is incorrect:** Forest-PLUS 2.0 is a **five-year programme** initiated in December 2018 that focuses on developing tools and techniques to bolster ecosystem management and harnessing ecosystem services in forest landscape management.

- Forest-PLUS 2.0 comprises pilot project in three landscapes — Gaya in Bihar, Thiruvananthapuram in Kerala and Medak in Telangana.
- The choice of these sites was driven by the contrast in their landscapes – Bihar is a forest deficit area, Telangana is a relatively drier area where there is ample scope for community livelihood enhancement and Kerala is rich in biodiversity.

**Q.10)** Consider the following statements regarding the **Compensatory Afforestation Fund Management and Planning Authority (CAMPA) Act**:

1. The law establishes the National Compensatory Afforestation Fund under the Public Account of India, and a State Compensatory Afforestation Fund under the Public Account of each state.
2. The National Fund will receive 20% of these funds, and the State Funds will receive the remaining 80%.

Which of the statements given above is/are correct?

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

**ANS) A**

**Explanation:** Compensatory Afforestation Fund Management and Planning Authority (CAMPA) Act.

CAMPA Act:

- To compensate the loss of forest area and to maintain the sustainability, the Government of India came up with a well-defined Act, known as CAMPA (Compensatory Afforestation Fund Management and Planning Authority).
- The **law establishes the National Compensatory Afforestation Fund under the Public Account of India, and a State Compensatory Afforestation Fund under the Public Account of each state.**
- These Funds will receive payments for: (i) compensatory afforestation, (ii) net present value of forest (NPV), and (iii) other project specific payments.
- The **National Fund will receive 10% of these funds, and the State Funds will receive the remaining 90%.**
- According to the Act's provision, a company diverting forest land must provide alternative land to take up compensatory afforestation.
- For afforestation, the company should pay to plant new trees in the alternative land provided to the state.
- The act also seeks to establish National and State Compensatory Afforestation Fund Management and Planning Authorities to manage the funds.

**Q.11)** Consider the following statements regarding the **United Nations Environment Assembly**:

1. It is the world's highest-level decision-making body on the environment, with a universal membership of all 193 Member States.
2. It meets annually in Nairobi, Kenya, to set priorities for global environmental policies and develop international environmental law.

Which of the statements given above is/are correct?

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

**ANS) A**

**Explanation:** The **United Nations Environment Assembly is the world's highest-level decision-making body on the environment, with a universal membership of all 193 Member States.**

- The **Assembly meets biennially in Nairobi**, Kenya, to set priorities for global environmental policies and develop international environmental law.
- Through its ministerial declaration and resolutions, the Assembly provides leadership, catalyzes intergovernmental action on the environment, and contributes to the implementation of the UN 2030 Agenda for Sustainable Development.
- The UN Environment Assembly is also the governing body of the UN Environment Programme.

**Q.12)** Consider the following statements regarding the **Earth First!**:

1. It is a non-profit organization to promote environmental conservation.
2. United Nations Environmental Programme, Global environmental Facility and World Economic Forum are members of Earth First!.

Which of the statements given above is/are correct?

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

**ANS) D**

**Explanation:** Earth First! was named in 1979 in response to a lethargic, compromising, and increasingly corporate environmental community.

- Earth First! takes a decidedly different tracks towards environmental issues. We believe in using all the tools in the tool box, ranging from grassroots organizing and involvement in the legal process to civil disobedience.
- Earth First! is different from other environmental groups.
- Here are some things to keep in mind about Earth First! and some suggestions for being an active and effective Earth First!er: **First of all, Earth First! is not an organization, but a movement.**
- **There are no "members" of Earth First!, only Earth First!ers.** It is a belief in biocentrism, that life of the Earth comes first, and a practice of putting our beliefs into action.
- While there is broad diversity within Earth First! from animal rights vegans to wilderness hunting guides, from shrill voices to careful followers of Gandhi, from whiskey-drinking backwoods riffraff to thoughtful philosophers, from misanthropes to humanists there is agreement on one thing, the need for action!

**Q.13)** Consider the following statements regarding the **Black Soils** in India:

1. It covers 20% of the total geographical area of the country.
2. It is also called as self-ploughing soil.

Which of the statements given above is/are correct?

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

**ANS) B**

**Explanation:** Geographically, black soils are spread over 5.46 lakh sq km (i.e. **16.6 per cent of the total geographical area of the country**) encompassed between 15°N to 25°N latitudes and 72°E to 82°E longitudes.

- This is the region of high temperature and low rainfall. It is, therefore, a soil group of the dry and hot regions of the Peninsula.
- These soils are mainly found in Maharashtra, Madhya Pradesh, parts of Karnataka, Andhra Pradesh, Gujarat and Tamil Nadu.
- The black colour of this soil may even be derived from crystalline schists and basic gneisses such as in Tamil Nadu and parts of Andhra Pradesh.
- The black soil is very retentive of moisture. It swells greatly and becomes sticky when wet in rainy season. Under such conditions, it is almost impossible to work on such soil because the plough gets stuck in the mud.
- However, in the hot dry season, the moisture evaporates, the soil shrinks and is seamed with broad and deep cracks, often 10 to 15 cm wide and upto a meter deep. This permits oxygenation of the soil to sufficient depths and the soil has extraordinary fertility.
- Remarkably "**self ploughed**" by loosened particles fallen from the ground into the cracks, the soil "swallows" itself and retains soil moisture. This soil has been used for growing a variety of crops for centuries without adding fertilizers and manures, or even fallowing with little or no evidence of exhaustion.
- Because of their high fertility and retentivity of moisture, the black soils are widely used for producing several important crops.

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- Some of the major crops grown on the black soils are cotton, wheat, jowar, linseed, Virginia tobacco, castor, sunflower and millets.
- Rice and sugarcane are equally important where irrigation facilities are available. Large varieties of vegetables and fruits are also successfully grown on the black soils.

**Q.14)** The **Rakha mines, Chapri-Sidheswar mines and Malanjkhand mines** are recently in news is related to which of the following?

- a) Copper ore
- b) Iron ore
- c) Gold deposits
- d) Uranium ore

**ANS) A**

**Explanation:** Hindustan Copper is focusing on re-opening its closed mines and expand existing ones in its quest to increase ore production five times from the current level of 4.1 million tonne (MT) by 2025.

- The Miniratna Company will be reopening the **Rakha mine in Jharkhand** during this financial year which was closed in 2002 owing to operational reasons. It will also start operations at the **Chapri-Sidheswar mines** in the same state.
- For the **Malanjkhand project in Madhya Pradesh**, which holds proven reserves of 245.66 MT and estimated resources of 331.59 MT, the company is expanding the production capacity from the present 2 MT to 8 MT by developing an underground mine below the existing open cast mine at an investment of Rs 2,900 crore. It is the copper producer's largest project.

**Q.15)** The term **Poonam Avlokan** is recently in news is related to which of the following?

- a) Tiger census method
- b) Lion census method
- c) Snow leopard census method
- d) Elephant census

**ANS) B**

**Explanation:** The **Gujarat Forest Department has recently announced that the number of Asiatic lions in the state has gone up till 674 from 523 that were reported in a Lion Census done five years ago.**

- What is interesting about this year's announcement is that the number was not estimated via Census but **some observational method called Poonam Avlokan.**
- The exercise is carried out monthly and in-house every full moon.
- On this day, all the officers and field staff members assess the number of lions for 24 hours across various areas within their respective jurisdictions.
- The exercise this time involved around 10 districts where lions have been spotted over the years by 13 forest divisions.
- The exercise took place this Friday in the afternoon from 2 pm to Saturday 2 pm and the forest department announced the lion number announced yesterday was based on this method.

**Q.16)** Consider the following statements regarding the **Chinkara or Indian gazelles** (*Gazella bennettii*):

1. It is an endemic species of India.
2. It is classified as endangered in the IUCN Red List.



Which of the statements given above is/are correct?

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

**ANS) D**

**Explanation:** Indian gazelles or chinkara (*Gazella bennettii*), are primarily found in the northwestern region of India in the state of Rajasthan.

- Their distribution **extends from south of the Krishna River, as far east as central India, and into the north-central region of Iran** (east of the Zagros Range and south of the Alborz).
- Sixty to 70 percent of the global population of Indian gazelles is presently found in western Rajasthan.
- Indian gazelles can thrive in a variety of habitats. They have been observed in dry deciduous forests, open woodlands, and dry areas such as sand dunes, semi-arid deserts, and arid valleys that have an annual rainfall of 150 to 750 mm.
- Indian gazelles are facultative drinkers and can withstand relatively long intervals between visits to water points by conserving metabolic water and taking advantage of water found in vegetation.
- According to the IUCN Red List, the total population size of Chinkara is around 50,000-70,000 mature individuals. There are also estimated populations of this species in the following areas: in India (in 2011) there were more than 100,000 animals with 80,000 animals living in the Thar Desert; in Iran - around 1,300 animals.
- Currently, **Chinkara are classified as Least Concern (LC) on the IUCN Red List but their numbers today are decreasing.**

**Q.17)** Consider the following statements regarding the **Sugar Cane**:

1. It is mostly grown between the latitude 36.7° N and 31.0° S of the equator extending from tropical to subtropical zones.
2. Sugarcane productivity of the subtropical states of India is higher than tropical states.

Which of the statements given above is/are correct?

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

**ANS) A**

**Explanation:** Sugarcane **is a tropical plant and grown as cash crop in the world.** Sugarcane is the main source of sugar (80%) globally and holds a prominent position as a cash crop.

- It is one of the main crops of earning foreign exchange. The sugar juice is used for making white sugar, brown sugar (khandsari) and jaggery (gur).
- There are two distinct agro-climatic regions of sugarcane cultivation in India, viz., tropical and subtropical.
- **Tropical region has about 45% area and contributes 55% of the total sugarcane production in the country. Thus, sub-tropical region accounts for 55% area and shares 45% of total production of sugarcane.** The average sugarcane yield in the country is about 69.4 t/ha.

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- **In world, sugarcane is grown, between the latitude 36.7° N and 31.0° S of the equator extending from tropical to subtropical zones.** There is no country where sugar is not being used and produced by sugarcane or sugar beet crops only.
- About 80% of sugar is obtained from sugarcane and the remaining 20% is produced through sugar beet. An average person consumes about 24 kg of sugar every year.

**Q.18)** Consider the following statements regarding the document titled **Connecting Tiger Populations for Long-term Conservation**:

1. It is published by NITI Aayog in collaboration with the Wildlife Institute of India.
2. It has mapped out 50 major corridors across the country, management interventions for which are operationalised through a Tiger Conservation Plan.

Which of the statements given above is/are correct?

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

**ANS) D**

**Explanation:** The **National Tiger Conservation Authority** in collaboration with the **Wildlife Institute of India** has published a document titled “**Connecting Tiger Populations for Long-term Conservation**”, which has mapped out **32 major corridors across the country**, management interventions for which are operationalised through a Tiger Conservation Plan, mandated under section 38V of the Wildlife (Protection) Act, 1972.

**Q.19) Madhav National Park** is recently in news is located in which of the following state?

- a) Maharashtra
- b) Madhya Pradesh
- c) Karnataka
- d) Uttar Pradesh

**ANS) B**

**Explanation:** Madhav National park is situated near Shivpuri town in **Madhya Pradesh**. It is a part of the upper Vindhyan hills.

- The Park was the hunting ground of Mughal emperors and Maharaja of Gwalior.
- It got the status of a National Park in 1958.
- The Park is a combination of dry deciduous & dry thorn forests that make home for different varieties of antelopes like Nilgai, Chinkara and Deer.
- The park is home to Particularly Vulnerable Tribal Groups (PVTG) like Saharia.

**Q.20)** Which of the following is/are correctly matched?

<b>Waterfall</b>	<b>:</b>	<b>State</b>
1. Agaya Gangai Waterfall	:	Bihar
2. Barakana Falls	:	Karnataka
3. Duduma Waterfall	:	West Bengal

Select the correct answer using the code given below:

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only
- d) 2 only

**ANS) D**

**Explanation:** Important waterfalls in India.

- **Agaya Gangai Waterfall:** Located in the Kolli Hills (Eastern Ghats, Tamil Nadu). It provides serene solitude, and is a great attraction in the Tamil Nadu tourism. The approach is, however, tortuous.
- **Ayyanar Waterfall:** It is situated in the Virudhunagar District of Tamil Nadu in the Western Ghats. It gets water mainly during the retreating monsoon rain. The water from the falls is mainly used for drinking purposes by the people of Rajapalayam. It is a famous tourist spot for the people of neighbouring districts.
- **Barakana Falls:** Situated in the Shimoga District of Karnataka, Barakana is one of the highest waterfalls of the country. Currently, Barkamna Falls are the prime source of one of the hydro-electric projects of Karnataka.
- **Dudhsagar (Goa):** Dudhsagar (The Sea of Milk) is a tiered water fall located in the upper reaches of Mandovi River in the state of Goa. It is a great attraction for the national and international tourists.
- **Duduma Waterfall (158 m):** Situated about 92 km from Koraput, it lies on the Machhkund River in Orissa. A large hydro-electric project has been constructed at this waterfall. Machhkund is an important place for pilgrimage.
- **Gokak Falls (53 m):** They are located in the upper reaches of the Ghataprabha (a tributary of the Krishna) in Belgaum District of Karnataka. The waterfall is about six km. away from Gokak, a nearby town. It resembles to Niagra Falls. It is a great attraction for the domestic and international tourists.
- **Jog Falls (253 m):** Located on the Sharavathi River in the Shimoga District of Karnataka, they are the highest untiered waterfalls in India. Jog falls is one of the major attractions in Karnataka tourism. It is also called by alternative names of Gerusoppe Falls, Gersoppa Falls and Jogada Gundi.
- **Kiliyur Falls:** Kiliyur are the waterfalls in the Servary Hill of Eastern Ghats (Tamil Nadu). Having an elevation of about 100 m, it is a great attraction in the tourism of Tamil Nadu. Drainage 3.45.
- **Kurtalam Falls** Situated in the Tirunelveli District, Tamil Nadu, the Kurtalam waterfalls is a great attraction for the domestic and international tourists.
- **Lodh Waterfalls** (also known as Buddha Ghagh Falls) :The Lodh Waterfalls are located on the Budh River about 40 km from Ranchi (Jharkhand). The falls, named Gautam Budha, also have a Buddha Temple there.
- **Shivasamudram Waterfall:** Shivasamudram Falls formerly known as the Cauvery Falls are the second highest waterfall in India. It is located 80 km from Mysore and 120 km from Bangalore. It is a major attraction in Karnataka tourism.