



ForumIAS

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# Prelims Marathon

## JUNE, 2020

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HISTORY

ECONOMICS

POLITY

SCIENCE AND TECHNOLOGY

GEOGRAPHY AND ENVIRONMENT

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## *History*

**Q.1)** Consider the following pairs:

<b>Ancient city</b>	<b>:</b>	<b>Adjacent River</b>
1. Harappa	:	Ravi River
2. Mohenjo-daro	:	Indus River
3. Lothal	:	Mahi River

Which of the above pair/pairs is /are correctly matched?

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

**ANS: B**

**Explanation:** The Indus Civilisation.

- The Indus Civilization represents the earliest manifestation of urban development in the plains of the Indus valley and its extension along the Arabian sea-coast.
- The four principal settlements so far excavated provide the material to reconstruct the cultural content of the civilization.
- Two lie in Pakistan: **Harappa**, usually identified with Hariyupiya of the Rigveda, is situated on an old bed (sukbrawa) of the **river Ravi** in Sahiwal District of Punjab, **and Mohenjo-daro** (literally 'mound of the dead') is on the right bank of the **Indus river** in Larkana District of Sind.
- The other two sites are in western India; **Lothal is situated on the Sabarmati river** at the head of the gulf of Cambay on the west coast of India, and **Kalibangan (literally 'black bangles') lies some 310 km north-west of Delhi along the left bank of the now-dry Ghaggar** (old Sarasvati) river in northern Rajasthan.

**Q.2)** Which of the following statements is/are correct about "**Pottery development**" in Harappan Civilization?

- 1. Both Plain and painted pottery was developed in Harappan cities.
- 2. Most of the potteries that have been found are being handmade.

Select the correct answer using the code given below:

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

**ANS: A**

**Explanation:** Pottery development in Harappan Civilization.

**Statement 1 is correct:** The **potteries found at the excavation sites can be broadly classified into two kinds – plain pottery and painted pottery**. The painted pottery is also known as Red and Black pottery as it used red colour to paint the background and glossy black paint was used to draw designs and figures on the red background. Trees, birds, animal figures and geometrical patterns were the recurring themes of the paintings.

**Statement 2 is incorrect:** **Most of the potteries that have been found are very fine wheel-made wares, with a very few being handmade**. Some examples of polychrome pottery have also been found, though very rare.

**Q.3)** Which of the following animals is/are found in the abacus of the “**Sarnath Pillar**”?

1. Horse
2. Elephant
3. Rhinoceros
4. Tiger

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** The abacus and the animal part of the Sarnath pillar forms the official national emblem of India. In the abacus of the Sarnath pillar, **four animals are shown representing four directions – a galloping horse (west), a bull (east), an elephant (south) and a lion (north)**. The animals seem to follow each other turning the wheel of existence till eternity.

**Q.4)** Which of the following statements is/are correct about “**Stupas**”?

1. Stupas were burial mounds prevalent in India from the Mauryan period.
2. During the period of Ashoka, the art of stupas reached its climax.

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** Stupas.

**Statement 1 is incorrect:** Stupas were burial mounds prevalent in India from the **Vedic period**. It is a conventional representation of a funeral cumulus in which relics and ashes of the dead were kept.

**Statement 2 is correct:** During the period of Ashoka, the art of stupas reached its **climax**. Almost 84000 stupas were erected during his period. **Although a Vedic tradition, stupas were popularised by the Buddhists.**

**Q.5)** Which of the following statements is/are correct about “**Sri Ranganathaswamy Temple**”?

1. Sri Ranganathaswamy Temple is one of the most illustrious lord Shiva temples in the country.
2. It is situated on the island of Srirangam that is bounded by the two rivers of Cauvery and Vellar.

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** Sri Ranganathaswamy Temple.

**Statement 1 is incorrect:** Sri Ranganathaswamy Temple, also **known as Thiruvarama Tirupati, is one of the most illustrious Vaishnav temples in the country**, dedicated to Ranganatha, a reclining form of Hindu deity, Bhagwan (God or Lord) Vishnu.

**Statement 2 is incorrect:** Situated in an **ethereal setting on the island of Srirangam that is bounded by the two rivers of Cauvery and Kollidam** (a tributary of Cauvery), this living temple and sacred centre of pilgrimage is counted as the first and foremost among the 108 Divya Desams dedicated to Bhagwan Vishnu.

**Q.6)** The terms, “**rekha-prasada, phamsana, valabhi**” is related to which of the following?

- a) Nagara style of architecture
- b) Dravida style of architecture
- c) Vesara style of architecture
- d) Panchayatan style of architecture

**ANS: A**

**Explanation:** There are many subdivisions of nagara temples depending on the shape of the shikhara.

- The most common name for the simple shikhara which is square at the base and whose walls curve or slope inward to a point on top is called the 'latina' or the **rekha-prasada type of shikara**.
- The second major type of architectural form in the nagara order is the **phamsana**. Phamsana buildings tend to be broader and shorter than latina ones.
- The third main sub-type of the nagara building is what is generally called the **valabhi type**. These are rectangular buildings with a roof that rises into a vaulted chamber. The edge of this vaulted chamber is rounded, like the bamboo or wooden wagons that would have been drawn by bullocks in ancient times. They are usually called 'wagonvaulted buildings'.

**Q.7)** Which of the following is/are **NOT** feature/features of “**South Indian or Dravida Style of temple**”?

1. The dravida temple is enclosed in a wall.
2. At the entrance to the South Indian temple's garbhagriha, it would be usual to find images such as mithunas and the river goddesses like Kaveri and Krishna.
3. It is common to find a large water reservoir, or a temple tank, enclosed within the complex.

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 DRAVIDA OR SOUTH INDIAN TEMPLE STYLE.

**Statement 1 is correct:** Unlike the nagara temple, **the dravida temple is enclosed within a compound wall**. The front wall has an entrance gateway in its centre, which is known as a gopuram. The shape of the main temple tower known as vimana in Tamil Nadu is like a stepped pyramid that rises up geometrically rather than the curving shikhara of North India.

**Statement 2 is incorrect:** Whereas at the entrance to the North Indian temple's garbhagriha, it would be usual to find images such as mithunas and the river goddesses,

Ganga and Yamuna, in the **south you will generally find sculptures of fierce dvarapalas or the door-keepers guarding the temple.**

**Statement 3 is correct:** It is **common to find a large water reservoir**, or a temple tank, enclosed within the complex.

**Q.8) “Arivar Koil”** cave paintings are located in which of the following state?

- a) Kerala
- b) Andhra Pradesh
- c) Tamil Nadu
- d) Karnataka

**ANS: C**

**Explanation: Sittanavasal Cave (Arivar Koil) Paintings:** Located 16 km northwest of Pudukkottai town in **Tamil Nadu**, these famous rock-cut caves are known for the paintings in the Jain temples. These murals have close resemblance to Bagh and Ajanta paintings. The paintings are not only on the walls but also on the ceiling and pillars. The paintings are with the theme of Jain Samavasarana (Preaching hall).

**Q.9) “Tasvir Khana”-** a formal artistic studio is established by which of the following?

- a) Humayun
- b) Akbar
- c) Jahangir
- d) Shah Jahan

**ANS: B**

**Explanation:** Tasvir Khana.

- **Akbar** was responsible for establishment of an entire department devoted to the paintings and scribing of his documents.
- **He established a formal artistic studio called Tasvir Khana where the artists were hired on salary and they developed their own styles.**
- Akbar looked upon paintings as a means of study and amusement. He believed that a painting could show the demeanor of the subject and regularly gave awards to those painters who created lifelike images.

**Q.10) The “Baluchari and Jamdani”** traditional regional sarees are related to which of the following State?

- a) Uttar Pradesh
- b) Karnataka
- c) Tamil Nadu
- d) West Bengal

**ANS: D**

**Explanation: Hand-woven and hand stitched sarees of West Bengal including Baluchari sarees, Swarnachari sarees, Jamdani sarees, Kantha sarees, Linen sarees, Tussar sarees, Murshidabadi Silk sarees.** Bengal sarees are known for their intricate motif pattern and artistry.

**Q.11) Arrange the following events in chronological order:**

1. Abolition of Sati.
2. The Religious Disabilities Act.
3. The General Service Enlistment Act.

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:**

- **Abolition of Sati:** Sati, also spelled as Suttee, is a practice among Hindu communities where a recently widowed woman, either voluntarily or by force, immolates herself on her deceased husband's pyre.
- The **Bengal Sati Regulation which banned the Sati practice in all jurisdictions of British India was passed on December 4, 1829** by the then Governor-General Lord William Bentinck.
- **The Religious Disabilities Act:** The Religious Disabilities Act of 1850 was a law passed in British India under East India Company rule that abolished all laws affecting the rights of persons converting to another religion or caste.
- The new Act allowed Indians who converted from one religion to other religion equal rights under no law, especially in the case of inheritance.
- **The General Service Enlistment Act:** The **General Service Enlistment Act passed in the year 1856** contained the provision that mandated soldiers or recruits of the Bengal Army to serve within or outside India when ordered. It meant that they were too sent overseas and sea voyages to serve.

**Q.12)** "*The Sepoy Mutiny and the Revolt of 1857*" book was written by which of the following?

- a) R. C. Majumdar
- b) Dr. Surendra Nath Sen
- c) Maulana Abul Kalam Azad
- d) K. K. Sen Gupta

**ANS: A**

**Explanation:** "*The Sepoy Mutiny and the Revolt of 1857*" book was written by famous historian R. C. Majumdar.

**Q.13)** Consider the following statements regarding the **Polygar Rebellion**:

1. It is a religious movement.
2. It was started in central province and later spread to South India.

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:** Polygar Rebellions (1799-1805).

- **Polygars (Palaiyakkarars) were feudal lords who were appointed as military chiefs and administrative governors from the time of the Vijayanagara Empire in parts of Southern India.** (They were given the charge of a Palayam or a group of villages).
- It was the **Polygars who collected taxes** from the cultivators.



## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- But the East India Company came into conflict with the Polygars over the question of who should collect taxes, and sought to control the Polygars.
- The first rebellion, also called the **First Polygar War broke out in September 1799** in Tirunelveli district in modern Tamil Nadu.
- The Polygars were led by Kattabomma Nayak (also called Veerapandi Kattabomman) who was in charge of Panchalankurichi Palayam.
- In the battles with the British troops, Kattabomman initially escaped but was subsequently caught and publicly hanged as a warning to other Polygars.

**Q.14)** Consider the following statements regarding the **First Factory Act, 1881**:

1. The Act was passed by the Government of Ripon.
2. The Act was applicable for 200 or more than 200 workers.
3. The Act prohibited the employment of children under the age of 10.

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

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

**ANS: C**

**Explanation: First Factory Act, 1881.**

- To improve the lot of factory labourers, the **Government of Ripon passed the first Factory Act, 1881** which sought to regulate and improve the conditions of labour.
- The **Act was applicable in case of factories employing 100 or more hands.**
- The **Act prohibited the employment of children under the age of seven**, limited the number of working hours for children below the age of twelve and required that dangerous machinery should be fenced.

**Q.15)** Which of the following Governor-General of India has divided the **sources of revenue into three classes-Imperial, Provincial and Divided?**

- a) Lord Mayo
- b) Lord Ripon
- c) Lord Lytton
- d) Lord Curzon

**ANS: B**

**Explanation:** Lord Ripon.

- Lord Ripon in 1882 decided to transfer financial responsibility to the provinces. Accordingly he divided the resources of revenues into **three categories-Imperial, Provincial and Divided.**
- The **Imperial Heads of revenue were customs, salt and opium, posts and telegraph, mint** etc. These revenues were exclusively meant for the Central Government.
- The **Provincial Head were receipts of general administration and included subjects like law and justice public works, education, police, jails** etc. The income from these sources was exclusively assigned to the provinces.
- In addition to this a percentage of land revenue was also assigned to the provinces by the Imperial Government.
- The **Divided Heads included excise, stamps, registration, forests, licenses** etc. The income from these heads was shared between the imperial and the Provincial Government.

**Q.16)** The **Curzon-Kitchener controversy** is related to which of the following?

- a) Army reforms
- b) Partition of Bengal
- c) Social reforms
- d) Financial reforms

**ANS: A**

**Explanation:** A difference of opinion with Kitchener, **regarding the status of the military member of the council in India** (who controlled army supply and logistics, which Kitchener wanted under his own control), led to a controversy in which Curzon failed to obtain the support of the home government.

**Q.17)** The British Indian Government introduced the **policy of Masterly Inactivity** is related to which of the following nation?

- a) Nepal
- b) Myanmar
- c) Afghanistan
- d) Tibet

**ANS: C**

**Explanation:** Lord Lawrence, the governor-general in India during the period 1864-1869, initiated the policy of Masterly Inactivity. He believed that the English should not interfere in the internal affairs of Afghanistan and there was no necessity to keep an English representative at its court.

**Q.18)** Which of the following is/are correctly matched?

- 1. The depressed class mission - Lala Lajpat Rai
- 2. Social Service League - N M Joshi
- 3. Deccan Education Society - Bal Gangadhar Tilak

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:**

- **The depressed class mission:** **R V Shinde** was a prominent campaigner on behalf of the Dalit movement in India who established the Depressed Classes Mission of India to provide education to the Dalits. He laid the **foundation of Depressed Class Mission on 18 October 1906** in order to work against untouchability on the national level.
- **Social Service League:** Narayan Malhar Joshi, a leading member of the Servants of India Society, founded the Social Service League in 1911.
- The objective of the movement was "to collect and study social facts and discuss social problems with a view to forming public opinion on questions of social service" and to secure for the masses a better quality of life and work.
- The League opened a number of day and night schools, libraries, dispensaries and started boys' clubs and scouts corps.
- **Deccan Education Society:** Deccan education society is an organization which runs 43 education establishments in Maharashtra, Pune **founded by Bal Gangadhar**



**Tilak.** It was created in the year 1884. The college was the first higher-education institution in Pune.

**Q.19)** Consider the following statements regarding the **Nagpur Session (1920)** of Indian National Congress (INC):

1. The INC approved and ratified the policy of Non-violent Non-cooperation towards the unjust Government.
2. The Congress Constitution was adopted in Nagpur session.

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:** Nagpur Session (1920) of Indian National Congress (INC).

- The 1920 session was of course not the first one Nagpur hosted – the city did that way back in 1891, only six years after the Congress' formation. It was all set to do that again in 1907 when a tense atmosphere here led to the venue being shifted to Surat in Gujarat.
- A **resolution calling for complete non-cooperation and boycott**, virtually amounting to a war cry against the British rule in India, was the hallmark of the Nagpur session. It was also significant in many other ways.
- The Nagpur session is also a memorable for the new **congress Constitution** that was adopted.

**Q.20)** The **Gita Rahasya** book was written by which of the following?

- a) Bal Gangadhar Tilak
- b) Lala Lajpat Rai
- c) Mahatma Gandhi
- d) Gopal Krishna Gokhale

**ANS: A**

**Explanation:** Shrimadh Bhagvad Gita Rahasya, popularly also known as **Gita Rahasya** or Karmayog Shashtra, is a 1915 Marathi language book authored by Indian social reformer and independence activist Bal **Gangadhar Tilak** while he was in prison at Mandalay, Burma.

**Q.21)** 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.

## **PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

- **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.22)** 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.23)** 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.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- 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.24)** 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.

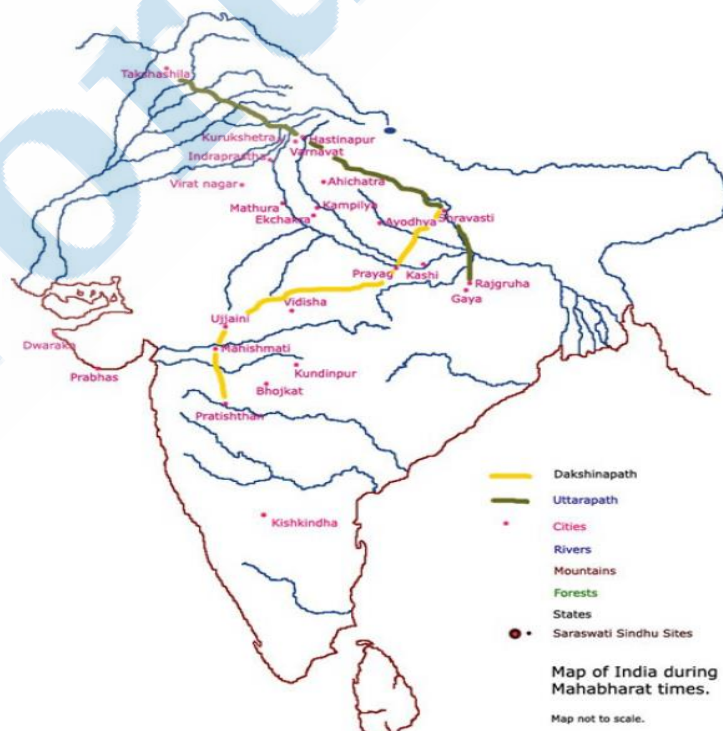
Which of the statements given above is/are correct?

- 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.25)** Which of the following is/are correct matched?

<b>Buddhist Writer</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 Vijñānavāda school founded by his guru, Maitreyanatha. Vasubandhu's 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 Buddha's 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 Satavahana King Gautamiputra of Andhra.

**Q.26)** 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.27)** 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 Erythraean Sea, which was written in the first century CE by an anonymous author.

## **PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

- 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.28)** Consider the following statements regarding the **Iqtadari system**:

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

Select the correct answer using the code given below:

- 1 only
- 1 and 2 only
- 2 only
- 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.29)** Which of the following monument/monuments is/are built by **Alauddin Khalji**?

- Alai Darwaza
- Hauz Khas
- Jamait Khana Mosque

Select the correct answer using the code given below:

- 1 only
- 1 and 2 only
- 2 and 3 only
- 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.30)** Arrange the following **dynasties of Vijayanagar kingdom** in chronological order:

- Saluva
- Sangama
- 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.

**Q.31)** The term “**Godkaris**” is related to which of the following?

- a) Tax collectors
- b) Village heads
- c) Temple priests
- d) Army personnel

**ANS: D**

**Explanation:** The hardships caused by administrative reorganization in the Kolhapur state after 1844 caused deep resentment.

- The **godkaris (the hereditary military class which garrisoned Maratha forts)** were disbanded.
- Faced with the specter of unemployment the Gadkaries rose in revolt and occupied the forts of Samangarh and Bhudargarh.

**Q.32)** The “**Gagging Acts**” was passed by different Governor Generals of India to suppress all nationalist sentiments. The Acts are related to which of the following?

- a) Printing and Press
- b) Education
- c) Army
- d) repressive tax

**ANS: A**

**Explanation:** During the Indian Rebellion of 1857, the “**Gagging Act**” had been passed by Lord Canning, which sought to **regulate the establishment of printing presses and to restrain the mad of printed mater**.

- All **presses had to have a license from the government with distinction between publications in English and other regional languages**.
- The Gagging Act also held that no printed material shall impugn the motives of the British Raj, tending to bring it hatred and contempt and exciting unlawful resistance to its orders.
- When the British Government found that the Gagging Act was not potent enough to repress all nationalist sentiments, it created a more forcible law, designed in part by Sir Alexander John Arbuthnot and Sir Ashley Eden, Lieutenant Governor of Bengal; known as **Vernacular Press Act**.
- Lord Lytton brought Vernacular Press Act came in to force in 1878. It was repealed by Lord Ripon in 1882.



**Q.33)** The “**Indore process**” in British period is related to which of the following?

- a) Municipal Administration
- b) Bio-fertilizers
- c) Primary health
- d) None

**ANS: B**

**Explanation:** According to ICAR, the Indore research station was set up where the Institute for Plant Industry (IPI) used to exist.

IPI was established in the 1920s by the Maharaja of Indore, ostensibly to study cotton.

- But it also seems to have been a way to offer a research position to Albert Howard, a British agricultural scientist who first came to India in 1905 to work as imperial economic botanist at Pusa.
- **He started studying their traditional methods- of animals raised alongside crops, with their wastes, and other plant wastes forming the only fertilisers.**
- Howard was an expert in fungi and he theorised that traditional methods nurtured fungi and microbes in the soil, leading to better soil health than what was created by artificial means.
- Howard's theories would lay the principles for the organic farming movement, but they proved too radical for his colleagues at the time.
- But Howard realised that the princely states offered more liberties than the directly British ruled provinces. Indore gave him a chance to continue his research without leaving India.
- **Howard developed and popularised what he called the Indore process, a method of combining animal and plant wastes to ensure rapid decomposition into a form that could be used in farming -- a scientific system for composting.**

**Q.34)** Who among the following introduced the **issue of currency notes of the denominations of five, ten, twenty, fifty, one hundred, five hundred and one thousand rupees?**

- a) James Wilson
- b) Sir William Wilson Hunter
- c) Mansfield
- d) Babington Smith

**ANS: A**

**Explanation:** The institution of paper money was first introduced into India in 1839, when the presidency banks (Calcutta, Bombay & Madras) were authorized to issue notes payable to bearer of demand within their circle.

- The idea of transferring the issue and management of paper currency under government control was first conceived by James Wilson.
- Thus, the Bill for the establishment of a **Government Paper Currency in India was first introduced on 3rd March 1860 by James Wilson.**
- By Act XIX of 1861, paper currency, under government management was lawfully set up in India
- **Wilson's scheme provided for the issue of currency notes of the denominations of five, ten, twenty, fifty, one hundred, five hundred and one thousand rupees.**

**Q.35)** The book **Satyarth Prakash (Light of Truth)** was written by which of the following?

- a) Raja Ram Mohan Roy
- b) Swami Dayanand

- c) Debendranath Tagore
- d) Keshab Chandra Sen

**ANS: B**

**Explanation:** The **Satyarth Prakash (The light of Truth)** is the masterpiece of **Swami Dayanand Saraswati**.

- As the great writer of this masterpiece Swami Dayanand was a symbol of ultimate morality and spiritualism and was a sage of standing.
- This book (Satyarth Prakash) is, indeed, an encyclopedia of the various contemporary social religious and political currents cross-currents and movements going on at the time of the writer's life.
- To go it further, the writer has not spared the past events and guiding philosophies, which has polluted the human mind and deteriorated the man's quest for true knowledge and right way of life.

**Q.36)** Consider the following statements regarding the **Abolition of Slavery in India**:

1. Charter Act of 1813 had urged the Company to take steps to ameliorate the conditions of slaves.
  2. Slavery was abolished in 1843 in British India.
- 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:** Slavery was abolished in the British Empire in 1833 and a clause was inserted in the Charter Act of 1833 requiring the Governor-General-in-Council to abolish slavery in India as soon as it could be safely and conveniently carried out. Act V of 1843 declared slavery illegal in India and all existing slaves were emancipated without any compensation to the slave-owners.

**Q.37)** Which of the following is/are **NOT** correctly matched?

<b>Organization</b>		<b>Founder/President</b>
1. South India Liberal Federation	:	C N Annadurai
2. Bahishkrit Hitkarni Sabha	:	Jyotirao Phule
3. Sree Narayana Dharma Paripalana Yogam	:	Narayana Guru

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: B**

**Explanation:** The Justice Party, earlier **South Indian Liberal Federation**, was a political party in the Madras Presidency of British India. It was established in 1916 by **Natesa Mudaliar and co-founded by T. M. Nair and P. Theagaraya Chetty** as a result of a series of non-Brahmin conferences and meetings in the presidency.

**Bahishkrit Hitakarini Sabha** is a central institution formed by **Dr. Babasaheb Ambedkar** for removing difficulties of the untouchables and placing their grievances before government.

**S.N.D.P. means Sri Narayana Guru Dharma Paripalana Yogam or sangam.** Narayana Guru through his socio religious teachings and writings has become so famous in the socio-religions and political scenario of Kerala during 19th century that all the young people turned towards the reformative movements of Sri Narayana Guru and voluntarily they have redesignated their former youth association (it's called Vivatu sangha) as **S.N.D.P. It was registered as a joint stock company in January 1903 with Sri Narayana Guru as life time president.**

**Q.38)** Lord Cornwallis had introduced many reforms to organize the civil services and to check corruption in East India Company. Which of the following is/are **measures introduced by Lord Cornwallis?**

1. Raising the civil servants' salary.
  2. Strict enforcement of rules against private trade.
  3. Enforcing promotions through merit.
- Select the correct answer using the code given below:
- a) 1, 2 and 3
  - b) 2 and 3 only
  - c) 1 and 2 only
  - d) 1 and 3 only

**ANS: C**

**Explanation:** Cornwallis (governor-general, 1786-93) was the first to bring into existence and organise the civil services. He tried to check corruption through—

- raising the civil servants' salary,
- strict enforcement of rules against private trade,
- debarring civil servants from taking presents, bribes etc.,
- Enforcing promotions through seniority.

**Q.39)** "Political freedom is the life breath of a nation; to attempt social reform , educational reform, industrial expansion, the moral improvement of the race without aiming the first and foremost at political freedom, is the very height of ignorance and futility" – is said by which of the following?

- a) Mahatma Gandhi
- b) Bal Gangadhar Tilak
- c) B R Ambedkar
- d) Aurobindo Ghose

**ANS: D**

**Explanation:** Sri Aurobindo was renowned and important personality in the history of the Indian resurgence and Indian nationalism.

- Aurobindo had a versatile brilliance. He was a great poet, a thoughtful thinker, a distinguished metaphysician, a great prophet and a passionate patriot.
- He wrote effective texts that represented the crystallization of the new and rising soul of India and given a spiritual message for humankind.
- He wrote that **"Political freedom is the life-breath of a nation. To attempt social reform, educational reform, industrial expansion, the moral improvement of the race without aiming first and foremost at political freedom, is the very height of ignorance and futility.**
- The primary requisite for national progress, national reform, is the habit of free and healthy national thought and action which is impossible in a state of servitude."

**Q.40)** The term “Nineteen Memorandum” of National Movement of India is related to which of the following Indian National Congress Session?

- a) Nagpur Session - 1920
- b) Lucknow Session - 1916
- c) Lahore Session - 1929
- d) Harpiura Session – 1938

**ANS: B**

**Explanation:** The **Lucknow Session** of the congress is memorable for it marked the re-union of Moderate and Extremist parties after the Surat split (1907).

- Another noteworthy development was the Congress League Pact for acceptance of a united scheme of Constitutional reforms.
- **Nineteen elected members of the Governor-General's Legislative Council prepared a memorandum, popularly known as 'Nineteen Memorandum', containing a different set of proposals and submitted it to the Viceroy in November 1916.**

Their main recommendations were:

- all the Legislative Councils should have a substantial majority of elected members;
- the Legislative Councils should be large in size and enjoy larger powers in respect of legislation and finance;
- fiscal autonomy should be conceded to India; the provincial governments should be made autonomous;
- a full measure of Local-Self Government should be immediately granted.

**Q.41)** The places “**Kupgallu, Piklihal and Tekkalkota**” are related to which of the following?

- a) Ashoka's Inscriptions
- b) Early rock paintings
- c) Sacred groves
- d) Ancient cave temples

**ANS: B**

**Explanation:** First discovery of rock paintings in the world was made in India (1867-68) by an Archaeologist, **Archibold Carlleyle**, and twelve years before the discovery of Altamira in Spain (site of oldest rock paintings in the world).

- In India, remnants of rock paintings have been found on the walls of caves situated in several districts of Madhya Pradesh, Uttar Pradesh, Andhra Pradesh, Telangana, Karnataka, Bihar, and Uttarakhand.
- Some of the examples of sites early rock paintings are **Lakhudiyar in Uttarakhand, Kupgallu in Telangana, Piklihal and Tekkalkotta in Karnataka, Bhimbetka and Jogimara in Madhya Pradesh etc.**

**Q.42)** Consider the following statements regarding the **bronze-casting technique** of Indus-valley civilization:

1. The bronze statues were made using the 'lost wax' technique.
2. Bronze casting was popular at all the major centres of the Indus Valley Civilization.

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:** The art of bronze-casting was practised on a wide scale by the Harappans. Their **bronze statues were made using the 'lost wax' technique** in which the wax figures were first covered with a coating of clay and allowed to dry.

- Then the wax was heated and the molten wax was drained out through a tiny hole made in the clay cover.
- The hollow mould thus created was filled with molten metal which took the original shape of the object. Once the metal cooled, the clay cover was completely removed.
- In bronze we find human as well as animal figures, the best example of the former being the statue of a girl popularly titled 'Dancing Girl'.
- Amongst animal figures in bronze the buffalo with its uplifted head, back and sweeping horns and the goat are of artistic merit.
- **Bronze casting was popular at all the major centres of the Indus Valley Civilisation.**
- The copper dog and bird of Lothal and the bronze figure of a bull from Kalibangan are in no way inferior to the human figures of copper and bronze from Harappa and Mohenjodaro.
- Metal-casting appears to be a continuous tradition.

**Q.43)** The **Badakshan mines** (Present day it is located in Afghanistan) of Indus valley civilization is famous for which of the following?

- a) steatite
- b) Lapis lazuli
- c) Diamonds
- d) Agate-carnelian

**ANS: B**

**Explanation:** Past human cultures used various raw materials found from the natural context, for example, **shell species of Turbinella pyrum from the Gulf of Kachchh, agate-carnelian from Khandak** near the Harappan site of Surkotada and other locations in Gujarat, **lapis lazuli from the Badakshan mines of Afghanistan, high quality steatite from northern Rajasthan, and turquoise from Central Asia.**

**Q.44)** The **Sripavata Arama project** supported by the Government of India and executed by the Telangana State Tourism Development Corporation (TSTDC), is an attempt to develop which of the following?

- a) Buddhist Heritage
- b) Jain heritage
- c) Folk-deities of tribal people
- d) None

**ANS: A**

**Explanation:** The Sripavata Arama project supported by the Government of India and executed by the Telangana State Tourism Development Corporation (TSTDC), is an **attempt to capture the Buddhist heritage of the Telugu country** and interpret it to the present generation.

- The project also seeks to revive the forgotten Buddhist visual art traditions. Of the three schools of Buddhist art, the Madhura School, the Gandhara School and the Amaravati School, the last one belongs to the Telugu country.



## **PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

- It is this School that flourished all over the South-India, even in Sri Lanka. It is also this school which is celebrated for its quality of 'moving images' and for capturing social and cultural life of the times in addition to religious imagery.
- Our artists and sculptors gave up Buddhist architecture and sculpture after the decline of Buddhism around the 7th Century CE; the later temple architecture and sculpture belong to the Pallavan and Chalukyan art traditions.
- The Arama project seeks to revive the forgotten Amaravati School of Art.

**Q.45)** The **Krishna's Butterball** is a massive 20 feet high and 5 meter wide rock stands on a slippery slope of a hill on less than 4-feet base is located in which of the following state?

- a) Uttar Pradesh
- b) Gujarat
- c) Andhra Pradesh
- d) Tamil Nadu

**ANS: D**

**Explanation:** The Krishna's Butterball is a massive 20 feet high and 5 meter wide rock stands on a slippery slope of a hill on less than 4-feet base is located in **Tamil Nadu**.

- It is called as Krishna's butterball because butter is his favourite food and it is a myth that it falls from heaven.
- It is also known as 'Vaagirai Kal' in Tamil which means 'Stone of the Sky God'.
- Recently in October 2019 it is visited by Chinese leader Xi Jinping.

**Q.46)** The **Ravan Chhaya Rock Shelter paintings** are located in which of the following state?

- a) West Bengal
- b) Odisha
- c) Andhra Pradesh
- d) Tamil Nadu

**ANS: B**

**Explanation:** Located in the **Keonjhar district of Odisha**, these ancient fresco paintings on a rock shelter are in a shape of half-opened umbrella.

- It is believed that this shelter acted like the royal hunting lodge.
- The most noticeable painting is that of a royal procession that dates back to 7th century.
- The remains of Chola period paintings, belonging to 11th century, are also of importance.

**Q.47)** The **Sohrai and Khovar folk art paintings** are related to which of the following state?

- a) Jharkhand
- b) Gujarat
- c) Himachal Pradesh
- d) Assam

**ANS: A**

**Explanation:** Sparrows, peacocks, squirrels and cows inhabit the world of Sohrai and Khovar paintings. Popular in Hazaribagh region of **Jharkhand**, the folk art draws heavily from the forest life. It is an art form practised by women at home, usually the mother-in-law and daughter-in-law combine.



**Q.48)** Consider the following statements regarding the **Sattriya dance**:

1. Sattriya dances are devotional in nature as they were intended for propagation of neo-Vaishnavism.
2. Sattriya was given the status of a classical dance in the year 2000 by the Sangeet Natak Akademi.
3. Dr. Sunil Kothari was recently bestowed the prestigious Madhabdev Award by the Government of Assam for his work in making Sattriya popular in India and abroad.

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:** Sattriya originated in Sattri, monastery, as a part of neo-Vaishnavite movement started by Srimanta Sankardev in the 15th Century. He propagated the “ek sharan naama dharma” (chanting the name of one God devotedly).

- “Sattriya dances are devotional in nature as they were intended for propagation of neo-Vaishnavism. Its highlights are intense emotional fervour, and in its solo avatar now dramatic abhinaya is prominent in contrast to nritta, pure dance”.
- **Dr. Sunil Kothari was recently bestowed the prestigious Madhabdev Award by the Government of Assam for his work in making Sattriya popular in India and abroad.**
- **Though long recognised as a traditional dance form, Sattriya was given the status of a classical dance in the year 2000 by the Sangeet Natak Akademi.**
- Highlighting on how it differs from other forms, Kothari says, “In its basic stance for male and female known as Purush Pak and Prakriti Pak, Sattriya dances differ from other dance forms.
- They have special mnemonic bols, typical Assamese music known as Borgeet, musical instruments like large cymbals, drums, colourful costumes which stand out from other dance styles, besides complicated choreographic patterns using various talas for each stanza sung by the vocalist.
- Dance-dramas are distinct living tradition and use vachikabhinaya, dialogues. Special masks are also used in dance-dramas.”

**Q.49)** The **Kathputli** is a traditional string puppet of which of the following state?

- a) Rajasthan
- b) Gujarat
- c) Kerala
- d) Uttar Pradesh

**ANS: A**

**Explanation:** The traditional **string puppets of the Rajasthan area known as Kathputli**, which derives its name from kath meaning wood and putli meaning doll.

- The puppets are covered in traditionally bright Rajasthani dress. The show is accompanied by a dramatic folk music.
- A unique feature of the puppets is the absence of legs. The strings are attached to the finger of the puppeteer.

**Q.50)** Consider the following statements regarding the **Sankirtana**:

1. It is artistic manifestation of Manipuri worship.

2. It is performed in a Mandala (circular area) inside a Mandapa (hall) attached to a temple or erected in a courtyard.

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:** Sankirtana is the **artistic manifestation of Manipuri worship**. To the Manipuris Sankirtana is the visible form of God.

- Woven within the framework of sacrosanct rituals and ceremonies the art consists of narrative singing and dancing.
- **Always performed in a Mandala (circular area) inside a Mandapa (hall) attached to a temple or erected in a courtyard.**
- The rituals and formalities are strict and even the audience are seated according to set rules. It employs musical instruments like drums and cymbals.
- The artistes play these instruments and dance at the same time. An artiste spends a life-time specializing only in one aspect.

## *Economy*

**Q.1)** Which of the following is/are “**Salient feature/features of the Model Contract Farming Act, 2018**”?

1. Contract framing to be outside the ambit of APMC Act.
2. Contracted produce is to be covered under crop / livestock insurance in operation.
3. The act provides a simple and accessible dispute settlement mechanism at the lowest level to settle disputes.

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:** With a view to integrate farmers with bulk purchasers including exporters, agro- industries etc. for better price realization through mitigation of market and price risks to the farmers and ensuring smooth agro raw material supply to the agro industries, Union Finance Minister in the budget for 2017-18 announced preparation of a “Model Contract Farming Act” and circulation of the same to the States for its adoption. **Salient features of the Model Contract Farming Act, 2018.**

- “Registering and Agreement Recording Committee” or an “Officer” for the purpose at district/block/ taluka level for online registration of sponsor and recording of agreement provided.
- Contracted produce is to be covered under crop / livestock insurance in operation.
- **Contract framing to be outside the ambit of APMC Act.**
- **No permanent structure** can be developed on farmers’ land/premises
- **No right, title of interest of the land** shall vest in the sponsor. Promotion of Farmer Producer Organization (FPOs) / Farmer Producer Companies (FPCs) to mobilize small and marginal farmers has been provided
- FPO/FPC can be a contracting party if so authorized by the farmers.
- No rights, title ownership or possession to be transferred or alienated or vested in the contract farming sponsor etc.
- **Ensuring buying of entire pre-agreed quantity** of one or more of agricultural produce, livestock or its product of contract farming producer as per contract.
- Contract Farming Facilitation Group (CFFG) for promoting contract farming and services at village / panchayat at level provided.
- **Accessible and simple dispute settlement** mechanism at the lowest level possible provided for quick disposal of disputes.
- **It is a promotional and facilitative Act and not regulatory in its structure.**

**Q.2)** Which of the following is/are **constraint/constraints for development of integrated value chain system** of Agriculture sector?

1. Low public and private investments in agriculture since the early 1990s.
2. Inability to acquire land for setting up of market yards.
3. Poor maintenance of rural roads.

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:** constraint/constraints for development of integrated value chain system of Agriculture sector.

1. Public and private investments in agriculture have remained low since the early 90s. Bottlenecks in implementation and a high degree of uncertainty have further reduced investor appetite for agricultural investments.
2. Inability to acquire land for setting up of market yards, resulting from the restrictions on land leasing and land acquisition, is another major constraint.
3. Even the existing marketing infrastructure suffers because of a lack of finances, manpower and proper facilities. Sub-market yards largely function as a location for government procurement and do not provide opportunities for open auction. Further, they are irregular in their operations and handle less than five per cent of the volume handled in principal yards.
4. Poor maintenance of rural roads is a major constraint as well. Linkages with local and feeder roads remain sub-optimal.
5. In the electricity sector, separate feeders for supply of power to agriculture and domestic electrification have not been carried out in many states.

**Q.3)** With reference to the “**Mechanization of Agriculture in India**”, which of the following statements is/are correct?

1. The overall farm mechanization in India is more than 50 percent.
2. Indian tractor industry is the largest in the world, accounting for one-third of the total global production.

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** Mechanization of Agriculture in India.

**Statement 1 is incorrect:** Effective use of agricultural machinery helps to increase productivity and production of farm output along with timely farm operations for quick rotation of crops on the same land.

- By raising a second crop or multi-crops from the same land, there is improvement in the cropping intensity and making agricultural land commercially more viable (NABARD, 2018).
- However, **overall farm mechanization in India has rather been lower (40-45 per cent) compared to other countries such as USA (95 per cent), Brazil (75 per cent) and China (57 per cent).**

**Statement 2 is correct:** Indian tractor industry is the largest in the world, accounting for one-third of the total global production. During the past four decades, the tractor industry grew at a compounded annual growth rate (CAGR) of 10 per cent.

**Q.4)** Which of the following statements is/are correct about “**Micro-irrigation Development in India**”?

1. Area covered under micro-irrigation gradually increased from last ten years.

2. A Micro Irrigation Fund (MIF) created with NABARD with an initial corpus of Rs.500 crore facilitating the States in mobilizing the resources for expanding coverage of Micro Irrigation.

Select the correct answer using the code given below:

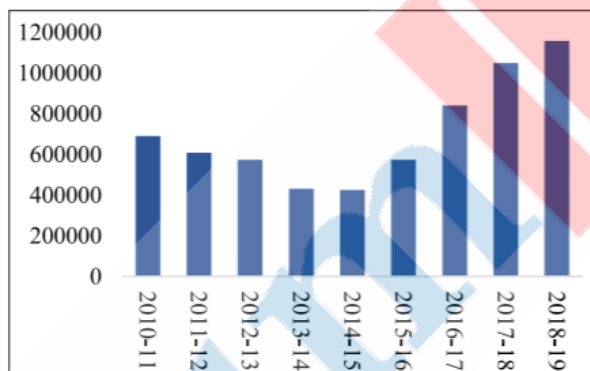
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

**ANS: D**

**Explanation: Micro-irrigation Development in India.**

**Statement 1 is incorrect:** Area covered under micro-irrigation from 2010-11 to 2014-15 was declining and gradually increased from 2015-16 to 2018-19.

**Figure 2: Year-wise Area Covered under Micro Irrigation through Centrally Sponsored Scheme (in Ha)**



**Statement 2 is incorrect:** A dedicated **Micro Irrigation Fund (MIF)** created with **NABARD** has been approved with an initial corpus of Rs. 5000 crore facilitating the **States** in mobilizing the resources for expanding coverage of Micro Irrigation envisaged under PMKSY-PDMC and also in bringing additional coverage through special and innovative initiatives by State Governments.

**Q.5) “EKTA portal”** is related to which of the following?

- a) Agricultural Education portal
- b) Intellectual Property Rights Education portal
- c) Trade policies portal
- d) Traditional and Indigenous products portal

**ANS: A**

**Explanation:** New Digital Apps have been developed for making Indian agriculture in line with Digital India theme. The DARE (Department of Agricultural Research & Education) launched the **Agricultural Education Portal EKTA** (Ekikrit Krishi Shiksha Takniki Ayaam) for integrated online management information system.

**Q.6)** Which of the following statements is/are correct about “**Quality Council of India (QCI)**”?

- 1. The Quality Council of India (QCI) is a statutory body established through Export (Quality Control and Inspection) Act, 1963.

2. The Quality Council of India (QCI) is headed by Minister of Commerce and Industry. Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** The Quality Council of India (QCI).

- The **Quality Council of India (QCI)** is a pioneering experiment of the Government of India in setting up organizations in partnership with the Indian industry.
- A committee which included various interested ministries and stakeholders including industries was established to make suitable recommendations.
- The work was coordinated by the then Department of Industries (Department of Industrial Policy and Promotion) and the recommendations were submitted to the Cabinet in 1996.
- Key recommendations included the Need for establishing an organization jointly by the Government and the industry and the need for the organization to be self-sustaining and be away from the government.
- Accepting the recommendations, the **Cabinet Committee decided to set up Quality Council of India as a non-profit autonomous society registered under Societies Registration Act XXI of 1860 to establish an accreditation structure in the country** and to spread quality movement in India by undertaking a National Quality Campaign.
- QCI is governed by a Council comprising of 38 members including the Chairman and Secretary General.
- The Council has an equal representation of Government, Industry and other Stakeholders. **The chairman of QCI is nominated by Prime Minister of India and present chairman of QCI is Mr. Adil Zainulbhai.**

**Q.7)** Arrange the following “core industries” in the **ascending order** of their weight in Index of Industrial Production (IIP):

- 1. Coal
- 2. Cement
- 3. Steel
- 4. Electricity

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** The Index of Eight Core Industries measures the performance of eight core industries i.e., Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement and Electricity. The industries included in the Index of Eight Core Industries comprise 40.27 per cent weight in the Index of Industrial Production (IIP).



**Table 3: Growth in the production of Eight Core Industries (in per cent)**

Sector	Weight	2016-17	2017-18	2018-19	2018-19 (April- November)	2019-20 (April- November)
Coal	10.3	3.2	2.6	7.4	9.0	-5.3
Crude Oil	9.0	-2.5	-0.9	-4.1	-3.6	-5.9
Natural Gas	6.9	-1.0	2.9	0.8	-0.7	-3.1
Refinery Products	28.0	4.9	4.6	3.1	5.3	-1.1
Fertilizers	2.6	0.2	0.0	0.3	-1.3	4.0
Steel	17.9	10.7	5.6	5.1	3.6	5.2
Cement	5.4	-1.2	6.3	13.3	14.2	0.0
Electricity	19.9	5.8	5.3	5.2	6.6	0.7
<b>Overall Index</b>	<b>100</b>	<b>4.8</b>	<b>4.3</b>	<b>4.4</b>	<b>5.1</b>	<b>0.0</b>

Source: Office of the Economic Adviser, DPIIT

**Q.8)** Which of the following statements is/are correct about “**Cash Management Bill (CMB)**”?

1. It is a short-term instrument issued by banks to meet the temporary cash flow mismatches.
2. The Cash Management Bills are issued for maturities of 91 days, 182 days and 364 days.

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** Cash Management bills.

- The **Government of India, in consultation with the RBI, decided to issue a new short-term instrument, known as Cash Management Bills, since August 2009 to meet the temporary cash flow mismatches of the government.**
- The **Cash Management Bills are non-standard and discounted instruments issued for maturities less than 91 days.**
- The CMBs have the generic character of Treasury Bills (issued at discount to the face value); are tradable and qualify for ready forward facility; investment in it is considered as an eligible investment in government securities by banks for SLR.

**Q.9)** Which of the following statements is/are correct about “**Steel production and consumption of India**”?

1. India is the third largest steel producing country in the world after china and USA.
2. In the last ten years there is a continuous increase in the per capita consumption of steel in India.

Select the correct answer using the code given below:

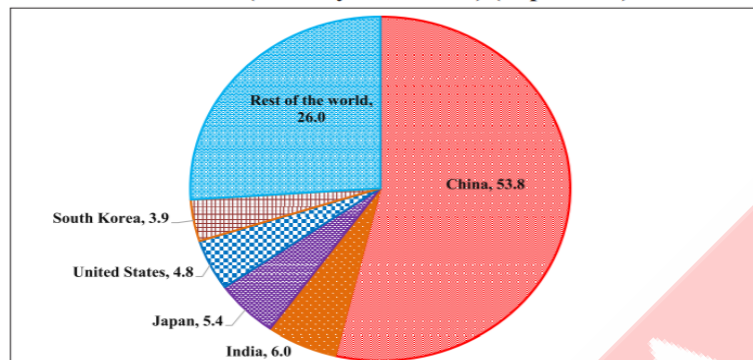
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

**ANS: D**

**Explanation:** Steel production and consumption of India.

**Statement 1 is incorrect: India stood at second position in the production of crude steel.** It is also the third largest consumer of the finished steel after China and USA.

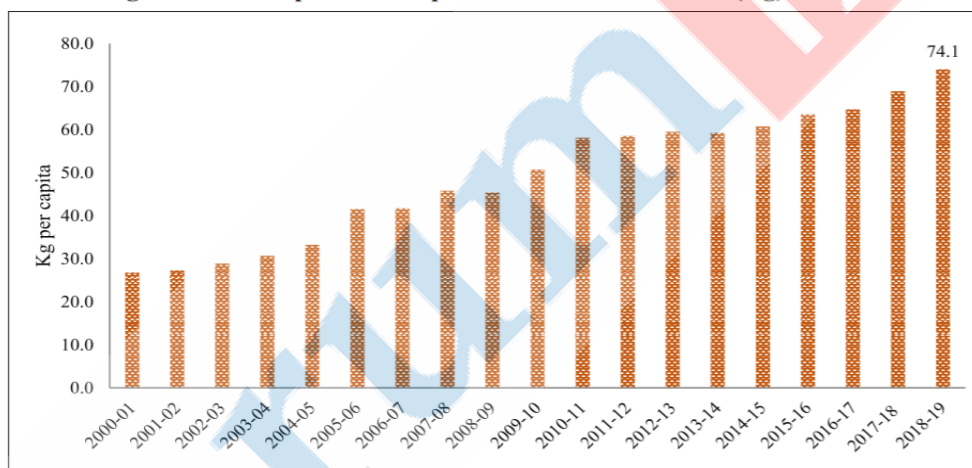
**Figure 9: Country wise share of Crude steel production for 2019 (January-November) (in per cent)**



Source: World Steel Association.

**Statement 2 is incorrect:** The per capita consumption of steel in India is 74.1 kg during 2018-19. The per capita consumption was increased in last ten years except 2013-14.

**Figure 11: Per capita consumption of total finished steel (Kg) for India**



Source: Joint Plant Committee.

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

- a) International trade
- b) Agriculture sector
- c) Banking sector
- d) Insurance sector

**ANS: A**

**Explanation:** Autarky: The idea of self-sufficiency and ‘no’ **international trade** by a country. None of the countries of the world has been able to produce all the goods and services required by its population at competitive prices, however, some tried to live it up at the cost of inefficiency and comparative poverty.

**Q.11)** The term “**Invisible hand**” in economics is related to which of the following?

- a) Free market system
- b) Command market system

- c) Socialist market system
- d) Both B and C

**ANS: A**

**Explanation:** Invisible hand.

- Scottish Enlightenment thinker **Adam Smith** introduced the concept Invisible hand in several of his writings, but it found this economic interpretation in his book **An Inquiry into the Nature and Causes of the Wealth of Nations** published in 1776.
- The **invisible hand is part of laissez-faire, meaning "let do/let go," approach to the market.** In other words, the approach holds that the market will find its equilibrium without government or other interventions forcing it into unnatural patterns.
- The **invisible hand is a metaphor for the unseen forces that move the free market economy.** Through individual self-interest and freedom of production as well as consumption, the best interest of society, as a whole, are fulfilled.
- The constant interplay of individual pressures on market supply and demand causes the natural movement of prices and the flow of trade.

**Q.12)** Which of the following is/are characteristics of a **Public good**?

- 1. Non-excludability
- 2. Rival Consumption
- 3. Rejectable

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: A**

**Explanation:** Public goods are goods that can be consumed simultaneously by a large number of people without the consumption by one imposing an opportunity cost on others.

The characteristics of a public good:

- **Non excludability** i.e., the citizens can enjoy its benefits at no explicit financial cost.
- **Non rival consumption** i.e., the marginal cost of supplying this public good to an extra citizen is zero.
- **Non Rejectable** i.e., collective supply for all citizens means that it cannot be rejected.

**Q.13)** The term "**Adjusted Gross Revenue (AGR)**" often seen news is related to which of the following?

- a) Petroleum sector
- b) Banking sector
- c) Telecom sector
- d) Defense sector

**ANS: C**

**Explanation:** Adjusted Gross Revenue (AGR).

- The **telecom sector was liberalized under the National Telecom Policy, 1994** after which licenses were issued to companies in return for a fixed license fee.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- To **provide relief from the steep fixed license fee**, the government in 1999 gave an option to the licensees to migrate to the revenue sharing fee model.
- Under this, **mobile telephone operators were required to share a percentage of their AGR with the government as annual license fee (LF) and spectrum usage charges (SUC)**.
- License agreements between the Department of Telecommunications (DoT) and the telecom companies define the gross revenues of the latter.
- AGR is then computed after allowing for certain deductions spelt out in these license agreements.
- **The LF and SUC were set at 8 per cent and between 3-5 per cent of AGR respectively, based on the agreement.**

**Q.14)** Consider the following statements regarding the **Systematically Important Core Investment Companies (CICs-ND-SI)**:

1. (CICs-ND-SI) are non-banking financial companies with asset size of ₹1000crore and above.
2. (CICs-ND-SI) are not allowed to accept public funds, but they can raise the money from capital markets.

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: Core Investment Companies.**

A CICs-ND-SI is a Non-Banking Financial Company

- with **asset size of Rs 100crore and above**
- carrying on the **business of acquisition of shares and securities** and which satisfies the following conditions as on the date of the last audited balance sheet,
- it holds **not less than 90% of its net assets** in the form of investment in equity shares, preference shares, bonds, debentures, debt or loans in group companies;
- its investments in the equity shares (including instruments compulsorily convertible into equity shares within a period not exceeding 10 years from the date of issue) in group companies constitutes not less than 60% of its net assets as mentioned in clause (iii) above;
- it **does not trade in its investments in shares, bonds, debentures, debt or loans in group companies except through block sale for the purpose of dilution or disinvestment**;
- it does not carry on any other financial activity referred to in Section 45I(c) and 45I(f) of the RBI act, 1934 except investment in bank deposits, money market instruments, government securities, loans to and investments in debt issuances of group companies or guarantees issued on behalf of group companies.
- it accepts public funds

**Q.15)** Which of the following is/are type/types of **External Benchmark Rates**?

1. Repo and Reverse repo rate
2. Government of India 3-Months Treasury bill yield published by the Financial Benchmarks India Private Ltd (FBIL).
3. Government of India 6-Months Treasury bill yield published by the Financial Benchmarks India Private Ltd (FBIL).

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:** The RBI has made it compulsory for banks to link their new floating rate home, auto and MSME loans to an external benchmark so that the borrowers can enjoy lower rate of interest. All new floating rate personal or retail loans (housing, auto, etc.) and floating rate loans to Micro and Small Enterprises extended by banks from October 01, 2019 shall be benchmarked to one of the following:

- Reserve Bank of India **policy repo rate**
- Government of India **3-Months Treasury Bill** yield published by the Financial Benchmarks India Private Ltd (FBIL)
- Government of India **6-Months Treasury Bill** yield published by the FBIL
- **Any other benchmark** market interest rate published by the FBIL.

**Q.16)** Which of the following are **instruments of Monetary Policy** of Reserve Bank of India (RBI)?

- 1. Repo rate
- 2. Marginal Standing Facility
- 3. Open Market Operations (OMOs)
- 4. Bank Rate

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** There are several direct and indirect instruments that are used for implementing monetary policy.

- **Repo Rate:** The (fixed) interest rate at which the Reserve Bank provides overnight liquidity to banks against the collateral of government and other approved securities under the liquidity adjustment facility (LAF).
- **Reverse Repo Rate:** The (fixed) interest rate at which the Reserve Bank absorbs liquidity, on an overnight basis, from banks against the collateral of eligible government securities under the LAF.
- **Marginal Standing Facility (MSF):** A facility under which scheduled commercial banks can borrow additional amount of overnight money from the Reserve Bank by dipping into their Statutory Liquidity Ratio (SLR) portfolio up to a limit at a penal rate of interest. This provides a safety valve against unanticipated liquidity shocks to the banking system.
- **Corridor:** The MSF rate and reverse repo rate determine the corridor for the daily movement in the weighted average call money rate.
- **Bank Rate:** It is the rate at which the Reserve Bank is ready to buy or rediscount bills of exchange or other commercial papers. The Bank Rate is published under Section 49 of the Reserve Bank of India Act, 1934. This rate has been aligned to the MSF rate and, therefore, changes automatically as and when the MSF rate changes alongside policy repo rate changes.



- **Cash Reserve Ratio (CRR):** The average daily balance that a bank is required to maintain with the Reserve Bank as a share of such per cent of its Net demand and time liabilities (NDTL) that the Reserve Bank may notify from time to time in the Gazette of India.
- **Statutory Liquidity Ratio (SLR):** The share of NDTL that a bank is required to maintain in safe and liquid assets, such as, unencumbered government securities, cash and gold. Changes in SLR often influence the availability of resources in the banking system for lending to the private sector.
- **Open Market Operations (OMOs):** These include both, outright purchase and sale of government securities, for injection and absorption of durable liquidity, respectively.
- **Market Stabilization Scheme (MSS):** This instrument for monetary management was introduced in 2004. Surplus liquidity of a more enduring nature arising from large capital inflows is absorbed through sale of short-dated government securities and treasury bills. The cash so mobilized is held in a separate government account with the Reserve Bank.

**Q.17)** Consider the following statements regarding the **Negative Rate Policy**:

1. Under the negative rate policy, financial institutions are required to pay interest for parking excess reserves with the central bank.
2. The USA Fed reserve, euro area, Switzerland, Denmark, Sweden and Japan have allowed rates to fall slightly below zero.

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:** Negative rate policy.

- Under a negative rate policy, **financial institutions are required to pay interest for parking excess reserves with the central bank.**
- That way, central banks penalize financial institutions for holding on to cash in hope of prompting them to boost lending.
- The **euro area, Switzerland, Denmark, Sweden and Japan** have allowed rates to fall slightly below zero.

**Q.18)** Which of the following parameters are consists of **International Monetary Fund (IMF) Quota Formula**?

1. Weighted average of GDP.
2. Openness.
3. Contribution to IMF.
4. Economic variability.
5. International reserves.

Select the correct answer using the code given below:

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



**ANS: C**

**Explanation:** When a country joins the IMF, it is assigned an initial quota in the same range as the quotas of existing members of broadly comparable economic size and characteristics. The IMF uses a quota formula to help assess a member's relative position.

- The current quota formula is a **weighted average of GDP** (weight of 50 percent), **openness** (30 percent), **economic variability** (15 percent), and **international reserves** (5 percent).
- For this purpose, **GDP is measured through a blend of GDP**—based on **market exchange rates** (weight of 60 percent) and on **PPP exchange rates** (40 percent).
- The formula also includes a “compression factor” that reduces the dispersion in calculated quota shares across members.

**Q.19)** Which of the following are **pillars of Index of Economic Freedom**?

1. Rule of Law
2. Government size
3. Regulatory efficiency
4. Open markets
5. Sustainable development

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** Today, we live in the most prosperous time in human history. Poverty, sicknesses, and ignorance are receding throughout the world, due in large part to the advance of economic freedom. In 2020, the principles of economic freedom that have fueled this monumental progress are once again measured in the **Index of Economic Freedom, an annual guide published by The Heritage Foundation, Washington's No. 1 think tank.**

The economic freedom is based on 12 quantitative and qualitative factors, grouped into four broad categories, or pillars, of economic freedom:

- **Rule of Law** (property rights, government integrity, judicial effectiveness)
- **Government Size** (government spending, tax burden, fiscal health)
- **Regulatory Efficiency** (business freedom, labor freedom, monetary freedom)
- **Open Markets** (trade freedom, investment freedom, financial freedom)

Each of the twelve economic freedoms within these categories is graded on a scale of 0 to 100. A country's overall score is derived by averaging these twelve economic freedoms, with equal weight being given to each.

**Q.20)** Consider the following statements regarding the **Economic Census**:

1. It is conducted by Department of Economic Affairs, Ministry of Finance.
2. It covers all entrepreneurial units which involved in any economic activities of either agricultural or non-agricultural sector.

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:** Economic Census.

**Statement 1 is incorrect:** The Economic Census is being conducted by Ministry of Statistics and Programme Implementation (MoSPI) to provide disaggregated information on various operational and structural aspects of all establishments in the country.

**Statement 2 is correct:** All entrepreneurial units in the country which are involved in any economic activities of either agricultural or non-agricultural sector which are engaged in production and/or distribution of goods and/or services not for the sole purpose of own consumption.

**Q.21)** 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.22)** 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.

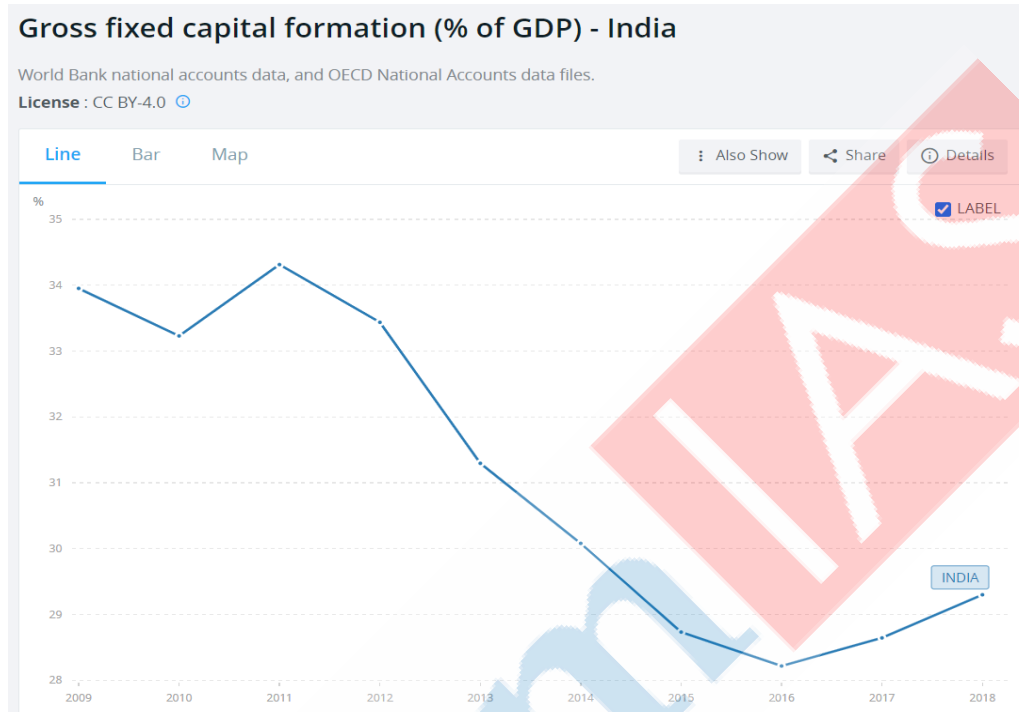
Which of the statements given above is/are correct?

- 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.



**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.23)** 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,

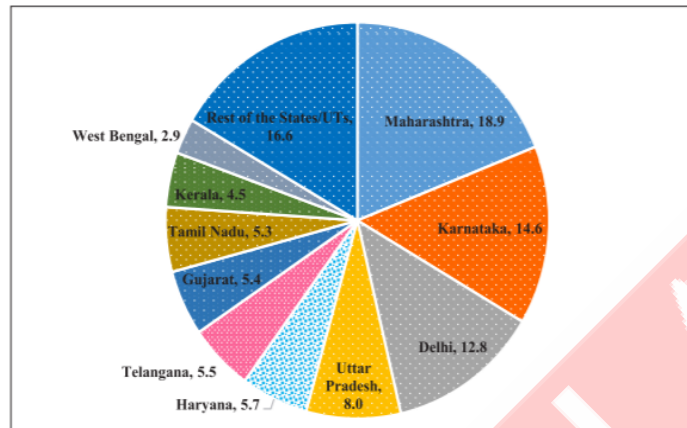
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the Hon'ble Prime Minister of India had announced the "Startup India, Stand-up India" initiative on August 15, 2015.

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

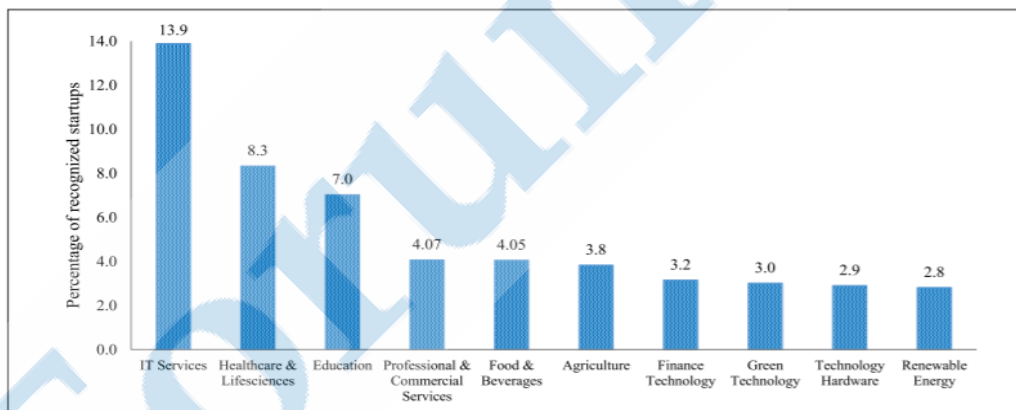
**Major State-wise distribution of recognized startups in India (in per cent)**



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.24)** 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.

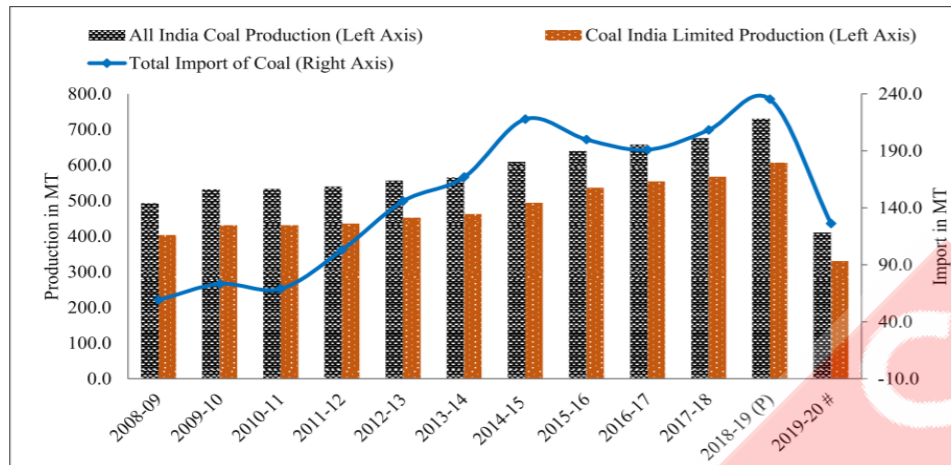
Which of the statements given above is/are correct?

- 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.25)** 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.26)** 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 (CEOBE), 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.27)** 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

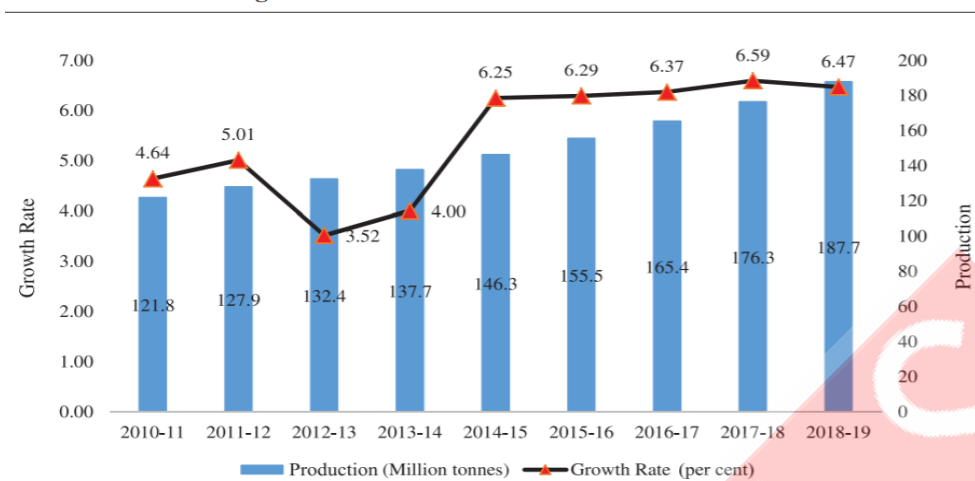
**ANS: B**

**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.28)** 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.29) 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.30)** 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.

**Q.31)** Consider the following statements regarding the **Comparative Advantage**:

1. It refers to an economy's ability to produce goods and services at a lower opportunity cost than that of trade partners.
2. It is a foundational principle in the theory of international trade.
3. The law of Comparative Advantage was propounded by John Maynard Keynes.

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:** Comparative advantage is an economic term that refers to **an economy's ability to produce goods and services at a lower opportunity cost than that of trade partners**.

- A comparative advantage gives a company the ability to sell goods and services at a lower price than its competitors and realize stronger sales margins.
- The **law of comparative advantage is popularly attributed to English political economist David Ricardo and his book “On the Principles of Political Economy and Taxation” in 1817, although it is likely that Ricardo's mentor James Mill originated the analysis.**
- One of the most important concepts in economic theory, comparative advantage is a fundamental tenet of the argument that all actors, at all times, can mutually benefit from cooperation and voluntary trade. It is also a **foundational principle in the theory of international trade**.

**Q.32)** Consider the following statements regarding the **entrepreneurship ecosystem in India**:

1. India has the 2<sup>nd</sup> largest entrepreneurship ecosystem in the world.
2. The level of education and the quality of physical infrastructure will influence entrepreneurship ecosystem.

Which of the statements given above is/are correct?

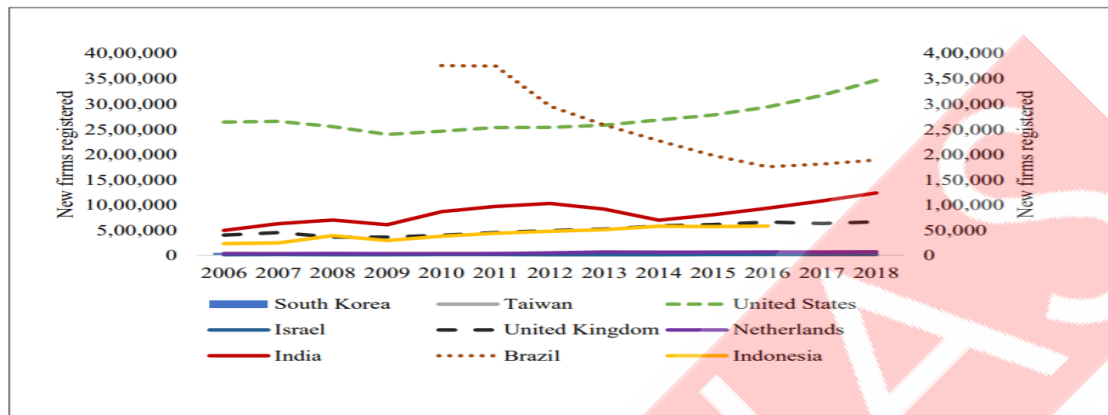
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

**ANS: B**

**Explanation:**

Statement 1 is incorrect: The chart clearly establishes that **India has the 3rd largest entrepreneurship ecosystem in the world.**

**Figure 1: Comparison of entrepreneurial activity (new firms) across countries**



Source: World Bank's EODB Entrepreneurship Data, Business Formation Statistics of the U.S. Census Bureau and Survey Calculations

Note: Secondary axis for India, Brazil and, Indonesia

Statement 2 is correct: **Literacy, education, physical infrastructure** are the key areas that will foster entrepreneurship and thereby job creation and wealth creation.

**Q.33)** Consider the following statements regarding the **Creative destruction**:

1. It refers to the incessant product and process innovation mechanism by which new production units replace outdated ones.
2. It was coined by Joseph Schumpeter.

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:** Creative destruction refers to **the incessant product and process innovation mechanism by which new production units replace outdated ones.**

- This restructuring process permeates major aspects of macroeconomic performance, not only long-run growth but also economic fluctuations, structural adjustment and the functioning of factor markets.
- Over the long run, the **process of creative destruction accounts for over 50 per cent of productivity growth.**
- At business cycle frequency, restructuring typically declines during recessions, and this add a significant cost to downturns.
- Obstacles to the process of creative destruction can have severe short- and long-run macroeconomic consequences.
- It **was coined by Joseph Schumpeter** (1942), who considered it 'the essential fact about capitalism'.

**Q.34)** The **market capitalization** is the aggregate valuation of the company based on which of the following?

- a) Current share price and outstanding stocks

- b) Fixed share price and outstanding stocks
- c) Current share price
- d) Outstanding stocks

**ANS: A**

**Explanation:** Market capitalization is the aggregate valuation of the company based on its **current share price and the total number of outstanding stocks**. It is calculated by multiplying the current market price of the company's share with the total outstanding shares of the company.

**Q.35)** The **Herfindahl-Hirschman Index (HHI)** is related to which of the following?

- a) Sustainable Development
- b) International Trade
- c) Market Concentration
- d) Financial Institutions

**ANS: C**

**Explanation:** The Herfindahl-Hirschman Index (HHI) is a **common measure of market concentration** and is used to determine market competitiveness, often pre- and post-Merger & Acquisition transactions.

- It is calculated by squaring the market share of each firm competing in a market and then summing the resulting numbers. It can range from close to zero to 10,000.
- Regulators use the HHI Index using the 50 largest companies in a particular industry to determine if that industry should be considered competitive or as close to being a monopoly.

**Q.36)** Consider the following statements regarding the **wilful default in India**:

1. The RBI defines wilful defaulter as a firm that has defaulted in meeting its repayment obligations even though it has the capacity to honour these obligations.
2. The cut-off limit of willful default is fixed by Central government.
3. From 2009 to 2018 the money owed by willful defaulters has constantly decreased.

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: A**

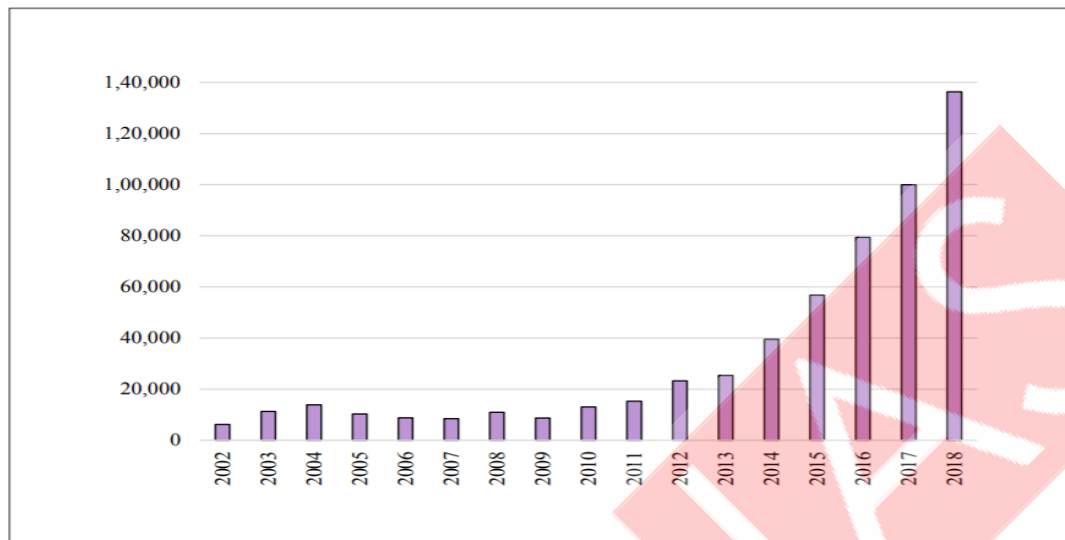
**Explanation:** Simply, default means non-payment of a loan availed by a borrower. A wilful defaulter is an entity or a person that has not paid the loan back despite the ability to repay it.

**Statement 1 is correct:** Wilful default occurs when firms take loans, divert the proceeds out of the firm for the personal benefit of owners, default on loans and declare bankruptcy, thereby expropriating a range of stakeholders – lenders, minority shareholders, employees, regulators and state coffers.

**Statement 2 is incorrect:** While the penal measures would normally be attracted by all the borrowers identified as wilful defaulters or the promoters involved in diversion / siphoning of funds, keeping in view the present limit of Rs.25 lakh fixed by the Central Vigilance Commission for reporting of cases of wilful default by the banks / FIs to RBI, any wilful defaulter with an outstanding balance of Rs.25 lakh or more, would attract the penal measures.

**Statement 3 is incorrect:** From 2009 to 2018 the money owed by willful defaulters has constantly increased.

**Figure 16: Aggregate outstanding amount owed by wilful defaulters (₹ crores)**



Source: TransUnion CIBIL Suits Filed database

**Q.37)** The **Economic Freedom of the World** report is released by which of the following?

- a) Fraser Institute
- b) World Economic Forum
- c) World Trade Organization
- d) The Heritage Foundation

**ANS: A**

**Explanation:** The **Fraser Institute** produces the annual Economic Freedom of the World report in cooperation with the Economic Freedom Network, a group of independent research and educational institutes in nearly 100 countries and territories.

It's the world's premier measurement of economic freedom, measuring and ranking countries in five areas:

- size of the government,
- legal structure and security of property rights,
- access to sound money,
- freedom to trade internationally and regulation of credit,
- labour and business.

**Q.38)** Consider the following statements regarding the **Essential Commodities Act (ECA), 1955**:

1. It was enacted to control the production, supply and distribution of, and trade and commerce in, certain goods considered as essential commodities.
2. The Act itself does lay out Rules and Regulations to issue Control Orders related to dealer licensing, regulate stock limits, restrict movement of goods and requirements of compulsory purchases.
3. Food and civil supply authorities in States execute the provisions of the Act.

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

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

d) 2 only

**ANS: D**

**Explanation:** Essential Commodities Act (ECA), 1955 was **enacted to control the production, supply and distribution of, and trade and commerce in, certain goods considered as essential commodities.**

- The **Act itself does not lay out Rules and Regulations** but allows the States to issue Control Orders related to dealer licensing, regulate stock limits, and restrict movement of goods and requirements of compulsory purchases under the system of levy.
- The Act also provides for action to confiscate the stock seized; to suspend/ cancel licences, if any and impose punishments like imprisonment.
- The Act also gives the power to fix price limits, and selling the particular commodities above the limit will attract penalties.
- Most of the powers under the Act have been delegated by the Central Government to the State Governments with the direction that they shall exercise these powers.
- **Food and civil supply authorities in States** execute the provisions of the Act.

**Q.39)** Consider the following statements regarding the **National List of Essential Medicines (NLEM)**:

1. The first National List of Essential Medicines of India was prepared and released in 1976.
2. The list is prepared by Ministry of Health and Family Welfare.

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 National list of essential medicines is one of the key instruments in balanced healthcare delivery system of a country which inter alia includes accessible, affordable quality medicine at all the primary, secondary, tertiary levels of healthcare.

- The **first National List of Essential Medicines of India was prepared and released in 1996.**
- The **National List of Essential Medicines (NLEM), prepared by Ministry of Health and Family Welfare**, is a list of medicines considered essential and high priority for India's health needs.
- DPCOs are issued by the Government, in **exercise of the powers conferred under section 3 of the ECA** to ensure that the medicines listed under NELM are available at a reasonable price to the general public.

**Q.40)** Which of the following is/are correctly matched?

**Conditional cash transfer scheme : Country**

1. Bolsa Familia : Brazil
2. Oportunidades : Argentina
3. Pantawid Pamilyang Pilipino : Indonesia

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: A**

**Explanation:** It may be noted that internationally, there is a move towards conditional cash transfers (CCTs), aimed at tackling problems of food insecurity and poverty and for nudging people towards improved health and education levels.

**Box 4: Examples of Successful Conditional Cash Transfer Schemes**

Country	Year	Modalities	Impact
Brazil: <i>Bolsa Familia</i>	2003	<ul style="list-style-type: none"> <li>Covers 25 per cent of total population</li> <li>Eligible beneficiaries below income level of \$60 and further identified through household surveys</li> <li>Size of transfer – R\$15-95</li> <li>Access payments through banks, lottery offices, retail stores using debit card</li> <li>Conditions – Minimum 85 per cent attendance and compulsory attending of health checkups for women and children</li> <li>Cost of scheme – 0.5 per cent of GDP</li> </ul>	<ul style="list-style-type: none"> <li>80 per cent of benefits went to identified beneficiaries</li> <li>Decline in households that are food inadequate</li> <li>Decrease in number of children malnourished</li> <li>Increase in food consumption</li> <li>Over 60 per cent transactions made through non-bank agencies</li> </ul>
Mexico: <i>Oportunidades</i>	1997	<ul style="list-style-type: none"> <li>Focus on geographically poor regions. Households identified in these regions using marginal index</li> <li>Covers 20 per cent of total Population</li> <li>Cost of scheme – 0.4 per cent of GDP</li> <li>Size of transfer – 235 pesos (average)</li> <li>Payments made bimonthly</li> <li>Benefits can be withdrawn from bank branches and authorized non-financial agencies</li> <li>Conditions – Minimum attendance requirement and mandatory health check ups</li> </ul>	<ul style="list-style-type: none"> <li>60 per cent of benefits went to poorest 20 per cent of the population</li> <li>12 per cent decrease in incidence of illnesses</li> <li>Increase in enrollment of children into schools and reduction in dropout rates</li> <li>Increase in likelihood of women deciding on how benefits to be spent</li> </ul>
Philippines: Pantawid Pamilyang Pilipino Program	2007	<ul style="list-style-type: none"> <li>Covers 20 per cent of total population</li> <li>Beneficiaries identified through Household surveys</li> <li>Cost of scheme – 0.5 per cent of GDP</li> <li>Conditions- Minimum attendance requirement and mandatory health check-ups, participate in monthly community-based Family Development Sessions.</li> </ul>	<ul style="list-style-type: none"> <li>20 million Filipinos benefited</li> <li>Program has led to a poverty reduction of 1.4 percentage points per year</li> <li>10.18 million children currently benefit from CCT</li> <li>Drastic decrease in alcoholism in 4Ps households (spending on vices was lower by 39 per cent)</li> </ul>

Source: World Bank FAQ (2017), ICRIER(2017)

**Q.41)** Consider the following statements regarding the **Repatriates Cooperative Finance and Development Bank Ltd (REPCO BANK)**:

- It was created for the purpose of promoting the rehabilitation activities for repatriates from neighbouring countries mainly from Bangladesh, Pakistan, Sri Lanka and Burma.
- Its rules and regulations are governed by Banking Laws (Co-operative Societies) Act, 1955.

Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

**ANS: D**

**Explanation:** Repatriates Cooperative Finance and Development Bank Ltd., (REPCO BANK) was registered on 19.11.1969 as a Cooperative Society under the relevant provisions of Madras Cooperative Societies Act, 1961 with Jurisdiction over the State of Tamilnadu, Andhra Pradesh, Karnataka, Kerala and Union Territory of Puducherry **for the purpose of promoting the rehabilitation activities for repatriates from neighbouring countries mainly from Sri Lanka and Burma.**

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- Though originally registered under the Madras Cooperative Societies Act, 1961, the Bank is deemed to be registered under the Multi State Cooperative Societies Act, 2002.
- The Bank is under the administrative control of FFR Division, Ministry of Home Affairs, Govt. of India. Constitutionally, the Bank is a Multi State Cooperative Society.
- The Bank was promoted by Government of India, Ministry of Home Affairs in association with the State Governments of Tamil Nadu, Kerala, Karnataka and Andhra Pradesh. **The Society's rules and regulations are governed by its byelaws.**
- In terms of the byelaws, as the share of the Government is more than 51%, the Board of Directors are appointed by the Govt. of India.
- The area of operation of the bank covers the south Indian states viz., Tamil Nadu, Andhra Pradesh, Karnataka, Kerala, and the Union Territory of Puducherry.
- As on March 31, 2019 the government of India held 49.15 per cent of the share capital, four southern state governments held 6.24 per cent and the remaining 45 percent was held by individual repatriates.

**Q.42)** Consider the following statements regarding the **Currency Swap Arrangement**:

1. It is an arrangement, between two friendly countries, to basically involve in trading in their own local currencies.
2. The exchange of currencies is determined by market (float) exchange rate.
3. The disputes (SWAP) are settled by third party intervention.

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: A**

**Explanation:** Currency Swap Arrangement is an arrangement, **between two friendly countries**, which have regular, substantial or increasing trade, to **basically involve in trading in their own local currencies**, where both pay for import and export trade, **at the pre-determined rates of exchange, without bringing in third country currency like the US Dollar.**

- In such arrangements no third country currency is involved, thereby eliminating the need to worry about exchange variations.
- The swap arrangement (in 2018) is an agreement between India and Japan to essentially exchange and re-exchange a maximum amount of USD 75 Billion for domestic currency, for the purpose of maintaining an appropriate level of balance of payments for meeting short-term deficiency in foreign exchange.

**Q.43)** Which of the following are the **pillars** of the Basel Norms?

1. Capital adequacy requirements
2. Supervisory review
3. Market discipline
4. Independence of Central Bank

Select the correct answer using the code given below:

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

d) 1, 2, 3 and 4

**ANS: A**

**Explanation:** Basel is a city in Switzerland. It is the headquarters of Bureau of International Settlement (BIS), which fosters co-operation among central banks with a common goal of financial stability and common standards of banking regulations.

- Basel guidelines refer to broad supervisory standards formulated by this group of central banks - called the Basel Committee on Banking Supervision (BCBS).
- The set of agreement by the BCBS, which mainly focuses on risks to banks and the financial system are called Basel accord.
- The purpose of the accord is to ensure that financial institutions have enough capital on account to meet obligations and absorb unexpected losses. India has accepted Basel accords for the banking system.

In June 2004, Basel II guidelines were published by BCBS. The guidelines were based on three parameters, which the **committee calls it as pillars**.

- **Capital Adequacy Requirements:** Banks should maintain a minimum capital adequacy requirement of 8% of risk assets
- **Supervisory Review:** According to this, banks were needed to develop and use better risk management techniques in monitoring and managing all the three types of risks that a bank faces, viz. credit, market and operational risks
- **Market Discipline:** This need increased disclosure requirements. Banks need to mandatorily disclose their CAR, risk exposure, etc to the central bank. Basel II norms in India and overseas are yet to be fully implemented.

**Q.44)** APEDA is mandated with the responsibility of export promotion and development of which of the following **scheduled products**?

1. Fruits, Vegetables and their Products.
2. Dairy Products.
3. Alcoholic beverages.
4. Herbal and Medicinal Plants.
5. Sugar Products.

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** The Agricultural and Processed Food Products Export Development Authority (APEDA) was established by the Government of India under the Agricultural and Processed Food Products Export Development Authority Act 1985.

Agricultural and Processed Food Products Export Development Authority (APEDA), a Statutory Body under the Ministry of Commerce and Industry, Govt. of India, is the apex organization engaged in the work related to the development of export of agricultural and processed food products from India.

APEDA is mandated with the responsibility of export promotion and development of the following scheduled products:

- **Fruits, Vegetables and their Products.**
- Meat and Meat Products.
- **Poultry and Poultry Products.**

- **Dairy Products.**
- Confectionery, Biscuits and Bakery Products.
- Honey, Jaggery and Sugar Products.
- Cocoa and its products, chocolates of all kinds.
- **Alcoholic and Non-Alcoholic Beverages.**
- Cereal and Cereal Products.
- Groundnuts, Peanuts and Walnuts.
- Pickles, Papads and Chutneys.
- Guar Gum.
- Floriculture and Floriculture Products.
- **Herbal and Medicinal Plants.**

**Q.45)** The Consumer Welfare Fund (CWF) has been setup under section 57 of the CGST Act, 2017. The **financial assistance** from CWF is given to which of the following?

1. Voluntary Consumer Organization (VCOs).
2. States.
3. Universities.

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 Consumer Welfare Fund Rules were framed and notified in the Gazette of India in 1992, which have been incorporated in Consumer Welfare Fund Rule 97 of the CGST Rules, 2017. Consumer Welfare Fund has been setup under section 57 of the CGST Act, 2017.

Financial assistance from CWF is given to various **Institutions including Universities, Voluntary Consumer Organization (VCOs) and States to promote and protect the welfare and interests of the consumers, create consumer awareness and strengthen consumer movement in the country.** Grants from CWF have been given for the following major projects:

- Creation of Consumer Law Chairs/ Centres of Excellence in Institutions/Universities of repute to foster research and training on consumer related issues.
- Projects for spreading consumer literacy and awareness.
- Establish Corpus Fund at the State level, through co-contribution.

**Q.46)** Which of the following activities is/are undertake by **National Agricultural Cooperative Marketing Federation of India Ltd (NAFED)**?

1. It facilitate, coordinate and promote the marketing and trading activities of the cooperative institutions, partners and associates in agricultural, other commodities, articles and goods.
2. It undertakes or promotes Inter-State and international trade and commerce and undertakes sale, purchase, import, export and distribution of agricultural commodities, horticultural and forest produce.

Select the correct answer using the code given below:

- a) 1 only
- b) 2 only
- c) Both 1 and 2



d) Neither 1 nor 2

**ANS: C**

**Explanation:** The objectives of the NAFED shall be to organize, promote and develop marketing, processing and storage of agricultural, horticultural and forest produce, distribution of agricultural machinery, implements and other inputs, undertake inter-state, import and export trade, wholesale or retail as the case may be and to act and assist for technical advice in agricultural, production for the promotion and the working of its members, partners, associates and cooperative marketing, processing and supply societies in India. In furtherance of these objectives, the NAFED may undertake one or more of the following activities.

- to facilitate, coordinate and promote the marketing and trading activities of the cooperative institutions, partners and associates in agricultural, other commodities, articles and goods;
- to undertake or promote on its own or on behalf of its member Institutions or the Government or Government Organizations, Inter-State and international trade and commerce and undertake, wherever necessary, sale, purchase, import, export and distribution of agricultural commodities, horticultural and forest produce.
- to undertake purchase, sale and supply of agricultural, marketing and processing requisites, such as manure, seeds, fertilizer, agricultural implements and machinery, packing machinery, construction requisites, processing machinery for agricultural commodities, forest produce, dairy, wool and other animal products;
- to act as warehouseman under the Warehousing Act and own and construct its own godowns and cold storages;
- to act as agent of any Government agency or cooperative institution, for the purchase, sale, storage and distribution of agricultural, horticultural, forest and animal husbandry produce, wool, agricultural requisites and other consumer goods;
- to act as insurance agent and to undertake all such work which is incidental to the same;
- to organize consultancy work in various fields for the benefit of the cooperative institutions in general and for its members in particular;

**Q.47)** Consider the following statements regarding the **Annual Survey of Industries (ASI)**:

1. Annual Survey of Industries (ASI) is conducted by Central Statistics Office.
2. It covers formal industries only.

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: A**

**Explanation:** Annual Survey of Industries (ASI) is conducted by National Sample Survey Office (NSSO). ASI is principal source of industrial statistics in India. It does not cover unorganized or unregistered or informal sector enterprises.

- ASI, an annual event, not only facilitates suitable data collection based on appropriate sampling techniques but also ensures timely dissemination of statistical information to assess and evaluates the dynamics in composition, growth and structure of organized manufacturing sector.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- The structure and function of the industrial sector is an important perspective of Indian Economy. It is imperative for industries to grow both qualitatively and quantitatively to boost the economy.
- The well-being of the industries depends truly on the formulation and promotion of industrial policies framed by the policy makers.
- To frame suitable industrial policies the policy makers need to be aware about the quantified aspect of the existing scenarios in the industries in the country.
- This is where the Annual Survey of Industries (ASI) is conducted by National Sample Survey Office, Government of India.

**Q.48)** Which of the following scheme/schemes is/are **Central Sector Scheme** for Agriculture Sector?

1. Formation and promotion of Farmer Producer Organizations (FPOs).
2. Pradhan Mantri Fasal Bima Yojana.
3. Pradhan Mantri Kisan Samman Nidhi (Pm-Kisan).

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** **Pradhan Mantri Kisan Samman Nidhi (Pm-Kisan)** is a Central Sector Scheme. It provides income support to all small and marginal landholding farmer families having cultivable land.

**PM Fasal Bima Yojana** is a centrally sponsored scheme and it replaced all other existing insurance schemes except the Restructured Weather-Based Crop Insurance Scheme.

**Formation and Promotion of Farmer Producer Organizations (FPOs)** is a Central Sector Scheme under Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW).

**NOTE:** The central welfare schemes at the state level fall into two broad categories. The first category is centrally sponsored schemes, and the second is the central sector schemes. While the Union government fully funds the central sector schemes, centrally sponsored schemes are jointly funded by the Centre and states.

**Q.49)** Consider the following statements regarding the **Pradhan Mantri Matsya Sampada Yojana (PMMSY)**:

1. PMMSY will be implemented over a period of 5 years from FY 2020-21 to FY 2024-25 in all coastal States/Union Territories.
2. More than 50% of the total estimated investment of the PMMSY is earmarked for creation and up-gradation of fisheries infrastructure facilities.
3. The scheme plans to reduce post-harvest losses from the present high of 25% to about 10% by modernizing and strengthening value chain.

Which of the statements given above is/are correct?

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

**ANS: D**

**Explanation:** The Pradhan Mantri Matsya Sampada Yojana (PMMSY) aims to enhance fish production to 220 lakh metric tons by 2024-25 from 137.58 lakh metric tons in 2018-19 at an average annual growth rate of about 9%.



## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- The Union Minister for Fisheries, Animal Husbandry and Dairying, Shri Giriraj Singh, said the ambitious scheme will result in doubling export earnings to Rs.1,00,000 crore and generate about 55 lakhs direct and indirect employment opportunities in fisheries sector over a period of next five years.
- Dedicating the PMMSY to fishers, fish farmers, fish workers, fish vendors and other stakeholders associated with the fisheries sector, Shri Giriraj Singh said that insurance coverage for fishing vessels is being introduced for the first time.
- **The PMMSY will be implemented over a period of 5 years from FY 2020-21 to FY 2024-25 in all States/Union Territories.**
- **The Fisheries Minister said that about 42% of the total estimated investment of the PMMSY is earmarked for creation and upgradation of fisheries infrastructure facilities.**
- Focus areas include Fishing Harbours and Landing Centers, Post-harvest and Cold Chain Infrastructure, Fish Markets and Marketing Infrastructure, Integrated Modern Coastal Fishing Villages and Development of Deep-sea Fishing.
- **Besides creating critical fisheries infrastructure by attracting private investments in fisheries sector, the scheme plans to reduce post-harvest losses from the present high of 25% to about 10% by modernizing and strengthening value chain.**
- Under the Swath Sagar plan, activities envisaged with a view to modernize the fisheries sector include promotion of Bio-toilets, Insurance coverage for fishing vessels, Fisheries Management Plans, E-Trading/Marketing, Fishers and resources survey and creation of National IT-based databases.

**Q.50)** Consider the following statements regarding the **International Conference on Agricultural Statistics (ICAS)**:

1. It is a series of conferences, sponsored by Food and Agriculture Organization of the United Nations (FAO), World Bank, United States Department of Agriculture (USDA) and other international development agencies.
2. It is conducted for every three years.
3. The 8th International Conference on Agricultural Statistics (ICAS-VIII) was held from 18th to 21st November 2019 in New Delhi.

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:** International Conference on Agricultural Statistics (ICAS) is a series of conferences, **sponsored by Food and Agriculture Organization of the United Nations (FAO), World Bank (WB), United States Department of Agriculture (USDA) and other international development agencies.**

- ICAS started in 1998 in response to overarching need for better agricultural data worldwide and is **held every three years** to address issues of agricultural statistics (information/data) development.
- United States, Italy, Mexico, China, Uganda and Brazil have been the host countries for ICAS in the past.
- **The 8th International Conference on Agricultural Statistics (ICAS-VIII) was held from 18th to 21st November 2019 in New Delhi.**
- The theme of the conference is Statistics for Transformation of Agriculture to achieve the Sustainable Development Goals.

## *Polity*

**Q.1)** Which of the following “**Article/Articles of Indian Constitution**” has dealt with the **provisions regarding international treaties**?

1. Article 51
2. Article 73
3. Article 253

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 Constitution of India has dealt with the provisions regarding international treaties **through Articles 51, 73 and 253**.

**Article 51:** Promotion of international peace and security The State shall endeavour to

- promote international peace and security;
- maintain just and honourable relations between nations;
- foster respect for international law and treaty obligations in the dealings of organised peoples with one another; and encourage settlement of international disputes by arbitration

**Article 73:** provides that the scope of the powers of the executive extend to:

- To the matters specified in the List 1, inclusive of entry 14, with respect to entering into and implementing treaties.
- Such rights or obligations as are exercisable in consequence of any treaty or convention which India has ratified.

**Article 253:** Legislation for giving effect to international agreements notwithstanding anything in the foregoing provisions of this Chapter, Parliament has power to make any law for the whole or any part of the territory of India for implementing any treaty, agreement or convention with any other country or countries or any decision made at any international conference, association or other body.

**Q.2)** Which of the following “**International Convention/Conventions**” is/are **ratified** by India?

1. International Convention on the Elimination of All Forms of Racial Discrimination.
2. Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment.
3. Convention on the Rights of Persons with Disabilities.

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** The International conventions signed and ratified by India are:

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

India	State Party	Signatory	No Action
Human Rights Instrument : (Date into force)	Ratification Status		Declaration
International Convention on the Elimination of All Forms of Racial Discrimination :1969	Signature: 1967, Ratification/Accession: 1968		✓
International Covenant on Civil and Political Rights :1976	Signature: NA, Ratification/Accession: 1979		✓
Optional Protocol to the International Covenant on Civil and Political Rights :1976	Signature: NA, Ratification/Accession: NA		
Second Optional Protocol to the International Covenant on Civil and Political Rights, aiming at the abolition of the death penalty :1991	Signature: NA, Ratification/Accession: NA		
International Covenant on Economic, Social and Cultural Rights :1976	Signature: NA, Ratification/Accession: 1979		✓
Optional Protocol to the International Covenant on Economic, Social and Cultural Rights :2013	Signature: NA, Ratification/Accession: NA		
Convention on the Elimination of All Forms of Discrimination against Women :1981	Signature: 1980, Ratification/Accession: 1993		✓
Optional Protocol to the Convention on the Elimination of All Forms of Discrimination against Women :2000	Signature: NA, Ratification/Accession: NA		
Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment :1987	Signature: 1997, Ratification/Accession: NA		
Optional Protocol to the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment :2002	Signature: NA, Ratification/Accession: NA		

Convention on the Rights of Persons with Disabilities is signed and ratified by India in 2008.

**Q.3)** Which of the following statements is/are correct about “**Asian Development Bank**”?

1. India, Australia and Russia are the founding members of Asian Development Bank.
2. India, China and Indonesia are the top three aid receivers of Asian Development Bank.

Select the correct answer using the code given below:

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

**ANS: B**

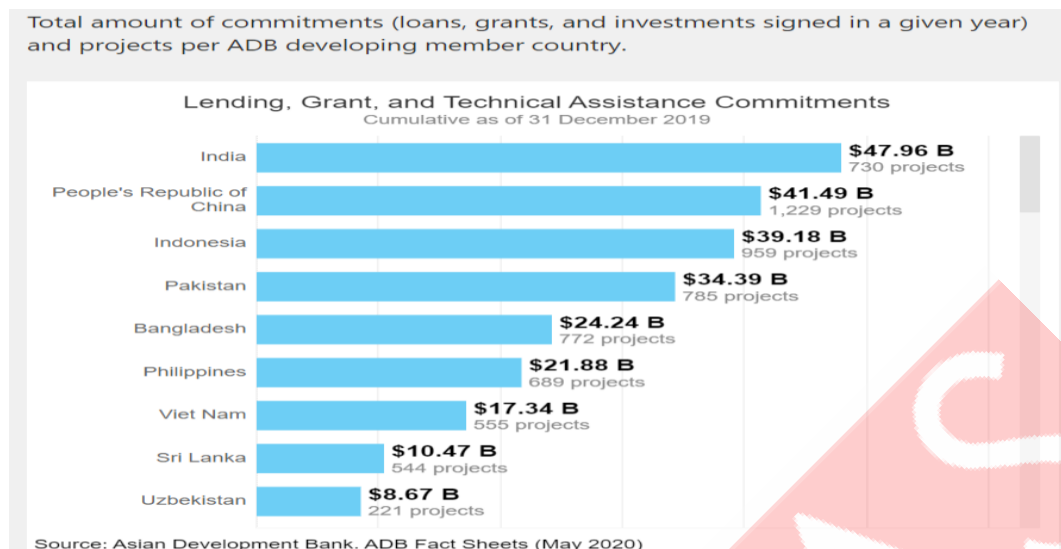
**Explanation:** Asian Development Bank.

- **ADB was conceived in the early 1960s as a financial institution that would be Asian in character and foster economic growth and cooperation in one of the poorest regions in the world.**
- A resolution passed at the first Ministerial Conference on Asian Economic Cooperation held by the United Nations Economic Commission for Asia and the Far East in 1963 set that vision on the way to becoming reality.
- **The Philippines capital of Manila was chosen to host the new institution, which opened on 19 December 1966, with 31 members that came together to serve a predominantly agricultural region.**
- Takeshi Watanabe was ADB's first President. During the 1960s, ADB focused much of its assistance on food production and rural development.

**Statement 1 is incorrect:** India was a founding member of ADB in 1966 and is now the bank's fourth-largest shareholder. Australia is also a founder member, but Russia not yet joined the Asian Development Bank.

**Statement 2 is correct:** India, China and Indonesia are the top three aid receivers of Asian Development Bank.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020



**Q.4)** Which of the following statements is/are correct about “**The Economic and Social Commission for Asia and the Pacific (ESCAP)**”?

1. It is the largest regional intergovernmental platform in Asia-Pacific.
2. India has joined ESCAP after independence.

Select the correct answer using the code given below:

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

**ANS: A**

**Explanation: The Economic and Social Commission for Asia and the Pacific (ESCAP).**

**Statement 1 is correct:** The Economic and Social Commission for Asia and the Pacific (ESCAP) serves as the United Nations’ regional hub promoting cooperation among countries to achieve inclusive and sustainable development. The **largest regional intergovernmental platform** with 53 Member States and 9 associate members, ESCAP has emerged as strong regional think-tank offering countries sound analytical products that shed insight into the evolving economic, social and environmental dynamics of the region.

**Statement 2 is incorrect:** India has joined UN ESCAP in March, 1947.

**Q.5)** The “**Agreement on Reciprocal Logistics Support (ARLS)**” is an agreement between India and which of the following country?

- a) Russia
- b) Iran
- c) Vietnam
- d) USA

**ANS: A**

**Explanation: India and Russia** are expected to conclude a mutual logistics agreement (Agreement on Reciprocal Logistics Support (ARLS)) and review the setting up of joint ventures for manufacturing spares for Russian defense platforms in India. **Logistics agreements are administrative arrangements facilitating access to military facilities for exchange of fuel and provisions on mutual agreement when the Indian military is operating abroad.**

**Q.6)** Which of the following statements is/are correct about “**Automatic Exchange of Information (AEOI)**”?

1. It is the exchange of information between countries with a formal request by recipient country.
2. Recently Switzerland has shared bank account details with the Indian government under the AEOI.

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** The new global standard on Automatic Exchange of Information (AEOI) reduces the possibility for tax evasion. It provides for the exchange of non-resident financial account information with the tax authorities in the account holders' country of residence.

**Statement 1 is incorrect:** Automatic Exchange of Information (AEOI) is **the exchange of information between countries without having to request it**.

**Statement 2 is correct:** In the first tranche of information, Switzerland has shared bank account details with the Indian government under the AEOI (Automatic Exchange of Information) framework.

**Q.7)** Which of the following statements is/are correct about “**Blue Dot Network**”?

1. It is jointly launched by USA, Japan, Australia and India to counter China's Belt and Road Initiative (BRI).
2. It is launched on the sidelines of the 33<sup>rd</sup> ASEAN Summit in Singapore.
3. It is an initiative that aims to bring governments, the private sector and civil society together to promote “high quality, trusted standards for global infrastructure development”.

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** Blue Dot Network.

- Led by the **US's International Development Finance Corporation (DFC)**, the **Blue Dot network was jointly launched by the US, Japan (Japanese Bank for International Cooperation) and Australia** (Department of Foreign Affairs and Trade) in November 2019 on the sidelines of the 34th ASEAN Summit in Thailand.
- It is meant to be a multi-stakeholder initiative that aims to bring governments, the private sector and civil society together to promote “**high quality, trusted standards for global infrastructure development**”.

**Q.8)** India is a member of which among the following?

1. Asia –Pacific Economic Cooperation
2. ASEAN
3. Regional Anti-Terrorist Structure (RATS)
4. Quad

Select the correct answer using the code given below:



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

**ANS: C**

**Explanation:**

- The **Regional Anti-Terrorist Structure (RATS)**, headquartered in Tashkent, Uzbekistan, is a permanent organ of the SCO which serves to promote cooperation of member states against the three evils of terrorism, separatism and extremism. At SCO summit, held in Tashkent, Uzbekistan, on June 2004, the Regional Anti-Terrorist Structure (RATS) was established. The Head of RATS is elected to a three-year term. Each member state also sends a permanent representative to RATS.
- The **grouping of four democracies –India, Australia, US and Japan**– known as the quadrilateral security dialogue or quad, was first mooted by Japanese Prime Minister Shinzo Abe in 2007. However, the idea couldn't move ahead with Australia pulling out of it, apparently due to Chinese pressure. With the aim to counter China's aggressive behaviour in the Indo-Pacific region, India, Australia, US and Japan, formed the "quadrilateral" coalition on November 12, 2017.
- India is not a member of both Asia-Pacific Economic Cooperation and ASEAN.

**Q.9)** Which of the following are member countries of the "**European Free Trade Association (EFTA)**"?

- 1. Iceland
- 2. Sweden
- 3. Switzerland
- 4. Norway
- 5. Finland

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** The European Free Trade Association (EFTA) is the intergovernmental organisation of Iceland, Liechtenstein, Norway and Switzerland. It was set up in 1960 by its then seven Member States for the promotion of free trade and economic integration between its members.

**Q.10)** Which of the following statements is/are correct about "**Global Refugee Forum**"?

- 1. It is launched in 2016 to deal with the migrant crisis in Middle East region.
- 2. It is a joint initiative of the United Nations High Commissioner for Refugees (UNHCR) and Germany.

Select the correct answer using the code given below:

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



**ANS: D**

**Explanation:** Global Refugee Forum

- The **first ever Global Refugee Forum took place on 17 and 18 December 2019** and was a true milestone in the advancement of the international refugee regime.
- It brought the international community together to demonstrate solidarity with the world's refugees and the countries and communities that host them, to announce pledges and contributions that support them, and to commit to a continued search for solutions.
- We—Costa Rica, Ethiopia, Germany, Pakistan, Turkey and the United Nations High Commissioner for Refugees—were honoured to serve as co-convenors of this historic event, which took place in Geneva, Switzerland.
- **We thank Switzerland for co-hosting the Forum with the United Nations High Commissioner for Refugees and all those who actively contributed to making the Forum a success**, including governments, international organizations, representatives from across the humanitarian and development worlds, business leaders, civil society, sports organizations, faith groups, academia, and refugees themselves.

**Q.11)** Which of the following statements is/are correct regarding **Oath or Affirmation by the President?**

1. President swears to faithfully execute the office.
2. President swears to preserve, protect and defend the Constitution and the law.
3. President Swears to uphold the sovereignty and integrity of India.

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: B**

**Explanation: Oath or Affirmation by the President.**

Before entering upon his office, the President has to make and subscribe to an oath or affirmation. In his oath, the President swears:

- to **faithfully execute the office**;
- to **preserve, protect and defend the Constitution** and the law; and
- to **devote himself to the service and well-being** of the people of India.

**Q.12)** Consider the following statements regarding the **legislative powers of the President:**

1. President can summon or adjourn the Parliament and dissolve the Lok Sabha.
2. He can appoint any member of the Lok Sabha to preside over its proceedings when the offices of both the Speaker and the Deputy Speaker fall vacant.

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 President is an integral part of the Parliament of India, and enjoys the following legislative powers.

- He can **summon or prorogue** the Parliament and dissolve the Lok Sabha. He can also summon a joint sitting of both the Houses of Parliament, which is presided over by the Speaker of the Lok Sabha.
- He can **address the Parliament at the commencement of the first session** after each general election and the first session of each year.
- He **can send messages to the Houses of Parliament**, whether with respect to a bill pending in the Parliament or otherwise.
- He can **appoint any member of the Lok Sabha to preside over its proceedings** when the offices of both the Speaker and the Deputy Speaker fall vacant. Similarly, he can also appoint any member of the Rajya Sabha to preside over its proceedings when the offices of both the Chairman and the Deputy Chairman fall vacant.
- He **nominates 12 members of the Rajya Sabha** from amongst persons having special knowledge or practical experience in literature, science, art and social service.
- He can **nominate two members to the Lok Sabha** from the Anglo-Indian Community.

**NOTE:** The adjournment is done by presiding officers (speaker / deputy speaker in Lok Sabha and Chairman / Deputy Chairman in Rajya Sabha).

**Q.13)** Consider the following statements regarding the **Prime Minister of India**:

1. The term of the Prime Minister is fixed for five years and he holds office during the pleasure of the president.
2. Article 75 of the Indian Constitution contains the procedure for selection and appointment of the Prime Minister.

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 Prime Minister of India.

**Statement 1 is incorrect:** The **term of the Prime Minister is not fixed** and he holds office during the pleasure of the president. However, this does not mean that the president can dismiss the Prime Minister at any time. So long as the Prime Minister enjoys the majority support in the Lok Sabha, he cannot be dismissed by the President.

**Statement 2 is incorrect:** The **Constitution does not contain any specific procedure** for the selection and appointment of the Prime Minister. **Article 75 says only that the Prime Minister shall be appointed by the president.**

**Q.14)** Consider the following statements regarding the **Rajya Sabha (Council of State)**:

1. The Indian Councils Act, 1909 provided for the creation of a Council of State as a second chamber.
2. The Fourth Schedule to the Constitution provides for allocation of seats to the States and Union Territories in Rajya Sabha.

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 Rajya Sabha.

- The **origin of the second Chamber can be traced to the Montague-Chelmsford Report** of 1918.
- The **Government of India Act, 1919 provided for the creation of a 'Council of State'** as a second chamber of the then legislature with a restricted franchise which actually came into existence in 1921.
- The **Fourth Schedule to the Constitution provides for allocation of seats to the States and Union Territories in Rajya Sabha.**
- The allocation of seats is made on the **basis of the population** of each State.

**Q.15)** Which of the following committee/committees comes under the **Standing Committees to enquire** of Rajya Sabha?

1. Committee on Petitions.
2. Committee of Privileges.
3. Rules Committee.

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: B**

**Explanation:** The Committees may be classified as Ad-hoc Committees and Standing Committees. Standing Committees may be divided in terms of their functions:

**Committees to enquire:**

- Committee on Petitions
- Committee on Privileges
- Ethics Committee

**Committees to scrutinise and control:**

- Committee on Government Assurances
- Committee on Subordinate Legislation and
- Committee on Papers Laid on the Table

**Committees relating to day-to-day business of the House:**

- Business advisory committee
- Rules Committee

**House Keeping Committees:**

- House Committee
- General Purpose Committee
- Committee on Provision of Computers to Members of Rajya Sabha

**Q.16)** Which of the following agreement/agreements is/are signed by **India and United States of America (USA)**?

1. General Security of Military Information Agreement (GSOMIA).
2. Logistics Exchange Memorandum of Agreement (LEMOA).
3. Basic Exchange and Cooperation Agreement for Geo-spatial Cooperation (BECA).

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** Agreements signed by India and USA.

- India had signed the General Security of Military Information Agreement (GSOMIA) in 2002 and the Logistics Exchange Memorandum of Agreement (LEMOA) in 2016.
- The last one remaining is the Basic Exchange and Cooperation Agreement for Geo-spatial Cooperation (BECA) is not yet signed by India.

FOUNDATIONAL AGREEMENTS		
<b>Logistics Exchange Memorandum of Agreement (LEMOA)</b>	<b>Communication Interoperability &amp; Security Memorandum of Agreement (CISMOA)</b>	
<ul style="list-style-type: none"><li>➤ Provide <b>logistic support, refuelling &amp; berthing facilities</b> for each other's <b>warships &amp; aircraft</b> on barter/equal-value exchange basis</li><li>➤ <b>Will not involve stationing of US troops on Indian soil. Nor will India extend support if US goes to war with "a friendly country"</b></li><li>➤ <b>Good for US forces re-balancing to Asia Pacific.</b> Indian forces rarely operate far away from their shores but access to <b>Djibouti &amp; Diego Garcia</b> could be useful</li></ul>	<ul style="list-style-type: none"><li>➤ <b>Technology enabler to help transfer high-tech avionics, encrypted communication &amp; electronic systems</b> to India</li><li>➤ <b>But fears that US will be able to track &amp; snoop on Indian warships/aircraft</b> equipped with such systems</li></ul>	<ul style="list-style-type: none"><li>➤ US says <b>CISMOA will boost 'interoperability' as well as ensure secrecy of its C4ISR</b> (command, control, communications, computer, intelligence, surveillance and reconnaissance) systems</li></ul>
	<b>Basic Exchange &amp; Cooperation Agreement for Geo-Spatial Cooperation (BECA)</b>	<ul style="list-style-type: none"><li>➤ US says <b>BECA will help India with advanced satellite &amp; topographical data</b> for long-range navigation &amp; missile-targeting</li><li>➤ <b>But India, which has its own satellite imaging capabilities, unwilling for American digital sensors to be positioned on its soil</b></li></ul>

**Q.17)** Which of the following treaty/treaties is/are related to **European Union**?

1. Treaty of Lisbon
2. Treaty of Nice
3. Treaty of Amsterdam

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** The European Union is based on the rule of law. This means that every action taken by the EU is founded on treaties that have been approved voluntarily and democratically by all EU member countries. A treaty is a binding agreement between EU member countries. It sets out EU objectives, rules for EU institutions, how decisions are made and the relationship between the EU and its member countries. The main treaties are:

**Treaty of Lisbon:** Signed on 13 December 2007, to make the EU more democratic, more efficient and better able to address global problems, such as climate change, with one voice.

**Treaty of Nice:** Signed on 26 February 2001, to reform the institutions so that the EU could function efficiently after reaching 25 member countries.

**Treaty of Amsterdam:** Signed on 2 October 1997, to reform the EU institutions in preparation for the arrival of future member countries.

**Q.18)** Consider the following statements regarding **BASIC group**:

1. The member countries of the group consist of India, Brazil, South Korea and China.

2. The main objective of the group is to promote industrialization.

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:** BASIC group.

**Statement 1 is incorrect:** The BASIC group was formed as the result of an agreement signed by the four countries on November 28, 2009. They are a bloc of **four large newly industrialized countries – Brazil, South Africa, India and China.**

**Statement 2 is incorrect:** The main objective of the BASIC group is to **have a broadly common position on reducing greenhouse gas emissions** and raising the massive funds that are needed to fight climate change.

**Q.19)** Consider the following statements regarding the **Eurasian Economic Union (EAEU)**:

- 1. The Eurasian Economic Union is an international organization for regional economic integration.
- 2. All Central Asian countries except Turkmenistan and Russia are member countries of Eurasian Economic Union.

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: Eurasian Economic Union (EAEU).**

- The **Eurasian Economic Union is an international organization for regional economic integration.** It has international legal personality and is established by the Treaty on the Eurasian Economic Union.
- The **EAEU provides for free movement of goods, services, capital and labor, pursues coordinated, harmonized and single policy** in the sectors determined by the Treaty and international agreements within the Union.
- The **Member-States of the Eurasian Economic Union are the Republic of Armenia, the Republic of Belarus, the Republic of Kazakhstan, the Kyrgyz Republic and the Russian Federation.**
- The Union is being created to comprehensively upgrade, raise the competitiveness of and cooperation between the national economies, and to promote stable development in order to raise the living standards of the nations of the Member-States.

**Q.20)** Consider the following statements regarding the **Organization of the Petroleum Exporting Countries (OPEC)**:

- 1. OPEC is a permanent, Informal organization.
- 2. OPEC membership is open to any country that is a substantial exporter of oil and which shares the ideals of the organization.

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 Organization of the Petroleum Exporting Countries (OPEC) was founded in Baghdad, Iraq, with the signing of an agreement in September 1960 by five countries namely Islamic Republic of Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. They were to become the Founder Members of the Organization.

- OPEC is a **permanent, intergovernmental organization**.
- The current OPEC members are the following: Algeria, Angola, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, and the Republic of the Congo, Saudi Arabia (the de facto leader), the United Arab Emirates and Venezuela. Ecuador, Indonesia and Qatar are former members.
- OPEC's objective **is to co-ordinate and unify petroleum policies among Member Countries**, in order to secure fair and stable prices for petroleum producers; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the industry.
- OPEC **membership is open to any country that is a substantial exporter of oil** and which shares the ideals of the organization.

**Q.21)** With respect to World Economic Forum's Global Gender Gap Report 2020, India has improved its ranking in which of the following indicators?

- a) Political Empowerment
- b) Health and survival
- c) Educational attainment
- d) Economic participation

**ANS: A**

**Explanation:** Global Gender Gap Report, 2020 by World Economic Forum benchmarks 153 countries on their progress towards gender parity across four thematic dimensions:

- Economic Participation and Opportunity
- Educational Attainment
- Health and Survival, and
- Political Empowerment.

India slipped four places to 112th rank and has closed two-thirds of its overall gender gap (score of 66.8%). While India has improved in political empowerment, it has fallen in other three indicators. India is the only country among the 153 countries studied where the economic gender gap is larger than the political one.

**Q.22)** Consider the following statements regarding the **Commission on the Status of Women (CSW)**:

1. It is the principal global intergovernmental body exclusively dedicated to the promotion of gender equality and the empowerment of women.
2. It is a functional commission of ECOSOC.
3. It monitors and reviews the progress and problems in the implementation of the Beijing Declaration and Platform for Action.

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:** Commission on the Status of Women (CSW).

- The Commission on the Status of Women (CSW) is the **principal global intergovernmental body exclusively dedicated to the promotion of gender equality and the empowerment of women.**
- A **functional commission of the Economic and Social Council (ECOSOC)**, it was established by ECOSOC resolution 11(II) of 21 June 1946.
- The CSW is instrumental in promoting women's rights, documenting the reality of women's lives throughout the world, and shaping global standards on gender equality and the empowerment of women.
- In 1996, ECOSOC in resolution 1996/6 **expanded the Commission's mandate and decided that it should take a leading role in monitoring and reviewing progress and problems in the implementation of the Beijing Declaration and Platform for Action**, and in mainstreaming a gender perspective in UN activities.

**Q.23)** Consider the following statements regarding the provisions of the **Protection of Children from Sexual Offences (POCSO) Act**:

1. The Act defines a child as any person below sixteen years of age.
2. It is a gender neutral law.
3. It recognizes consensual sexual acts among children or between a child and an adult.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** To deal with child sexual abuse cases, the Government has brought in a special law, namely, The Protection of Children from Sexual Offences (POCSO) Act, 2012. The Act has come into force with effect from 14th November, 2012 along with the Rules framed there under.

Provisions of the Protection of Children from Sexual Offences (POCSO) Act:

- The **Act defines a child as any person below eighteen years of age** and regards the best interests and well-being of the child as being of paramount importance at every stage, to ensure the healthy physical, emotional, intellectual and social development of the child.
- It **defines different forms of sexual abuse**, including penetrative and non-penetrative assault, as well as sexual harassment and pornography, and deems a sexual assault to be "aggravated" under certain circumstances, such as when the abused child is mentally ill or when the abuse is committed by a person in a position of trust or authority vis-à-vis the child, like a family member, police officer, teacher, or doctor
- It also **seeks to establish Special Courts for speedy trial** of such offences. The Act stipulates that a case of Child Sexual Abuse must be disposed of within one year from the date the offence is reported.
- It also **provides for relief and rehabilitation of the child**, as soon as the complaint is made. The Special Juvenile Police Unit or the local police are also required to report the matter to the Child Welfare Committee within 24 hours of recording the complaint, for long term rehabilitation of the child.
- It is **gender neutral law**, wherein the law takes cognizance of sexual crimes committed against both girls and boys under the age of 18 years.

- It **does not recognize consensual sexual acts among children or between a child and an adult**. Prosecutes any person (including a child) for engaging in a sexual act with a child irrespective of whether the latter consented to it.

**Q.24)** The “**Hague Convention**” is related to which of the following?

- a) Child adoption
- b) Women empowerment
- c) International Justice
- d) None

**ANS: A**

**Explanation:** The **Hague Convention protects children and their families against the risks of illegal, irregular, premature or ill-prepared adoptions abroad**. To do this, the Hague Convention puts:

- safeguards in place to make sure that all inter-country adoptions are in the best interests of the child and respects their human rights,
- a system in place of cooperation among countries to guarantee that these safeguards are respected, and to prevent the abduction of, sale of, or traffic in children.

For Hague adoptions, the authorities in both countries must agree to go ahead with the adoption. For non-Hague adoptions, requirements may vary from one country to another. The Hague Convention does not allow private adoptions in the child's home country.

**Q.25) NATIONAL LEGAL SERVICES AUTHORITY (NALSA) VS UNION OF INDIA** case is related to which of the following?

- a) Sexual harassment at work place
- b) Domestic violence
- c) Transgender
- d) Child rights

**ANS: C**

**Explanation:** NATIONAL LEGAL SERVICES AUTHORITY (NALSA) VS UNION OF INDIA case was filed by the NALSA to **legally recognize persons who fall outside the male/female gender binary, including persons who identify as “third gender”**.

- This was a landmark decision where the apex court legally recognised “third gender”/**transgender** persons for the first time and discussed “gender identity” at length.
- The **Court recognised that third gender persons were entitled to fundamental rights** under the Constitution and under International law.
- Further, it directed **state governments to develop mechanisms to realise** the rights of “third gender”/transgender persons.

**Q.26)** The term “**Bandicoot**” is related to which of the following?

- a) Child labour Alert system
- b) Man-hole cleaning robot
- c) Risk alert app for women
- d) None

**ANS: B**

**Explanation:** **Bandicoot is a robotic system for manhole and sewer line cleaning** aimed at the complete elimination of manual scavenging from the face of earth. The **Greater**

**Hyderabad Municipal Corporation (GHMC) in 2019 procured a 'Bandicoot',** which would help end the practice of manual scavenging.

**Q.27)** The “**Ananthsayanam Ayyangar Committee, Justice Venkatchaliah Commission, Balkrishna Sidke Renke and Idate Commission**” related to which of the following?

- a) De-notified tribes
- b) Education
- c) Primary health
- d) Rural women empowerment

**ANS: A**

**Explanation:** The committees/commissions related to De-notified/criminal tribes.

- The **Ananthsayanam Ayyangar Committee** (gave a comprehensive report on how CTA worked throughout India), the CTA was repealed in August 1949 and former “criminal tribes” were de-notified in 1952, when the Act was replaced with the Habitual Offenders Act, 1952 of Government of India.
- In 2002, **Justice Venkatchaliah Commission** recommended for strengthening the programmes for economic and educational development of De-Notified Tribes (DNTs).
- National Commission for De-notified Nomadic and Semi-Nomadic Tribes was constituted in 2005 under the **chairmanship of Balkrishna Sidke Renke**, to study the socio-economic conditions of these groups.
- Another National Commission for De-notified Nomadic and Semi-Nomadic Tribes chaired by **Bhiku Ramji Idate** was constituted in 2015 for a three-year period. It submitted its report viz “Voices of the Denotified, Nomadic & SemiNomadic Tribes” in 2018.

**Q.28)** Consider the following statements regarding the **Higher Education Financing Agency (HEFA)**:

1. It is a not-profit banking agency established in 2017.
2. It is established to mobilise extra-budgetary resources for building crucial infrastructure in the higher educational institutions under 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: B**

**Explanation:** The Higher Education Financing Agency (HEFA).

**Statement 1 is incorrect:** HEFA has been set up on 31st May 2017 by the Central Government as a **non-profit, Non-Banking Financing Company (NBFC)**.

**Statement 2 is correct:** HEFA was established to **mobilize extra-budgetary resources** for building crucial infrastructure in the higher educational institutions under Central Government.

**NOTE:** The Government has approved the authorised equity capital expansion of Higher Education Financing Agency (HEFA) to Rs. 10,000 crore, with Government equity of Rs. 6000 crore.

- An amount corresponding to 10% of the Government equity would be contributed by the partner institution, Canara Bank.

**PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

- All Centrally Funded Educational Institutions in **Higher Education, School Education and Medical Education sectors are eligible** to avail of loans through HEFA.

**Q.29)** Consider the following statements regarding the objectives of **Revitalizing Infrastructure and Systems in Education (RISE) by 2022**:

1. Qualitatively upgrade the research and academic infrastructure in India to global best standards by 2022.
2. To create separate Institutes of National Importance for girls.
3. To cater to the requirements of the Kendriya Vidyalayas and Navodaya Vidyalayas, and medical institutions like AIIMSs in a faster time frame.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** The RISE by 2022 is an attempt to translate the objectives into action plan by making available resources from the market. The objectives of RISE by 2022 are:

- **Qualitatively upgrade the research** and academic infrastructure in India to global best standards by 2022.
- **Make India into an education hub** by making available high quality research infrastructure in Indian higher educational institutions.
- **To allow access of HEFA funding to institutions** like Central Universities, AIIMS, IISERs and newly created Institutes of National Importance, without creating any additional burden to the students.
- To **bring greater accountability and speed in execution** of infrastructure projects and avoid all cost/time over-runs, moving from the block-grant mode to project-mode for all infrastructure projects.
- To **cater to the requirements of the Kendriya Vidyalayas and Navodaya Vidyalayas, and medical institutions like AIIMSs** in a faster time frame.

**Q.30)** Consider the following statements regarding the report “**Healthy States, Progressive India**”:

1. It was prepared by NITI Aayog with the help of United Nations Development Programme (UNDP).
2. It ranks states and Union territories innovatively on their year-on-year incremental change in health outcomes.

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 report “Healthy States, Progressive India”.

**Statement 1 is incorrect:** The report has been **developed by NITI Aayog, with technical assistance from the World Bank**, and in consultation with the Ministry of Health and Family Welfare.



**Statement 2 is correct:** It ranks states and Union territories innovatively on their year-on-year incremental change in health outcomes, as well as, their overall performance with respect to each other.

**Q.31)** 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.32)** 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.33)** 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

## **PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

Minister of Meghalaya launched 'The Meghalaya Community Participation and Public Services Social Audit Act, 2017', at a national convention in Shillong.

**Q.34)** 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.35)** "**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.36)** 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.37)** 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.38)** 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.

- 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.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- 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.

28       
Total Members of  
Consumer Complaints Councils

16  
Members of  
Civil Society

12  
Advertising  
practitioners

1985  
ASCI's  
ESTABLISHMENT

4 SECTORS

**Q.39)** 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.40)** Which of the following is/are correctly matched?

**Government to Consumer (G2C) initiative**

- |                      |   | <b>State</b> |
|----------------------|---|--------------|
| 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.

**Q.41)** Consider the following statements regarding the **Election Commission of India**:

1. It is a Permanent and Independent body.
  2. It deals with elections to parliament, state legislature and local bodies.
- 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 Election Commission is a **permanent and an independent body** established by the Constitution of India directly to ensure free and fair elections in the country.

- Article 324 of the Constitution provides that the power of superintendence, direction and control of **elections to parliament, state legislatures, the office of president of India and the office of vice-president of India shall be vested in the election commission.**
- Thus, the Election Commission is an all-India body in the sense that it is common to both the Central government and the state governments.
- **It must be noted here that the election commission is not concerned with the elections to panchayats and municipalities in the states.**

NOTE: Elections to local bodies are dealt by state election commission.

**Q.42)** Which of the following are guidelines for declaring a language as **Classical Language**?

1. High antiquity of its early texts/recorded history over a period of 1500-2000 years.
2. A body of ancient literature/texts, which is considered a valuable heritage by generations of speakers.
3. The literary tradition can be original and borrowed from another speech community.
4. The classical language and literature being distinct from modern, there may also be a discontinuity between the classical language and its later forms or its offshoots.

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** According to information provided by the Ministry of Culture in the Rajya Sabha in February 2014, the guidelines for declaring a language as 'Classical' are:



## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- High antiquity of its early texts/recorded **history over a period of 1500-2000 years**;
- A body of ancient literature/texts, which is considered a **valuable heritage by generations of speakers**;
- The **literary tradition be original and not borrowed** from another speech community;
- The classical language and literature being **distinct from modern**, there may also be a discontinuity between the classical language and its later forms or its offshoots.

Currently, six languages enjoy the 'Classical' status: Tamil (declared in 2004), Sanskrit (2005), Kannada (2008), Telugu (2008), Malayalam (2013), and Odia (2014).

**Q.43)** Which of the following cases is/are related to **Preamble** of the Indian Constitution?

1. Berubari Union case (1960).
2. Kesavananda Bharati vs State of Kerala (1973).
3. LIC of India vs Consumer Education and Research Centre (1995).

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:** One of the controversies about the Preamble is as to whether it is a part of the Constitution or not.

- In the **Berubari Union case (1960)**, the Supreme Court said that the Preamble shows the general purposes behind the several provisions in the Constitution, and is thus a key to the minds of the makers of the Constitution.
- Further, where the terms used in any article are ambiguous or capable of more than one meaning, some assistance at interpretation may be taken from the objectives enshrined in the Preamble. Despite this recognition of the significance of the Preamble, the Supreme Court specifically opined that Preamble is not a part of the Constitution.
- In the **Kesavananda Bharati case (1973)**, the Supreme Court rejected the earlier opinion and held that Preamble is a part of the Constitution. It observed that the Preamble is of extreme importance and the Constitution should be read and interpreted in the light of the grand and noble vision expressed in the Preamble.
- In the **LIC of India case (1995)** also, the Supreme Court again held that the Preamble is an integral part of the Constitution.

**Q.44)** Under which of the following **Articles of Indian Constitution**, the Supreme Court has recognized the **right to information** as a fundamental right of citizens?

1. Article 14
2. Article 19
3. Article 21

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** The country's law on our right to information was enacted in 2005.

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- However, since 1975, in multiple judgments, the Supreme Court has recognized the right to information as a fundamental right of citizens under Article 19(1)(a) of the Constitution on our freedom of speech and expression.
- This has been read together with **Articles 14, 19 and 21** to guarantee our right to equality, right to freedom of speech and expression, and our right to life and liberty, respectively.
- It was those judgments, together with the RTI movements by citizens, which culminated in the RTI Act of 2005.
- This was an Act of Parliament that set forth a practical regime and framework to grant citizens this right and replaced the erstwhile Freedom of Information Act, 2002.

**Q.45)** “The Constituent Assembly was composed roughly along the lines suggested by the plan proposed by the committee of the British cabinet, known as the Cabinet Mission”. Which of the following is/are **features of the Cabinet Mission**?

1. Each Province and each Princely State or group of States were allotted seats proportional to their respective population roughly in the ratio of 1:1,00,000.
2. The seats in each Province were distributed among the three main communities, Muslims, Sikhs and general, in proportion to their respective populations.
3. Members of each community in the Provincial Legislative Assembly elected their own representatives by the method of First Past the Post System.

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** Formally, the Constitution was made by the Constituent Assembly which had been elected for undivided India. It held its first sitting on 9 December 1946 and reassembled as Constituent Assembly for divided India on 14 August 1947.

Its **members were chosen by indirect election by the members of the Provincial Legislative Assemblies** that had been established under the Government of India Act, 1935.

The **Constituent Assembly was composed roughly along the lines suggested by the plan proposed by the committee of the British cabinet, known as the Cabinet Mission.**

According to this plan:

- Each Province and each Princely State or group of States were **allotted seats proportional to their respective population roughly in the ratio of 1:10,00,000**. As a result the Provinces (that were under direct British rule) were to elect 292 members while the Princely States were allotted a minimum of 93 seats.
- The seats in each Province were distributed among the **three main communities, Muslims, Sikhs and general**, in proportion to their respective populations.
- Members of each community in the Provincial Legislative Assembly elected their own representatives by the **method of proportional representation** with single transferable vote.
- The method of selection in the case of representatives of Princely States was to be determined by consultation.

**Q.46)** Consider the following statements regarding the **First Past the Post system (FPTP)**:

1. Under FPTP the country is divided into small geographical units are called as constituents.
2. Voters vote for party.

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 candidate who secures the highest number of votes in constituency is declared elected.

- The winning candidate need not secure a majority of the votes. This method is called the First Past the Post (FPTP) system.
- In the electoral race, the candidate who is ahead of others, who crosses the winning post first of all, is the winner. This method is also called the Plurality System.
- This is the method of election prescribed by the Constitution.

Comparison of FPTP and PR system of election	
FPTP	PR
The country is divided into small geographical units called constituencies or districts	Large geographical areas are demarcated as constituencies. The entire country may be a single constituency
Every constituency elects one representative	More than one representative may be elected from one constituency
Voter votes for a candidate	Voter votes for the party
A party may get more seats than votes in the legislature	Every party gets seats in the legislature in proportion to the percentage of votes that it gets
Candidate who wins the election may not get majority (50%+1) votes	Candidate who wins the elections gets majority of votes.
Examples: U.K., India	Examples: Israel, Netherlands

**Q.47)** Consider the following **judicial powers and functions of the Parliament**:

1. It can impeach the President for the violation of the Constitution.
2. It can remove the Vice-President from his office.
3. It can punish its members or outsiders for the breach of its privileges or its contempt.

Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** The **judicial powers and functions of the Parliament** include the following:

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- It can **impeach the President** for the violation of the Constitution.
- It can **remove the Vice-President** from his office.
- It **can recommend the removal of judges** (including chief justice) of the Supreme Court and the high courts, chief election commissioner, comptroller and auditor general to the president.
- It can **punish its members or outsiders for the breach of its privileges** or its contempt.

**Q.48)** Which of the following is/are correctly matched?

Articles of Indian Constitution	:	Organization
1. Article 21	:	National Green Tribunal
2. Article 279	:	Goods & Service Tax Council
3. Article 323A	:	Central Administrative Tribunal

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: National Green Tribunal (NGT):** The NGT was established in the year 2010 under the National Green Tribunal Act of 2010 to dispose of civil cases relating to environmental protection and conservation of forests and other natural resources, including enforcement of any legal rights related to the environment (National Green Tribunal). The Act was enacted through the Parliament of India, under the provision of **Article 21** of the Constitution of India, which emphasizes the right to live in a clean and healthy environment.

**Goods & Service Tax Council:** As per **Article 279A** (1) of the amended Constitution, the GST Council has to be constituted by the President within 60 days of the commencement of Article 279A. The notification for bringing into force Article 279A with effect from 12th September, 2016 was issued on 10th September, 2016.

**Central Administrative Tribunal:** The Central Administrative Tribunal had been established under **Article 323 - A** of the Constitution for adjudication of disputes and complaints with respect to recruitment and conditions of service of persons appointed to public services and posts in connection with the affairs of the Union or other authorities under the control of the Government.

**Q.49)** Which **types of questions** are asked in **Question Hour** of Parliament?

- 1. Starred Questions
- 2. Un-starred Questions
- 3. Short Notice Questions
- 4. Questions addressed to private members

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** Members have a right to ask questions to elicit information on matters of public importance within the special cognizance of the Ministers concerned. The questions are of four types:—

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- **Starred Questions**- A Starred Question is one to which a member desires an oral answer from the Minister in the House and is required to be distinguished by him/her with an asterisk. Answer to such a question may be followed by supplementary questions by members.
- **Unstarred Questions**- an Unstarred Question is one to which written answer is desired by the member and is deemed to be laid on the Table of the House by Minister. Thus it is not called for oral answer in the House and no supplementary question can be asked thereon.
- **Short Notice Questions**- A member may give a notice of question on a matter of public importance and of urgent character for oral answer at a notice less than 10 days prescribed as the minimum period of notice for asking a question in ordinary course. Such a question is known as 'Short Notice Question'.
- **Questions to Private Members**- A Question may also be addressed to a Private Member (Under Rule 40 of the Rules of Procedure and Conduct of Business in Lok Sabha), provided that the subject matter of the question relates to some Bill, Resolution or other matter connected with the business of the House for which that Member is responsible. The procedure in regard to such questions is same as that followed in the case of questions addressed to a Minister with such variations as the Speaker may consider necessary.

NOTE:

The List of Starred, Unstarred, Short Notice Questions and Questions to Private Members are printed in green, white, light pink and yellow colour, respectively, to distinguish them from one another.

**Q.50)** Consider the following statements regarding the **Quorum**:

1. It is the minimum number of members to be present at the sitting of house for valid transaction of its business.
  2. It is one-tenth of the total number of members in each house excluding presiding officer.
- 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:** Article 100 of the Constitution of India stipulates that at least 10% of total number of members of the House must be present to constitute the quorum to constitute a meeting of either House of Parliament.

- It means that there must be at least 55 members present in the Lok Sabha and 25 members present in the Rajya Sabha, if any business is to be conducted.
- Quorum also includes the presiding officer of the particular house (Lok Sabha or Rajya Sabha).
- If there is no quorum during a meeting of the House, it is the duty of the presiding officer either to adjourn the House or to suspend the meeting until there is a quorum.



## *Science & Technology*

**Q.1)** Which of the following statements is/are correct about “**Air Independent Propulsion (AIP) system**”?

1. It is a technology which allows a nuclear submarine to operate without the need to access atmospheric oxygen.
2. India is self-sufficient in the AIP system and exports to other countries also.

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation: Air Independent Propulsion (AIP) system.**

**Statement 1 is incorrect:** Submarines are essentially of two types: conventional and nuclear. **Conventional submarines use a diesel-electric engine, and must surface daily for oxygen for fuel combustion. If fitted with an Air Independent Propulsion (AIP) system,** the submarine needs to take in oxygen only once a week.

**Statement 2 is incorrect:** The state-of-the-art “air independent propulsion” (AIP) system that **the Defence R&D Organisation (DRDO) is indigenously developing will be ready to drive the Indian Navy’s submarines from 2024 onwards.** Consequently, this AIP will not power the six new submarines that the navy is tendering in a Rs 45,000crore programme called Project 75-I. Instead, those six boats (as the navy traditionally refers to submarines) **will have AIP systems that the foreign vendor must offer.**

**Q.2)** The term “**Vyommitra**” is recently in news is related to which of the following?

- a) Half-humanoid robot
- b) Satellite radar system
- c) Space education portal
- d) None

**ANS: A**

**Explanation: Vyommitra.**

- Recently, Indian Space Research Organisation (ISRO) unveiled its first ‘woman’ astronaut, named Vyom Mitra who will ride to space in the first test flight of the human space mission, Gaganyaan.
- She is **half-humanoid** and her body stops at the torso and has no legs. She is capable of switching panel operations, performing Environment Control and Life Support Systems (ECLSS) functions, conversations with the astronauts, recognising them and solving their queries.

**Q.3)** The terms “**Antu, Kueyen, Melipal and Yepun**” is related to which of the following?

- a) Asteroids
- b) Planets of Jupiter
- c) Telescope
- d) Radar systems

**ANS: C**

**Explanation: Very Large Telescope array (VLT) .**

- The **Very Large Telescope array (VLT)** is the flagship facility for European ground-based astronomy at the beginning of the third Millennium.
- It is the **world's most advanced optical instrument, consisting of four Unit Telescopes** with main mirrors of 8.2m diameter and four movable 1.8m diameter Auxiliary Telescopes.
- The telescopes can work together, to form a giant 'interferometer', the ESO Very Large Telescope Interferometer, allowing astronomers to see details up to 25 times finer than with the individual telescopes. The **large telescopes are named Antu, Kueyen, Melipal and Yepun.**

**Q.4)** Which of the following statements is/are correct about "**Aditya L1 mission**"?

1. It is first scientific expedition of ISRO to study Sun.
2. Aditya L1 satellite will be placed in the halo orbit around the Lagrangian point 1 (L1) of the sun-earth system.
3. It will be launched using the Geo-synchronous Satellite Launch Vehicle (GSLV) Mark-III.

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: B**

**Explanation: Statement 1 is correct:** Aditya - L1 **First Indian mission to study the Sun.**

The Aditya-1 mission was conceived as a 400kg class satellite carrying one payload, the Visible Emission Line Coronagraph (VELC) and was planned to launch in a 800 km low earth orbit.

**Statement 2 is correct: Satellite will be placed in the halo orbit around the Lagrangian point 1 (L1)** of the Sun-Earth system has the major advantage of continuously viewing the Sun without any occultation/ eclipses. Therefore, the Aditya-1 mission has now been revised to "Aditya-L1 mission" and will be inserted in a halo orbit around the L1, which is 1.5 million km from the Earth. The satellite carries additional six payloads with enhanced science scope and objectives.

**Statement 3 is incorrect: The project is approved and the satellite will be launched during 2019 – 2020 timeframe by PSLV-XL from Sriharikota.** Aditya-1 was meant to observe only the solar corona. The outer layers of the Sun, extending to thousands of km above the disc (photosphere) is termed as the corona. It has a temperature of more than a million degree Kelvin which is much higher than the solar disc temperature of around 6000K. How the corona gets heated to such high temperatures is still an unanswered question in solar physics.

**Q.5)** Which of the following statements is/are correct about "**Quantum Computers**"?

1. Quantum computers use logical units called quantum bits that can be put into a quantum state where they can simultaneously represent both 0 and 1.
2. Quantum computers works at a temperature of -273 °C (-459 °F) with hardly any atmospheric pressure and isolated from Earth's magnetic field.

Select the correct answer using the code given below:

- a) 1 only
- b) 2 only
- c) Both 1 and 2

d) Neither 1 nor 2

**ANS: C**

**Explanation:** Quantum Computers work by harnessing the properties of quantum mechanics.

**Statement 1 is correct:** As the reality of a quantum computer comes closer, it is useful for us to understand both how one functions and how it's different from a traditional computer. The first thing to bear in mind is that they use different basic units of data: 'bits' and 'qubits'.

- Every element of a classical computer is written in binary code (1s and 0s) and is translated into electricity: high voltage is represented by 1, and low voltage by 0.
- **In quantum computing, qubits are the basic unit and their value can be 1, 0, or 1 and 0 simultaneously, overlapping (superposition) and intertwining (entanglement) according to the laws of physics.**
- This means that qubits, as opposed to bits, can take on various values at one time and can perform calculations that a conventional computer cannot.

**Statement 2 is correct:** The classical computer, if there is interference with the system; the system can correct itself and continue running. For the time being, this is not the case with quantum computers.

- "External disturbances force the system to define itself as 1 or 0, causing it to lose its quantum coherence.
- To avoid this kind of external 'noise,' the system has to be completely isolated: the atoms have to be very quiet, ensuring nothing makes them collide or interact with the surroundings.
- **Quantum computers have to be at a temperature of -273 °C (-459 °F) with hardly any atmospheric pressure and isolated from Earth's magnetic field.**

**Q.6)** The term "Muktoshri" is related to which of the following?

- a) Life saving drug
- b) New variety of rice
- c) New variety of maize
- d) New endemic banana

**ANS: B**

**Explanation:** West Bengal government's rice research centre has come up with a **new variety of rice called Muktoshri that can be grown in arsenic prone areas**. It was developed jointly by the Rice Research Station at Chinsurah, coming under West Bengal's Agriculture Department and the National Botanical Research Institute, Lucknow.

**Q.7)** Which of the following statements is/are correct about "Polycrack Technology"?

1. It is world's first patented heterogeneous catalytic process which converts multiple feed stocks into hydrocarbon liquid fuels, gas, carbon and water.
2. Polycrack has high tolerance to moisture hence drying of waste is not required.
3. In polycrack, biological decomposition is not allowed as the Waste is treated as it is received.

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:** Polycrack technology is **world's first patented heterogeneous catalytic process which converts multiple feed stocks** into hydrocarbon liquid fuels, gas, carbon and water. Polycrack Plant can be fed with all types of Plastic, Petroleum sludge, Un-segregated MSW (Municipal Solid Waste) with moisture up to 50%, E-Waste, Automobile fluff, Organic waste including bamboo, garden waste etc., and Jatropha fruit and palm bunch.

Polycrack has the following advantages over the conventional approach of treating solid waste:-

- Pre-segregation of waste is not required to reform the waste. Waste as collected can be directly fed into Polycrack.
- **It has high tolerance to moisture hence drying of waste is not required.**
- Waste is processed and reformed within 24 hours.
- It is an enclosed unit hence the working environment is dust free.
- Excellent air quality surrounding the plant.
- **Biological decomposition is not allowed as the Waste is treated as it is received.**
- The foot print of the plant is small hence the area required for installing the plant is less when compared with conventional method of processing.
- All constituents are converted into valuable energy thereby making it Zero Discharge Process.
- Gas generated in the process is re-used to provide energy to the system thereby making it self-reliant and also bring down the operating cost.
- There is no atmospheric emission during the process unlike other conventional methods except for combustion gases which have pollutants less than the prescribed norms the world over.
- Operates around 450 degrees, making it a low temperature process when compared with other options.
- Safe and efficient system with built-in safety features enables even an unskilled user to operate the machine with ease.
- Low capital cost and low operating cost.
- Fully automated system requires minimum man power.

NOTE: A patent is defined as a statutory privilege granted by the government to inventors, and to other persons deriving their rights from the inventor, for fixed years, to exclude other persons from manufacturing, using or selling a patented product or process.

- Hence a patent can be for a process or for a product. There is strict divergence between product and process patent regimes. The developed countries follow product patent system. On the other, process patent system is preferred by the developing world.
- The two systems are known for their different levels of protection to inventors. Under a process patent, the patent is granted for a particular manufacturing process, and not for the product itself.
- Any other person can produce the same product through some other PROCESS, modifying the various parameters. The implication is that there will be more than one producer for the same product because of the possibility of different process for the manufacturing of the product.

**Q.8)** Which of the following statements is/are correct about “**Biosimilars**”?

1. A biosimilar is a biological product that is an exact duplicate of branded biological product.

2. A biosimilar drug costs less than generic drug.

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** Biosimilars.

- **A biosimilar is a biological product** that is developed to be similar to an already FDA-approved biologic, known as the reference product. It can be tempting to think of a biosimilar as a “generic” version of the reference product. However, there are many important differences between biosimilars and generic versions of conventional medications (generic drugs).
- **A generic drug is chemically identical** to its brand-name counterpart—an exact copy. The generic drug and brand-name drug have the same active ingredient, dosage form, safety profile, strength, route of administration, performance characteristics, and intended use. Accordingly, the brand-name drug and generic drug are considered to be bioequivalent.
- **A biosimilar is not an exact duplicate of another biologic.** There is a degree of natural variability in all biological products; it is not possible to generate a precise copy of a product that comes from living cells. All biologics—including reference products—show some batch-to-batch variation.
- Generic drugs are chemically identical to the original branded drug and, as such, cost significantly less because they don’t require much testing. Because biosimilars are made from living organisms, though, and don’t contain identical ingredients to their name-brand counterparts, they still require some testing. So, **they cost more than generics**, but less than the branded biologic.

**Q.9)** Which of the following statements is/are correct about “**FrogPhone**”?

- 1. World’s first solar-powered remote survey device that can be installed at any frog pond and which receives a 5G cellular network.
- 2. With FrogPhone, researchers can call a frog habitat.

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** FrogPhone.

**Statement 1 is incorrect:** Researchers have developed a device that will allow scientists to monitor frogs in the wild. Described as the **world’s first solar-powered remote survey device that can be installed at any frog pond and which receives a 3G or 4G cellular network**, it has been named “FrogPhone”. It has been developed by a team from various Australian institutions, including the University of New South Wales and the University of Canberra. A field trial conducted between August 2017 and March 2018 in Canberra proved successful.

**Statement 2 is correct:** With FrogPhone, **researchers can simply “call” a frog habitat**. After a call is made to one of the FrogPhones already on a site, the device will take three seconds to receive it. During these few seconds, the device’s temperature sensors will get



activated and environmental data such as air temperature, water temperature and battery voltage will be sent to the caller's phone via a text message.

**Q.10) "Project Soli" is launched by which of the following?**

- a) Google
- b) IBM
- c) Facebook
- d) Tesla

**ANS: A**

**Explanation:** Project Soli, driven by Google's Advanced Technology and Projects (ATAP) team, was first showcased back in 2015. The idea is that a radar chip can be used to detect hand movements and gestures to interpret what they could mean. It's only recently that Google figured out how to reduce the size of this radar chip and fit it on the front of the smart phone, still ensuring accuracy.

**Q.11) Which of the following is/are cause/causes for the formation of rainbow?**

- 1. Reflection
- 2. Refraction
- 3. Dispersion

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:** A rainbow is a meteorological phenomenon that is caused by reflection, refraction and dispersion of light in water droplets resulting in a spectrum of light appearing as a circular arc in the sky. It is often visible after rainfall due to highly humid atmosphere and absence of air pollution. The position of the sun and the raindrops in relation to the observer need to be just right for a rainbow to form:

- The sun needs to be behind the viewer
- The sun needs to be low in the sky, at an angle of less than 42° above the horizon. The lower the sun in the sky the more of an arc of a rainbow the viewer will see
- Rain, fog or some other source of water droplets must be in front of the viewer

The size of the raindrops does not directly affect the geometry of a rainbow, but mist or fog tends to disperse the effect more. Rainbows only appear semi-circular over level ground at sunrise or sunset, when the sun is exactly on the horizon, the majority of the time a smaller segment of an arc is seen.

**Q.12) The Government of India launched a prestigious programme "National Optical Fibre Network (NOFN)" to provide broadband services to rural areas. On which principle the optical fibre works?**

- a) Polarisation
- b) Total internal reflection
- c) Total internal refraction
- d) None

**ANS: B**

**Explanation:** Optical fibre is a device which works on the **principle of total internal reflection** by which light signals can be transmitted from one place to another with negligible loss of energy.

**Q.13)** Which of the following statements is/are correct about **double rainbow**?

1. Double rainbows are formed when sunlight is reflected twice within a raindrop.
2. A key feature of double rainbows is that the colour sequence in the second rainbow is reversed, so instead of red, orange, yellow, green, blue, indigo and violet (ROYGBIV), the colours appear in VIBGYOR order.

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** Double rainbow.

**Statement 1 is correct:** Double rainbows are **formed when sunlight is reflected twice within a raindrop with the violet light that reaches the observers eye coming from the higher raindrops and the red light from lower raindrops.**

**Statement 2 is correct:** A key feature of double rainbows is that the **colour sequence in the second rainbow is reversed**, ROYGBIV instead of VIBGYOR order in primary rainbow.

**Q.14)** Which of the following is/are **sources of cadmium emissions** to air?

1. Volcanoes
2. Airborne soil particles
3. Forest fires

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:** Cadmium is a heavy metal with a high toxicity. Cadmium is toxic at very low exposure levels and has acute and chronic effects on health and environment. Cadmium is not degradable in nature and will thus, once released to the environment, stay in circulation.

- The major natural sources for mobilizations of cadmium from the earth's crust are volcanoes and weathering of rocks.
- Within the biosphere the cadmium is trans-located by different processes. The major **sources for emission to air from natural sources are volcanoes, airborne soil particles, sea spray, biogenic material and forest fires.**

**Q.15)** Consider the following statements regarding the **gas hydrates**:

1. Gas hydrates are formed when a gas such as methane gets trapped in well-defined cages of water molecules forming crystalline solids.
2. Gas hydrates are formed naturally under the sea bed and glaciers under high pressure, low temperature conditions.

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:** Gas hydrates.

- Gas hydrates are formed when a gas such as **methane gets trapped in well-defined cages of water molecules** forming crystalline solids.
- In terrestrial conditions, **gas hydrates are formed naturally under the sea bed and glaciers** under high pressure, low temperature conditions. Methane hydrate is a potential source of natural gas.
- Researchers at **Indian Institute of Technology (IIT) Madras** have experimentally shown that methane and carbon dioxide (CO<sub>2</sub>) can exist as gas hydrates at temperatures and pressures seen in interstellar atmosphere.
- The methane and CO<sub>2</sub> hydrates were produced in the lab at very low pressures (ten thousand billionth of atmospheric pressure) and temperature (as low as -263 degree C) to simulate the conditions of deep space.

**Q.16)** The term “**Botulinum**” is related to which of the following?

- a) Natural toxin
- b) Natural anesthesia drug
- c) Flu virus
- d) None

**ANS: A**

**Explanation:** **Botulinum** is a natural toxin produced by a bacterium known as Clostridium botulin. It produces the toxin when it starts reproducing.

- The **bacterium is commonly found in the soil, river, and sea water.**
- There are around **eight types** — A, B, C1, C2, D, E, F, and G — of botulinum toxin and they are distinguishable when diagnosed. But all types of toxins attack the neurons, which leads to muscle paralysis.
- **Botulinum affects both humans and animals** but the type of the toxin varies — botulinum C in birds and A, B and E in humans. The toxin has been recognised as a major cause of mortality in wild birds since the 1900s.
- **Avian botulism killed over 18,000 birds in and around Rajasthan’s Sambhar Lake.**

**Q.17)** Consider the following statements regarding the **Gluten**:

1. It is a general name for the proteins found in fruits and vegetables.
2. Gluten is used as an additive to improve texture and promote moisture retention in a variety of processed foods.

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:** Gluten.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- Gluten is a family of storage proteins — formally known as prolamins — that are naturally found in certain cereal grains, such as wheat, barley, and rye.
- Gluten offers a variety of functional culinary benefits and is responsible for the soft, chewy texture that is characteristic of many gluten-containing, grain-based foods.
- Because of these unique physical properties, gluten is also frequently used as an additive to improve texture and promote moisture retention in a variety of processed foods.

Gluten may be found in a variety of whole and processed foods, including:

- **Grains:** whole wheat, wheat bran, barley, rye, triticale, spelt, kamut, couscous, farro, semolina, bulgur, farina, einkorn, durum, wheat germ, cracked wheat, matzo, mir (a cross between wheat and rye)
- **Processed grain-based products:** crackers, bread, breadcrumbs, pasta, seitan, wheat-containing soba noodles, some veggie burgers, cookies, pastries
- **Other foods and beverages:** barley malt, malt vinegar, soy sauce, certain salad dressings, sauces or gravies thickened with flour, bouillon and some broths, certain spice blends, flavored chips, beer, certain kinds of wine

**Q.18)** Which of the following is/are **Old World Monkeys**?

1. Tamarins
2. Macaques
3. Baboons

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:** The monkeys are divided into two main groups—Old World and New World monkeys. The term “old world” refers to the areas (Europe, Africa, and Asia) known to the Europeans prior to the discovery of the “new world” (the Americas).

- New World monkeys are members of five different primate families (Callitrichidae, Cebidae, Aotidae, Pitheciidae, and Atelidae) and consist of almost exclusively arboreal (tree-dwelling) species like **marmosets, tamarins, capuchins, and spider monkeys**.
- **Old World monkeys belong to the family Cercopithecidae and consist of species such as macaques, baboons, and vervet monkeys.**
- These monkeys spend much more of their time on the ground, but can be found in habitats ranging from the rainforest to the savannah to the mountains.

**Q.19)** Which of the following ape shares 99% of its DNA with **human DNA**?

- a) Chimpanzee
- b) Gorilla
- c) Orangutan
- d) Gibbon

**ANS: A**

**Explanation:** Ever since researchers sequenced the **chimp genome in 2005, they have known that humans share about 99% of our DNA with chimpanzees**, making them our closest living relatives.

- But there are actually two species of apes that are this closely related to humans: bonobos (*Pan paniscus*) and the common chimpanzee (*Pan troglodytes*).
- This has prompted researchers to speculate whether the ancestor of humans, chimpanzees, and bonobos looked and acted more like a bonobo, a chimpanzee, or something else—and how all three species have evolved differently since the ancestor of humans split with the common ancestor of bonobos and chimps between 4 million and 7 million years ago in Africa.

**Q.20)** Consider the following statements regarding the **Measles**:

1. Measles is caused by a virus in the paramyxovirus family and it is normally passed through direct contact and through the air.
2. Measles is a human disease and is not known to occur in animals.

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:** Measles.

- Measles is **caused by a virus in the paramyxovirus** family and it is normally passed **through direct contact and through the air**.
- The virus infects the respiratory tract, and then spreads throughout the body. **Measles is a human disease and is not known to occur in animals.**
- Measles is a highly contagious, serious disease caused by a virus. Before the introduction of measles vaccine in 1963 and widespread vaccination, major epidemics occurred approximately every 2–3 years and measles caused an estimated 2.6 million deaths each year.
- Accelerated immunization activities have had a major impact on reducing measles deaths. During 2000– 2018, measles vaccination prevented an estimated 23.2 million deaths. Global measles deaths have decreased by 73% from an estimated 536000 in 2000 to 142,000 in 2018.

**Q.21)** “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.**



## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- 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.22)** 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.23)** 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.24)** 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.25)** 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.



**Subsonic & Supersonic Cruise Missiles**

**Q.26)** 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.27)** 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.28)** 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.29)** 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.30)** 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.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- 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**.

**Q.31)** The **polarimetry technique** is recently in news is related to which of the following?

- a) Optical activity
- b) Measuring ozone
- c) Electricity measurement
- d) Pollen Carbon Dating method

**ANS: A**

**Explanation:** Polarimetry is a sensitive, nondestructive technique for measuring the optical activity exhibited by inorganic and organic compounds.

- A compound is considered to be optically active if linearly polarized light is rotated when passing through it.
- A team of astronomers has discovered that the closest known brown dwarf, Luhman 16A, shows signs of cloud bands similar to those seen on Jupiter and Saturn.
- The researchers used an instrument on the Very Large Telescope in Chile to study polarised light from the Luhman 16 system. Polarisation is a property of light that represents the direction that the light wave oscillates.
- The polarimetry technique is not limited to brown dwarfs. It can also be applied to exoplanets orbiting distant stars. The atmospheres of hot, gas giant exoplanets are similar to those of brown dwarfs.

**Q.32)** Consider the following statements regarding the **Black Hole**:

1. A black hole is a place in space where gravity pulls so much that even light cannot get out.
2. The super-massive black hole at the center of the Milky Way galaxy is called Sagittarius A.
3. The Sun is not a big enough star to make a black hole.

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:** A black hole is a place in space where gravity pulls so much that even light cannot get out. The gravity is so strong because matter has been squeezed into a tiny space. This can happen when a star is dying.

- The largest black holes are called "supermassive." These black holes have masses that are more than 1 million suns together. Scientists have found proof that every large galaxy contains a supermassive black hole at its center.



## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- The supermassive black hole at the center of the Milky Way galaxy is called Sagittarius A. It has a mass equal to about 4 million suns and would fit inside a very large ball that could hold a few million Earths.
- Even if a black hole the same mass as the sun were to take the place of the sun, Earth still would not fall in.
- The black hole would have the same gravity as the sun. Earth and the other planets would orbit the black hole as they orbit the sun now.
- The sun will never turn into a black hole. The sun is not a big enough star to make a black hole.

**Q.33)** Consider the following statements regarding the **Supermoon**:

1. It is used to refer to a full moon 90 percent or closer to Apogee.
2. It has no precise astronomical definition.

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:** Full moons can occur at any point along the Moon's elliptical path, but when a full moon occurs at or near the perigee, it looks slightly larger and brighter than a typical full moon. That's what the term "supermoon" refers to.

- **Because supermoon is not an official astronomical term**, there is no definition about just how close to perigee the full moon has to be in order to be called "super."
- Generally, **supermoon is used to refer to a full moon 90 percent or closer to perigee.**
- A more accurate and scientific term is "perigee syzygy." Syzygy is the alignment of three celestial bodies, in this case the Sun, Moon and Earth.

**Q.34)** Consider the following statements regarding the **drug diclofenac**:

1. It is steroidal and anti-inflammatory drug administered to cattle.
2. Indian Vulture -Gyps Indicus feeds mostly from carcasses of dead animals and reached up to the verge of extinction because of veterinary drug diclofenac.

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: A**

**Explanation:** From millions, the population of the three Gyps species has been recently estimated to be about 20,000, i.e., 12,000 long-billed, 6,000 white-rumped and the rarest being the slender-billed vulture at 1,000.

- By 2000, **the International Union for Conservation of Nature (IUCN) declared all these three species in its highest risk category – Critically Endangered.**
- An avian population decline can be due to many factors – poaching, epidemics, habitat destruction – but none explained the rapidity, scale and expanse of the decline across South Asia.

- Initially, biologists reckoned that bioaccumulation of pesticides as a potential cause for the loss of vultures, like DDT that had poisoned bald eagles in the US in the 1960s.
- Ultimately, it took the minds of many nations – an international team of over a dozen scientists under the aegis of the Peregrin Fund, and tests on vulture carcasses in Pakistan – to pin the culprit down to **diclofenac, a non-steroidal anti-inflammatory drug (NSAID) administered to cattle.**
- Vultures feeding on the carcasses of animals recently treated with drug suffered renal failure that caused visceral gout and death.**
- It is a fast-acting, effective painkiller and also soothes fevers. Plus, it's cheap — costing about Rs 20, or less than half-a dollar for a dose.

**Q.35)** Which of the following is/are type/types of **vaccines**?

1. Live-attenuated vaccines
2. Inactivated vaccines
3. Toxoid vaccines

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:** There are several different types of vaccines. Each type is designed to teach your immune system how to fight off certain kinds of germs — and the serious diseases they cause. There are 4 main types of vaccines:

**Live-attenuated vaccines:** Live vaccines use a weakened (or attenuated) form of the germ that causes a disease.

- Because these vaccines are so similar to the natural infection that they help prevent, they create a strong and long-lasting immune response. Just 1 or 2 doses of most live vaccines can give you a lifetime of protection against a germ and the disease it causes.
- Measles, mumps, rubella (MMR combined vaccine) Varicella (chickenpox) Influenza (nasal spray) Rotavirus Yellow fever are examples of Live-attenuated vaccines.

**Inactivated vaccines:** use the killed version of the germ that causes a disease.

- Inactivated vaccines usually don't provide immunity (protection) that's as strong as live vaccines.
- So you may need several doses over time (booster shots) in order to get ongoing immunity against diseases. Polio (IPV) Hepatitis A Rabies is examples of In-activated vaccines.

**Subunit, recombinant, polysaccharide, and conjugate vaccines:** use specific pieces of the germ — like its protein, sugar, or capsid (a casing around the germ).

- Because these vaccines use only specific pieces of the germ, they give a very strong immune response that's targeted to key parts of the germ.
- They can also be used on almost everyone who needs them, including people with weakened immune systems and long-term health problems.
- Hepatitis B, Influenza (injection), Haemophilus influenza type b (Hib), Pertussis (part of DTaP combined immunization), Pneumococcal, Meningococcal and Human papillomavirus (HPV) are examples of Subunit and recombinant vaccines.

**Toxoid vaccines** use a toxin (harmful product) made by the germ that causes a disease.

- They create immunity to the parts of the germ that cause a disease instead of the germ itself.
- That means the immune response is targeted to the toxin instead of the whole germ.
- Diphtheria, tetanus (part of DTaP combined immunization) are examples of Toxoid vaccines.

**Q.36)** Consider the following statements regarding the **Aerosols**:

1. They are minute particles suspended in the atmosphere.
  2. Cold climate with dry periods decreases the concentration of Aerosols in the Atmosphere.
- 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:** **Aerosols are minute particles suspended in the atmosphere.** When these particles are sufficiently large, we notice their presence as they scatter and absorb sunlight.

- **Their scattering** of sunlight can reduce visibility (haze) and redden sunrises and sunsets. Aerosols interact both directly and indirectly with the Earth's radiation budget and climate.
- As a direct effect, the aerosols scatter sunlight directly back into space.
- As an indirect effect, aerosols in the lower atmosphere can modify the size of cloud particles, changing how the clouds reflect and absorb sunlight, thereby affecting the Earth's energy budget
- Aerosols come from both natural and human sources—and sometimes both at once. Dust, for example, is scoured from deserts, the dried-out edges of rivers, dry lakebeds, and more.
- **Its concentrations in the atmosphere rise and fall with climate; in cold, dry, periods in the planet's history like the last ice age, more dust filled the atmosphere than during warmer stretches of Earth's history.**

**Q.37)** Consider the following statements regarding the **nucleotide of DNA**:

1. It is made up of three parts consists of phosphate group, a 5-carbon sugar, and a nitrogenous base.
2. The four nitrogenous bases in DNA are adenine, cytosine, guanine, and uracil.

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:** A nucleotide is an organic molecule that is the building block of DNA and RNA.

- They also have functions related to cell signaling, metabolism, and enzyme reactions.
- **A nucleotide is made up of three parts: a phosphate group, a 5-carbon sugar, and a nitrogenous base.**

- The **four nitrogenous bases in DNA are adenine, cytosine, guanine, and thymine.**
- **RNA contains uracil, instead of thymine.**
- A nucleotide within a chain makes up the genetic material of all known living things.
- They also serve a number of functions outside of genetic information storage, as messengers and energy moving molecules.

**Q.38) Hydro-dynamic trapping, Solubility trapping and Mineral trapping** is related to which of the following?

- a) Carbon sequestration
- b) Deep sea mineral exploration
- c) Shale gas exploration
- d) Bio-diesel extraction

**ANS: A**

**Explanation:** In recent years, fundamental research has focused increasingly on the short and long term effects of CO<sub>2</sub> injection into reservoirs to assess the feasibility of **CO<sub>2</sub> storage** on a commercial scale.

- **Sequestration** processes involve different trapping mechanisms according to the hydrodynamic, physical and chemical conditions in the formation.
- It is common to divide these mechanisms into four different categories: **hydrodynamic trapping, residual trapping, solubility trapping, and mineral trapping.**

**Q.38) Consider the following statements regarding the composite materials:**

1. A composite material is a combination of two materials with different physical and chemical properties.
  2. They are used in the development of Agni missile and Light Combat Aircraft (Tejas).
- 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:** A composite material is a **combination of two materials** with different physical and chemical properties.

- When they are combined they create a material which is specialised to do a certain job, for instance to become stronger, lighter or resistant to electricity.
- They can also improve strength and stiffness.
- The reason for their use over traditional materials is because they improve the properties of their base materials and are applicable in many situations.
- Use of composite materials in **indigenously developed aircraft (Tejas), missiles (Agni) and in defense and civilian sectors** is poised for big growth, where Indian companies are set to get into manufacturing mode.

**Q.40) Consider the following statements regarding the Neutrino:**

1. The neutrino is a tiny elementary particle which is part of the atom.
  2. Neutrino has a very tiny mass and with electrical charge.
- 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:** Proton, neutron, and electron are tiny particles that make up atoms.

- The **neutrino is also a tiny elementary particle, but it is not part of the atom.** Such particles are also found to exist in nature.
- **Neutrino has a very tiny mass and no charge.** It interacts very weakly with other matter particles.
- So weakly that every second trillions of neutrinos fall on us and pass through our bodies unnoticed.
- Neutrinos come from the sun (solar neutrinos) and other stars, cosmic rays that come from beyond the solar system, and from the Big Bang from which our Universe originated.
- They can also be produced in the lab.



## *Geography*

**Q.1)** The “**Indian Standard Meridian**” passes through which of the following States?

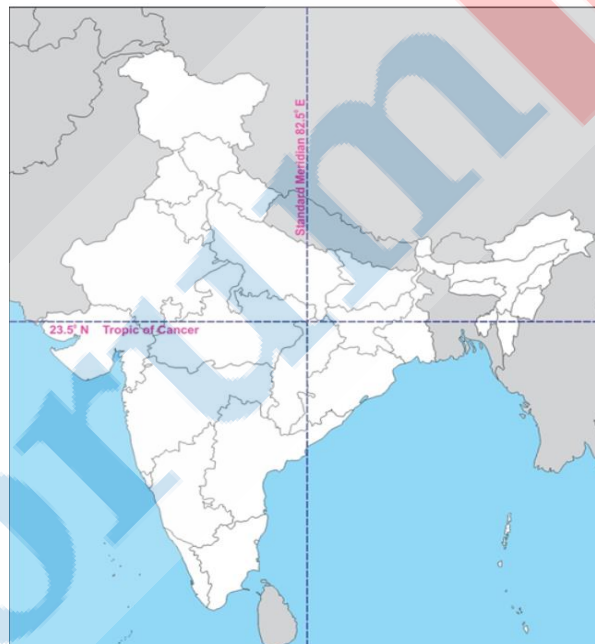
1. Uttar Pradesh
2. Madhya Pradesh
3. Jharkhand
4. Chhattisgarh
5. Odisha

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** The Indian Standard Meridian passes through mostly 5 states which are Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Odisha and Andhra Pradesh.



**NOTE:** British India did not adopt the international standard time zones until 1905 when the meridian passing through Allahabad at 82.5° east (of Greenwich Meridian) longitude was picked as the central meridian for India, corresponding to a single time zone for the country at 5 hours and 30 minutes in advance of GMT. This went into force on January 1, 1906. However, Calcutta time was officially maintained as a separate time zone until 1948. Bombay time was maintained but only informally until about 1955. After independence and the partition of British India, Pakistan stayed on Indian Standard Time for three years and adopted Pakistan Standard Time at 5 hours in advance of GMT in 1951.

**Q.2)** Consider the following pairs:

<b>Famous place</b>	:	<b>River</b>
1. Kargil	:	Indus

**PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

2. Amritsar : Sutlej  
3. Sangli : Mahanadi

Which of the pair/pairs given above is/are correctly matched?

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

**ANS: A**

**Explanation:**

S.No.	River	Originates From	Falls into	Major Indian Cities on The Banks
1	Ganges	Gangotri Glacier	Bay of Bengal	Varanasi, Allahabad, Haridwar, Patna
2	Brahmaputra	Angsi Glacier (Tibet)	Bay of Bengal	Guwahati, Dibrugarh
3	Indus	Tibet, Kailash Range	Arabian Sea	Leh, Kargil
4	Godavari	Triambakeshwar, Maharashtra	Bay of Bengal	Trimbakeshwar, Nashik, Rajahmundry
5	Narmada	Amarkantak, Madhya Pradesh	Arabian Sea	Jabalpur, Harda, Bharuch
6	Krishna	Near Mahabaleswar, Maharashtra	Bay of Bengal	Sangli, Vijayawada
7	Yamuna	Yamunotri Glacier	Ganges River	Delhi, Agra, Mathura
8	Mahanadi	Hills of Southeastern Chhattisgarh	Bay of Bengal	Rajim, Sambalpur, Cuttack
9	Kaveri	Talakaveri, Karnataka	Bay of Bengal	Tiruchirapalli, Erode
10	Tapti (Tapi)	Satpura Range near Multai, Madhya Pradesh	Arabian Sea	Burhanpur, Bhusawal, Surat
11	Sutlej	Lake Rakshastal in Tibet	Indus River	Ferozpur, Rupnagar
12	Chambal	Vindhya Range Near Mhow, Madhya Pradesh	Yamuna River	Kota, Gwalior
13	Beas	Beas Kund, Himachal Pradesh	Sutlej River	Mandi, Kullu, Amritsar
14	Tungabhadra	Koodli (where Tunga and Bhadra rivers meet), Karnataka	Krishna River	Harihar, Hospet, Hampi, Kurnool
15	Sabarmati	Aravali Hills Near Udaipur, Rajasthan	Arabian Sea	Ahmedabad, Gandhinagar

**Q.3)** Which of the following statements is/are correct about “**Chilli or Capsicum annuum**”?

1. Capsicum annuum is endemic to Indian sub-continent.  
2. The world’s hottest chilli “Naga Jolokia” is cultivated in hilly terrains of Andhra Pradesh.

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** Chilli is one of the most important commercial crops of India. It is grown almost throughout the country. There are more than 400 different varieties of chillies found

all over the world. It is also called as hot pepper, cayenne pepper, sweet pepper, bell pepper, etc. Its botanical name is "Capsicum annuum".

**Statement 1 is incorrect:** Chillies are known from pre-historic times in Peru. **They are believed to have originated in the tropical America.**

- It is also said that chillies have originated in the Latin American regions of the New Mexico and Guatemala as a wild crop around 7500BC, as per the remains of the pre-historic Peru.
- The people native to these places domesticated this crop in and around 5000 BC. Chilli is said to be the first ever domesticated crop in America.
- **The Portuguese brought capsicum from Brazil to India during the year 1584.** Chillies became popular in the whole of Asia rapidly and native Asians started cultivating this crop as well.
- The south Asian climate suited this crop, and since its introduction in the 16 century has been increasingly cultivated in south Asia.

**Statement 2 is incorrect:** The **world's hottest chilli "Naga Jolokia" is cultivated in hilly terrain of Assam in a small town Tezpur, India.**

**Q.4)** Which of the following statements is/are correct about "Central Water Commission (CWC)"?

1. CWC was established in 1945 by the Government on the advice of Rajendra Prasad.
2. Central water Commission has divided the country into 20 rivers basins comprising 12 major and 8 composite river basins.

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** Central Water Commission (CWC):

**Statement 1 is incorrect:** CWC (erstwhile Central Waterways, Irrigation and Navigation Commission) was established in 1945 by the Government on the advice of Dr. B.R. Ambedkar, Member (Labour) in Viceroy's Executive Council.

- The credit for the establishment of CWINC is attributed to Dr. B. R. Ambedkar, under whose able guidance the then Labour Department constituted the Commission.
- He not only raised the concept and argued for the necessity of having such a technical body at the Centre but also laid down its objectives, organisational structure and programme.
- The final proposal for establishment of CWINC was prepared by the Department with the help of Rai Bahadur A.N. Khosla, the Consulting Engineer for Irrigation. Dr. Khosla was subsequently appointed as founder Chairman of the CWINC.

**Statement 2 is correct:** Central water Commission has divided the country into 20 rivers basins comprising 12 major and 8 composite river basins.



**NOTE:** Since then CWC has evolved as a premier technical organisation in the country in the field of Water Resources and now has entered into 75<sup>th</sup> Year of service to the nation.

**Q.5)** Consider the following pairs:

- |               |   |   |
|---------------|---|---|
| <b>Region</b> | : | <b>Well-known for the production of</b> |
| 1. Sirsi      | : | Areca nut                               |
| 2. Ongole     | : | Tobacco                                 |
| 3. Gudaspur   | : | Turmeric                                |

Which of the above pairs is/are correctly matched?

- 1 only
- 1 and 2 only
- 2 and 3 only
- 1, 2 and 3

**ANS: B**

**Explanation: Sirsi Arecanut:** For the first time in the arecanut sector, 'Sirsi Supari' grown in Uttara Kannada has received the Geographic Indication (GI) tag.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- It is cultivated in Yellapura, Siddapura and Sirsi taluks. Totgars' Cooperative Sale Society Ltd., Sirsi, is the registered proprietor of the GI.
- The arecanut grown in these taluks have unique features like a round and flattened coin shape, particular texture, size, cross-sectional views, taste, etc. These features are not seen in arecanut grown in any other regions.

**Tobacco:** Most of the tobacco growing areas are concentrated in **Ongole, Kaikalur, Addanki, Chirala, Giddalur areas of Prakasam district** in Andhra Pradesh.

**NOTE:** Celery crop is cultivated mainly in the states of Punjab (Jalandhar, Gurdaspur and Amritsar districts), Haryana and western Uttar Pradesh (Ludhiana and Saharanpur districts) over an area of about 5000 ha. About 90% of the total produce comes from Punjab.

**Q.6)** Which of the following statements is/are correct about “**Red Soils**” in India?

1. Red soils develop on old crystalline rocks.
2. Red soils differ from place to place on the basis of the parental rock material and climatic conditions.
3. Rich in minerals like potassium and Phosphorus.

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: B**

**Explanation:** Red soils.

**Statement 1 is correct:** Red soil develops on crystalline igneous rocks in areas of low rainfall in the eastern and southern part of the Deccan Plateau. Along the piedmont zone of the Western Ghats, long stretch of area is occupied by red loamy soil. Yellow and red soils are also found in parts of Odisha and Chhattisgarh and in the southern parts of the middle Ganga plain.

**Statement 2 is correct:** The soil develops a reddish colour due to a wide diffusion of iron in crystalline and metamorphic rocks. It looks yellow when it occurs in a hydrated form.

**Statement 3 is incorrect:** The fine-grained red and yellow soils are normally fertile, whereas coarse-grained soils found in dry upland areas are poor in fertility. **They are generally poor in nitrogen, phosphorous, Potassium and humus.**

**Q.7)** Arrange the following states in ascending order of “**area of distribution of Sandalwood**” in India:

1. Tamil Nadu
2. Kerala
3. Karnataka
4. Andhra Pradesh

Select the correct answer using the code given below:

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

**ANS: A**

**Explanation:** Nearly one-third of the area in the country with sandalwood distribution is in **Tamil Nadu with the state covering an area of 3,040sqkm** spread across several districts. India has a total area of 9,000sqkm of sandalwood distribution spread across



eight states with **Karnataka having the maximum area of 5,245sqkm**. Apart from Karnataka and Tamil Nadu, states like **Kerala (15 sqkm)**, **Andhra Pradesh (200 sqkm)**, Odisha (25 sqkm), Madhya Pradesh (33 sqkm), Maharashtra (33 sqkm) and Rajasthan (sparse) have sandalwood trees distributed across a few districts.

**Q.8)** Which of the following statements is/are correct about “**coal reserves**” in India?

1. Anthracite coal is found in Jammu and Kashmir only.
2. Lignite coal has low moisture content.
3. Odisha has the second largest coal reserves in the country and it carries more than 24 per cent of the total coal reserves.

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** coal reserves in India.

**Statement 1 is correct:** Anthracite is the best quality of coal which carries 80 to 95 per cent carbon content. It ignites slowly with a blue flame. **It has the highest calorific value. It is found in small quantity in Jammu and Kashmir.**

**Statement 2 is incorrect:** Lignite is often brown in colour. It carries 40 to 55 per cent carbon content. It is an intermediate stage which happens during the alteration of woody matter into coal. **It has high moisture content so it gives smoke when burnt.** It is found in Rajasthan, Lakhimpur (Assam), and Tamil Nadu.

**Statement 3 is correct:** **Odisha has the second largest coal reserves in the country and it carries more than 24 per cent of the total coal reserves. It produces about 15 per cent of the total coal production of India.** Most of the coal deposits of the state are found in Sambalpur, Dhenkanal, and Sundargarh districts. Talchar coalfield of Odisha stretch over Dhenkanal and Sambalpur districts covers an area of about 500 sq km.

**Q.9)** The term “**rohi**” is related to which of the following?

- a) Fertile tracts
- b) kind of jhum cultivation
- c) Tribal festival
- d) None

**ANS: A**

**Explanation:** The Rajasthan Bagar region (Bagar refers to the semi-desert area which is west of Aravallis. Bagar has a thin layer of sand. It is drained by Luni in the south whereas the northern section has a number of salt lakes) have a number of short seasonal streams which originate from the Aravallis. These **streams support agriculture in some fertile patches called Rohi.**

**Q.10)** Consider the following rivers:

1. Gumti River
2. Manu River
3. Hoara River

Which of the above flow/flows through Tripura state?

- a) 1 only
- b) 1 and 2 only

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

**ANS: D**

**Explanation:** Tripura is a north-eastern state of India. It has many rivers. **The name of the main 11 rivers of Tripura are: Bijay, Deo, Dhalai, Feni, Gumti, Haora, Juri, Khowai, Longai, Manu, Muhuri.**

- All rivers are originated from hill ranges of Tripura and they are totally rain fed. Truly speaking all rivers of Tripura is ephemeral.
- They are not comfortable for boat. They generate an annual flow of almost 793 million cubic meter of water. Fenni and Longai are shared by two Indian states, Tripura and Mizoram.
- Agartala, the capital of Tripura is on the bank of the river Haora. Almost all rivers of Tripura flow into Bangladesh. The Khowai, Dhalai, Manu, Juri and Longai flow towards the north.
- The Gumti, Howra flow towards the west. The Muhuri and Feni flow towards the south west.

**Q.11)** Which of the following factors are affecting the **ocean salinity**?

1. Evaporation
2. Freezing of Ice
3. Rivers
4. Wind flow

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** All waters in nature, whether rain water or ocean water, contain dissolved mineral salts. Salinity is the term used to define the total content of dissolved salts in sea water. Factors affecting ocean salinity are mentioned below:

- The salinity of water in the surface layer of oceans depends mainly on **evaporation and precipitation**.
- Surface salinity is greatly influenced in coastal regions by the **fresh water flow from rivers**, and in **Polar Regions by the processes of freezing and thawing of ice**.
- **Wind**, also influences salinity of an area by transferring water to other areas.
- The **ocean currents** contribute to the salinity variations. Salinity, temperature and density of water are interrelated. Hence, any change in the temperature or density influences the salinity of water in an area.

**Q.12)** Arrange the following **reservoirs of water on earth's surface** in ascending order of their percentage?

1. Oceans
2. Ice caps
3. Lakes
4. Streams and Rivers

Select the correct answer using the code given below:

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

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

**ANS: B**

**Explanation:** About 71 per cent of the planetary water is found in the oceans. The remaining is held as freshwater in glaciers and icecaps, groundwater sources, lakes, soil moisture, atmosphere, streams and within life.

**Table 13.1 : Water on the Earth's surface**

<i>Reservoir</i>	<i>Volume (Million Cubic km )</i>	<i>Percentage of the Total</i>
Oceans	1,370	97.25
Ice Caps and Glaciers	29	2.05
Groundwater	9.5	0.68
Lakes	0.125	0.01
Soil Moisture	0.065	0.005
Atmosphere	0.013	0.001
Streams and Rivers	0.0017	0.0001
Biosphere	0.0006	0.00004

**Q.13)** Consider the following statements regarding the **Storm Surge**:

1. Storm surge is the abnormal rise in seawater level during a storm, measured as the height of the water above the normal predicted astronomical tide.
2. The amplitude of the storm surge at any given location depends on the orientation of the coast line with the storm track, the intensity, size, speed of the storm, and the local bathymetry.

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:** Storm Surge.

- Storm surge is the **abnormal rise in seawater level during a storm**, measured as the height of the water above the normal predicted astronomical tide.
- The surge is caused primarily by a storm's winds pushing water onshore.
- The amplitude of the storm surge at any given location **depends on the orientation of the coast line with the storm track**;
- The **intensity, size, and speed of the storm**; and the **local bathymetry**.

**Q.14)** Consider the following statements regarding the **Sponges**:

1. Sponges are complex, many-celled organisms.
2. While most sponges are found in the ocean, numerous species are also found in fresh water and estuaries.

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:** Sponges have been around for a very long time, with certain species having a fossil record that dates back approximately 600 million years to the earliest (Precambrian) period of Earth's history.

The approximately 8,550 living sponge species are scientifically classified in the phylum Porifera, which is comprised of four distinct classes:

- the Demospongiae (the most diverse, containing 90 percent of all living sponges),
- Hexactinellida (the rare glass sponges),
- Calcareo (calcareous sponges), and
- Homoscleromorpha (the rarest and simplest class, only recently recognized, with approximately 117 species).

While sponges, like corals, are immobile aquatic invertebrates, they are otherwise completely different organisms with distinct anatomy, feeding methods, and reproductive processes. The main differences are:

- Corals are complex, many-celled organisms. **Sponges are very simple creatures with no tissues.**
- All corals require saltwater to survive. **While most sponges are found in the ocean, numerous species are also found in fresh water and estuaries.**

**Q.15)** Consider the following statements regarding the **Oceanic Rossby Waves**:

1. Oceanic Rossby Waves are fast moving waves.
2. Oceanic Rossby Waves stretch horizontally across the planet for hundreds of kilometers in eastward direction.

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:** Oceanic and atmospheric Rossby waves — also known as planetary waves — naturally occur largely due to the Earth's rotation. These waves affect the planet's weather and climate.

- Waves in the ocean come in many different shapes and sizes.
- **Slow-moving oceanic Rossby waves** are fundamentally different from ocean surface waves.
- Unlike waves that break along the shore, **Rossby waves are huge, undulating movements of the ocean that stretch horizontally across the planet for hundreds of kilometers in a westward direction.**
- They are so large and massive that they can change Earth's climate conditions.
- Along with rising sea levels, King Tides, and the effects of El Niño, oceanic Rossby waves contribute to high tides and coastal flooding in some regions of the world.

**Q.16)** The **Forchhammer's Principle** is related to which of the following?

- a) Ocean composition
- b) Population density
- c) Typhoon study
- d) None

**ANS: A**

**Explanation:** In 1865, the Danish geologist and mineralogist Johan Georg Forchhammer, with the help of naval and civilian collaborators, collected numerous samples of seawater

from the Northern Atlantic and the Arctic Ocean. **He wanted to determine why the salinity (or "saltiness") of seawater varies in different areas of the ocean.**

- Forchhammer put the samples through a detailed series of chemical analyses and found that the proportions of the major salts in seawater stay about the same everywhere.
- This constant ratio is known as Forchhammer's Principle, or the Principle of Constant Proportions.
- In addition to this principle, Forchhammer is credited with defining the term salinity to mean the concentration of major salts in seawater.
- Forchhammer's discovery helped scientists understand that salinity levels in seawater vary due to the addition or removal of fresh water, rather than differing amounts of salt minerals in the water.
- The principle is still applied today in marine research, and provides a simple way to estimate salinity and trace the mixing of water masses in the global ocean.

**Q.17)** With respect to the growth of the population 2010-15 over 1990-95, which region increasing its population growth?

- a) Asia
- b) Africa
- c) Europe
- d) North America

**ANS: B**

**Explanation:** Population growth in different parts of the world can be compared. The growth of population is low in developed countries as compared to developing countries. There is negative correlation between economic development and population growth.

**Table 2.3: Growth of Population 2010-15 over 1990-95**

Region	Growth Rate	
	1990-95	2010-15
World	1.6	1.2
Africa	2.4	2.6
Europe	0.2	0.1
North America	1.4	0.8
Latin America & Caribbean	1.7	1.1
Asia	1.6	1.0
Oceania (Australia, New Zealand and Fiji)	1.5	1.5

**Q.18)** Which of the following tribe/tribes is/are practices the **transhumance behavior**?

- 1. Gujars
- 2. Changpas
- 3. Bakarwals

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** The transhumant system is prevalent in the Himalayas, where there are several nomadic tribes, such as the **Gujars, Bakarwals, Gaddis and Changpas**, who rear sheep and goats under this system.



- The **animals are moved to subalpine and alpine pastures during summer, while during winter they are grazed on adjoining plains.**
- The scale of this enterprise is widespread and is practised by a variety of farmers, including landless and marginal farmers, who have adopted this profession for earning a livelihood.
- Sale of wool and live animals for meat is their only source of income. **The transhumant system is practised in order to locate the best herbage resources from pastures and grasslands.**
- There are also well recognized pastoral tribes who practise a complete transhumance, moving from one place to another on traditional migratory routes.
- The dates of migration have traditionally been fixed. Even grazing rights rest with the migratory graziers by traditional usage, though they do not hold proprietary rights over the land.
- The transhumant system is prevalent in the Himalayan region. However, **this system still exists in some states situated in the plains, such as Rajasthan, Madhya Pradesh, Tamil Nadu, Gujarat and Uttar Pradesh.**

**Q.19)** Which of the following is/are correctly matched?

<b>Slash and burn agriculture</b>	<b>Region</b>
1. Jhumming	: North-east India
2. Milpa	: Indonesia and Malaysia
3. Ladang	: Mongolia and northern China

Select the correct answer using the code given below:

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

**ANS: A**

**Explanation:** Primitive subsistence agriculture or shifting cultivation is widely practised by many tribes in the tropics, especially in Africa, south and Central America and south East Asia.

The **vegetation is usually cleared by fire, and the ashes add to the fertility of the soil. Shifting cultivation is thus, also called slash and burn agriculture.**

It is prevalent in tropical region in different names, e.g. **Jhumming in North eastern states of India, Milpa in Central America and Mexico and Ladang in Indonesia and Malaysia.**

**Q.20)** The term “**Kolkhoz**” is related to which of the following?

- a) Subsistence farming
- b) Collective farming
- c) Contract farming
- d) None

**ANS: B**

**Explanation:** Collective farming.

- The basic principle behind collective farming is based on social ownership of the means of production and collective labour.
- **Collective farming or the model of Kolkhoz** was introduced in erstwhile Soviet Union to improve upon the inefficiency of the previous methods of agriculture and to boost agricultural production for self-sufficiency.
- The farmers used to pool in all their resources like land, livestock and labour.

**Q.21)** Arrange the following **hill ranges** from **South to North**:

1. Balaghat range
2. Harischandra range
3. Satpura range
4. Vindhya range

Select the correct answer using the code given below:

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

**ANS: A**

**Explanation:**



**Q.22)** Which of the following city is **farthest city to 80° E longitude** in India?

- a) Kanpur
- b) Jabalpur
- c) Chennai
- d) Hyderabad

**ANS: D**

**Explanation:** 80° E longitude passes near through Kanpur (UP), Jabalpur (MP), Nellore in Andhra Pradesh and Chennai in Tamil Nadu.



**Q.23)** Which of the following **National Parks** is/are located in **Andaman and Nicobar Islands**?

1. Galathea Bay National Park
2. Rani Jhansi National Park
3. Indira Gandhi National Park

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: B**

**Explanation:** National Parks in Andaman & Nicobar Islands.



## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

### Andaman Nicobar Islands

Protected Area Gazette Notification Database (Andaman Nicobar Islands)

#### National Park

S.No.	Name of Protected Area
1	Campbell Bay NP
2	Galathea Bay NP
3	Mahatma Gandhi Marine (Wandoor) NP
4	Middle Button Island NP
5	Mount Harriett NP
6	North Button Island NP
7	Rani Jhansi Marine NP
8	Saddle Peak NP
9	South Button Island NP

**NOTE:** Indira Gandhi (Annamalai) National Park located in Tamil Nadu.

**Q.24)** Arrange the following **National Parks** in India from **West to East**:

1. Dinosaur Fossil National Park
2. Black Buck National Park
3. Guru Ghasidas National Park
4. Betla National Park

Select the correct answer using the code given below:

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

**ANS: A**

**Explanation:**



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## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

Black Buck National Park is located in Gujarat; Dinosaur Fossil National Park is located in Madhya Pradesh, Guru Ghasidas National Park located in Chhattisgarh and Betla National Park is located in Jharkhand.

**Q.25)** Arrange the following **Indus Valley Civilization** sites from **North to South**:

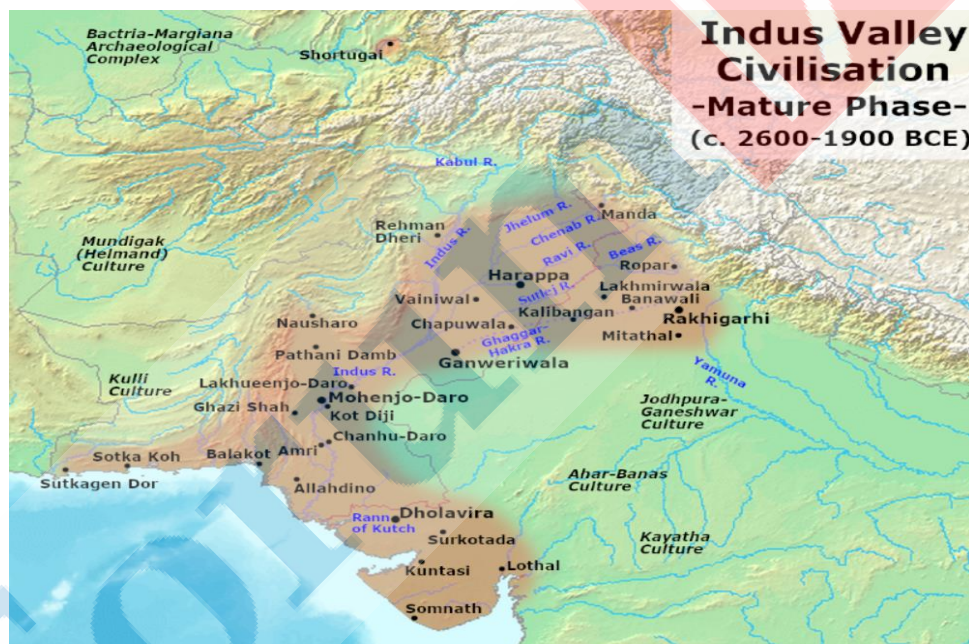
1. Ropar
2. Kalibangan
3. Dholavira
4. Kuntasi

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** Ropar is located in Punjab, Kalibangan in Rajasthan, Dholavira and Kuntasi both located in Gujarat.



**Q.26)** Which of the following countries is/are sharing border with **Aral Sea**?

1. Kazakhstan
2. Kyrgyzstan
3. Uzbekistan

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** Positioned in far-western Asia, just to the east of the Caspian Sea, the Aral Sea is located in the countries of Kazakhstan and Uzbekistan.





**Q.27)** Arrange the following **Islands of South China Sea** from **South to North**:

1. Parcels Islands
2. Scarborough Shoal Islands
3. Spratlys Islands

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** Tensions between China and both the Philippines and Vietnam have recently cooled, even as China increased its military activity in the South China Sea by conducting a series of naval maneuvers and exercises in March and April 2018. Meanwhile, China continues to construct military and industrial outposts on artificial islands it has built in disputed waters.



**Q.28)** Arrange the following **Islands of Indian Ocean** from **West to East**:

1. Seychelles
2. Assumption Island
3. Agalega Island
4. Diego Garcia

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** The Indian Ocean is the world's third largest ocean and covers 70,560,000 km<sup>2</sup>. Three continents have coastlines on the Indian Ocean; these are Asia, Africa, and Australia to the north, west, and east respectively. The Indian Ocean meets the Southern Ocean to the south. The Indian Ocean is home to hundreds of islands. Six island nations are located in the Indian Ocean, namely Comoros, Madagascar, Maldives, Mauritius, Seychelles, and Sri Lanka.



**Q.29)** Which of the following are **observer countries of Arctic council**?

1. India
2. China
3. Germany
4. Portugal
5. Austria

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** The Arctic Council calls itself “the **leading intergovernmental forum**” for discussing and addressing issues concerning the Arctic region, including scientific research, and peaceful and sustainable use of resources in the region.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- The Council was established by the **eight Arctic States** — the countries whose territories fall in the Arctic region — through the **Ottawa Declaration of 1996**.
- The eight Arctic States — **Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States** — are the only members of the Arctic Council.
- **India** had been given the Observer status in 2013, along with five other countries — **China, Italy, Japan, South Korea, and Singapore**.
- Prior to this group, only **France, Germany, the Netherlands, Poland, Spain and the United Kingdom** were granted Observer status. In 2017, **Switzerland too became an Observer**.

**Q.30)** Consider the following statements regarding the **Majuli Island**:

1. Majuli Island is largest river island in world and first island district of the country.
2. It is formed by Brahmaputra River in south and Kherkutia Xuti, another branch of Brahmaputra, joined by Dihang River in north.
3. The island is inhabited by Mising tribes, Deori and Sonowal Kachri tribes.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** The World Records has declared Majuli in Assam as the largest river island in the world. It has toppled Marajo in Brazil to clinch the record. The beautiful river island is situated on the Brahmaputra River.



Here is all that you should know about Majuli:

1. It is formed by Brahmaputra River in the south and Kherkutia Xuti, an anabranch of the Brahmaputra, joined by the Subansiri River in the north.
2. The island is inhabited by Mising tribes, Deori and Sonowal Kachri tribes.
3. The people of the island speak Mising, Assamese and Deori language.
4. It covers an area of around 880 sq km.
5. It is one of the important tourist destinations of Assam.
6. Due to the frequent flooding of the Brahmaputra River, Majuli suffers heavy erosion. In the last 30-40 years it is estimated that it has lost about one third of its area.
7. It is home to about 1,60,000 people.



**PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

8. It is the hub of Assamese neo-Vaishnavite culture.
9. It was recently declared a district and was earlier a subdivision under Jorhat district.
10. It has been included in the tentative list of World Heritage Site by UNESCO.

**Q.31)** Arrange the following **Himalayan ranges** from South to North:

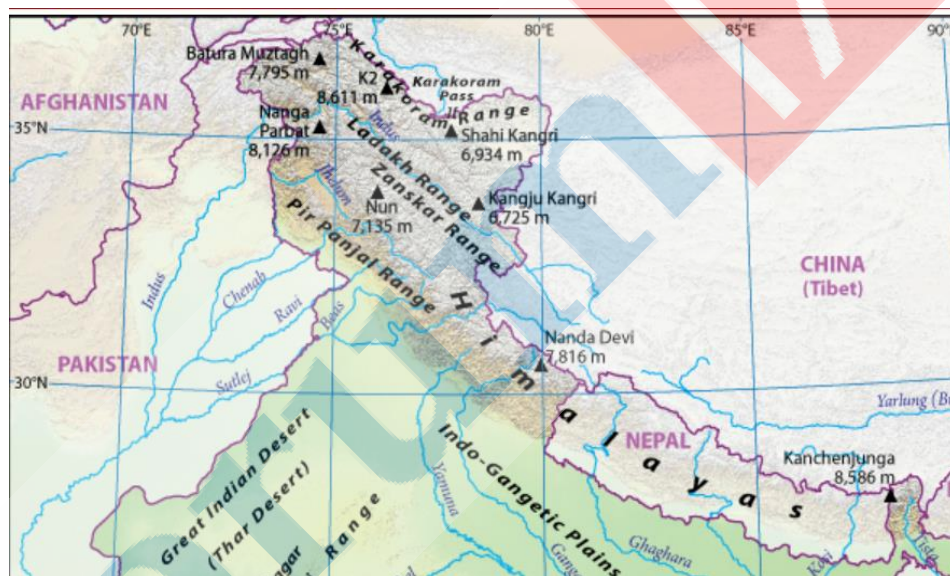
1. Pir Panjal Range
2. Ladakh Range
3. Zaskar Range
4. Karakoram Range

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

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

Select the correct answer using the code given below:

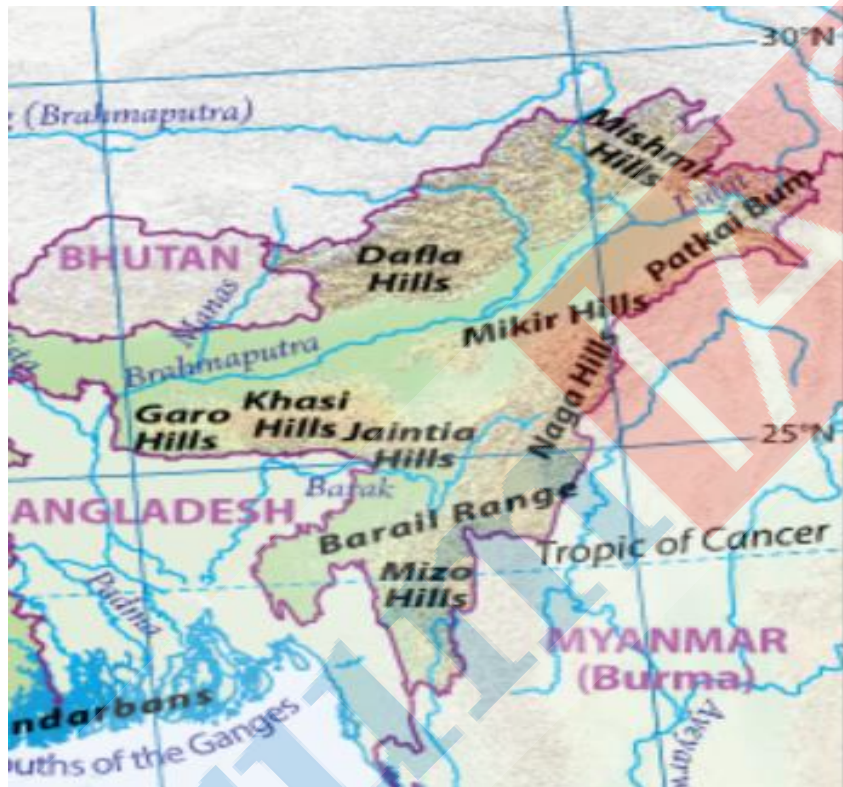
- a) 2-1-3-4
- b) 1-2-3-4
- c) 2-1-4-3
- d) 1-2-4-3

**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'.

**PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

- **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.33)** 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.34)** 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

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

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.35)** 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.36)** 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

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

**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.37)** 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.38)** 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:

- 1 only
- 1 and 2 only
- 2 and 3 only
- 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.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- 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.39) 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.40) 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.

**Q.41) Which of the following is/are correctly matched?**

<b>Mechanism/Process</b>	:	<b>Rock</b>
1. Mechanically formed sedimentary rock	:	Sandstone
2. Organically formed sedimentary rock	:	Rock salt
3. Chemically formed sedimentary rock	:	Shale

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: A**

**Explanation:** Sedimentary rocks are formed by the accumulation of sediments. There are three basic types of sedimentary rocks.

- **Clastic sedimentary rocks** such as breccia, conglomerate, sandstone, siltstone, and shale are formed from mechanical weathering debris.
- **Chemical sedimentary rocks**, such as rock salt, iron ore, chert, flint, some dolomites, and some limestone, form when dissolved materials precipitate from solution.
- **Organic sedimentary rocks** such as coal, some dolomites, and some limestone, form from the accumulation of plant or animal debris.

**Q.42) Which of the following are examples of Fold Mountains?**

- 1. Himalayas
- 2. Rockies
- 3. Alps

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:** Fold Mountains are created through a process called orogeny. An orogenic event takes millions of years to create a fold mountain.

- When a tectonic plate gets pressure from two sides, it gets folded. Some of its portion becomes elevated and forms the mountains.
- The depressions form the valleys. **The Himalayas, the Rockies, the Andes and the Alps are examples of Fold Mountain.**
- They are the young mountains of the world and hence they have some of the highest peaks of the world.

**Q.43) Consider the following statements regarding the Caldera:**

- 1. It is a large depression formed when a volcano erupts and collapses.
- 2. Crater Lake is an example of Caldera

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:** A caldera is a large depression formed when a volcano erupts and collapses.

- During a volcanic eruption, magma present in the magma chamber underneath the volcano is expelled, often forcefully.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- When the magma chamber empties, the support that the magma had provided inside the chamber disappears.
- As a result, the sides and top of the volcano collapse inward. Calderas vary in size from one to 100 kilometers (0.62 to 62 miles) in diameter.
- Some calderas form a lake as the bowl-shaped depression fills with water. A **famous example is Crater Lake, in Oregon.**
- This caldera formed about 7,000 years ago when a stratovolcano, Mt. Mazama, violently erupted.
- For several thousand years after this eruption, smaller volcanic eruptions continued inside the caldera.
- One of these eruptions was so large it formed an island in Crater Lake named Wizard Island.

**Q.44)** Which of the following is **NOT** part of Great lakes of North America?

- a) Victoria
- b) Ontario
- c) Michigan
- d) Erie

**ANS: A**

**Explanation:** The Great Lakes are, from west to east: Superior, Michigan, Huron, Erie and Ontario.

- They are a dominant part of the physical and cultural heritage of North America.
- Shared with Canada and spanning more than 750 miles (1,200 kilometers) from west to east, these vast inland freshwater seas provide water for consumption, transportation, power, recreation and a host of other uses.
- The Great Lakes are one of the world's largest surface freshwater ecosystems.

**Q.45)** The term "**bog-bursts**" is related to which of the following?

- a) Glacial flow
- b) River flow
- c) Soil flow
- d) None

**ANS: C**

**Explanation:** When the soil is completely saturated with water the individual particles are almost suspended in the water and move easily over one another and over the underlying rock. The soil acts like a liquid and a **soil-flow** occurs.

In areas of peat soils, the peat absorbs much moisture. However if saturation point is reached the peaty soil may flow down-slope. In **Ireland such flows are known as bog-bursts.**

**Q.46)** The term **isohyet** is related to which of the following?

- a) Temperature
- b) Rainfall
- c) Atmospheric pressure
- d) Sea level

**ANS: B**

**Explanation:** An **isohyet** is also known as isohyetal line, and it is a line on a map which connects points that have the same amounts of precipitation in a given period or for a

particular storm. The method used in estimating average rainfall across a particular area is known as an isohyetal method.

- **Isotherm:** a line on a map connecting points having the same temperature at a given time or on average over a given period.
- **Isobar:** A line drawn on a weather map connecting points of equal pressure is called an isobar. The isobars are generated from mean sea level pressure reports and the pressure values are given in millibars.

**Q.47)** Which of the following clouds are patchy gray or white clouds that often have a dark **honeycomb-like appearance**?

- a) Cumulus clouds
- b) Stratocumulus clouds
- c) Altocumulus clouds
- d) Cirrus clouds

**ANS: B**

**Explanation:** All clouds are made up of basically the same thing: water droplets or ice crystals that float in the sky.

But all clouds look a little bit different from one another, and sometimes these differences can help us predict a change in the weather.

- **Cirrus clouds** are delicate, **feathery clouds** that are made mostly of ice crystals. Their wispy shape comes from wind currents which twist and spread the ice crystals into strands.
- **Altocumulus clouds** have several patchy white or gray layers, and seem to be made up of many small rows of **fluffy ripples**. They are lower than cirrus clouds, but still quite high. They are made of liquid water, but they don't often produce rain.
- **Cumulus clouds** look like fluffy, white **cotton balls in the sky**. They are beautiful in sunsets, and their varying sizes and shapes can make them fun to observe!
- **Stratocumulus clouds** are patchy gray or white clouds that often have a dark **honeycomb-like appearance**.

**Q.48)** Consider the following statements regarding the **Savanna Climate**:

1. It has alternate wet and dry seasons similar to monsoon climate but has considerably less annual rainfall.
2. It is confined within the tropics.

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: D**

**Explanation:** Savanna Climate.

**Statement 1 is correct:** Savanna Climate is a type of climate has alternate wet and dry seasons similar to monsoon climate but has considerably less annual rainfall. Also, there is no distinct rainy season like in monsoon climate.

**Statement 2 is correct:** It is confined within the tropics and is best developed in Sudan, hence its name the Sudan Climate.

**Q.49)** Which of the following is/are ideal conditions for **temperature inversion**?

1. Long days, so that the outgoing radiation is greater than the incoming radiation.

2. Clear skies, which allow unobstructed escape of radiation.
3. Calm and stable air, so that there is no vertical mixing at lower levels.

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:** Temperature inversion is a reversal of the normal behavior of temperature in the troposphere, in which a layer of cool air at the surface is overlain by a layer of warmer air. (Under normal conditions, temperature usually decreases with height).

Ideal Conditions for Temperature Inversion:

- **Long nights**, so that the outgoing radiation is greater than the incoming radiation.
- **Clear skies**, which allow unobstructed escape of radiation.
- **Calm and stable air**, so that there is no vertical mixing at lower levels.

**Q.50)** Consider the following statements regarding the **Aridisols**:

1. Aridisols are soils that are composed mainly of organic materials.
2. These soils occupy nearly 19 per cent of the earth's land surface.

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:** Aridisols are **largest single soil order** occurs in dry regions of the world.

- These soils occupy **nearly 19 per cent of the earth's land surface**.
- Pale and light near the surface, deficit in moisture.
- **These soils are lack in organic matter**.
- Salinisation is the main problem of these soils.
- Salinisation complicates farming in Aridisols.

## *Environment*

**Q.1)** Which of the following is/are criteria for identifying “**Wetlands of International Importance**”?

1. If Wetlands contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate bio-geographic region.
2. If Wetlands regularly supports 10,000 or more water birds.
3. If Wetlands regularly supports 10% of the individuals in a population of one species or subspecies of wetland-dependent non-avian animal species.

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: A**

**Explanation:** Under the Ramsar Criteria, wetlands should be selected for the Ramsar List on account of their international significance in **terms of the biodiversity and uniqueness of their ecology, botany, zoology, limnology or hydrology**. In addition, the Criteria indicate that in the first instance, wetlands of international importance to water-birds at any season should be included on the Ramsar List.

Group A of the Criteria. Sites containing representative, rare or unique wetland types

**Criterion 1:** A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.

Group B of the Criteria. Sites of international importance for conserving biological diversity

Criteria based on species and ecological communities

**Criterion 2:** A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.

**Criterion 3:** A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.

**Criterion 4:** A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.

Specific criteria based on waterbirds

**Criterion 5:** A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.

**Criterion 6:** A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.

Specific criteria based on fish

**Criterion 7:** A wetland should be considered internationally important if it supports a significant proportion of indigenous fish subspecies, species or families, life-history stages, species interactions and/or populations that are representative of wetland benefits and/or values and thereby contributes to global biological diversity.

**Criterion 8:** A wetland should be considered internationally important if it is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend.

Specific criteria based on other taxa

**Criterion 9:** A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of wetland-dependent non-avian animal species.



**Q.2)** Which of the following statements is/are correct about types of “**Estuaries**”?

1. Coastal plains estuaries form when a shallow lagoon or bay is protected from the ocean by a sand bar, delta or island.
2. Fjord and Ria estuaries are formed by glacial action.

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** There are four main types of estuaries, based on how they were formed.

- **Bar-built estuaries** form when a shallow lagoon or bay is protected from the ocean by a **sand bar, delta or island**.
- **Coastal plains estuaries** are formed when the **rising sea fills existing river valleys**.
- **Tectonic estuaries** are caused by the **folding of land surfaces** due to volcanic activity.
- **Fjord and Ria estuaries** are drowned river valleys where the river valley was originally **formed by glacial action**.

**Q.3)** Which of the following is/are characteristics of “**Mangroves**”?

1. They are basically evergreen land plants growing on sheltered shores like tidal flats, deltas, bays and creeks.
2. They exhibit viviparity mode of reproduction.
3. They require less solar radiation.

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: B**

**Explanation:** Mangrove swamps are coastal wetlands found in tropical and subtropical regions. They are characterized by halophytic (salt loving) trees, shrubs and other plants growing in brackish to saline tidal waters. These wetlands are often found in estuaries, where fresh water meets salt water and are infamous for their impenetrable maze of woody vegetation.

Important characteristics of Mangroves:

- **They are basically evergreen land plants** growing on sheltered shores, typically on tidal flats, deltas, estuaries, bays, creeks and the barrier islands.
- They **exhibit viviparity mode of reproduction**, it means seeds germinate in the tree itself.
- **They require high solar radiation** and have the ability to absorb fresh water from saline/brackish water.

**Q.4)** Which of the following statements is/are correct about “**Cold water corals**”?

1. Cold-water corals have symbiotic algae living in their polyps.
2. They are found on the continental shelf and also in deep-sea areas.

Select the correct answer using the code given below:

- a) 1 only

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

**ANS: B**

**Explanation:** Cold water coral reefs.

**Statement 1 is incorrect:** Unlike tropical corals, **cold-water corals don't have symbiotic algae living in their polyps so they don't need sunlight to survive.** They feed solely by capturing food particles from the surrounding water. Their polyps tend to be much bigger than tropical corals.

**Statement 2 is correct:** Cold-water coral reefs are commonly found where current flow is accelerated. **They are found on the continental shelf, and also in deep-sea areas** with topographic highs, such as seamounts, mounds, ridges, and pinnacles.

**Q.5)** Which of the following statements is/are correct about “**Environmental Performance Index (EPI)**”?

1. It is a joint project of the Yale Center for Environmental Law & Policy and The Center for International Earth Science Information Network (CIESIN).
2. The EPI is released biennially in even-numbered years.

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation: Environmental Performance Index.**

**Statement 1 is correct:** The **Environmental Performance Index** is a joint project of the **Yale Center for Environmental Law & Policy** and **The Center for International Earth Science Information Network (CIESIN)** at Columbia University's Earth Institute. The EPI is produced in collaboration with the World Economic Forum (WEF).

**Statement 2 is correct:** The **EPI is released biennially in even-numbered years.**

**Q.6)** Which of the following statements is/are correct about “**Sunderban Wetland**”?

1. It is the largest protected wetland in the country.
2. It is a UNESCO World heritage site.

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation: Sunderban Wetland.**

- On January 30, 2019 the Indian Sundarban was accorded the status of 'Wetland of International Importance' under the Ramsar Convention.
- The Sundarbans comprises hundreds of islands and a network of rivers, tributaries and creeks in the delta of the Ganga and the Brahmaputra at the mouth of the Bay of Bengal in India and Bangladesh.
- Located on the southwestern part of the delta, the **Indian Sundarban constitutes over 60% of the country's total mangrove forest area.**

**PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

- It is the 27th Ramsar Site in India, and with an area of 4,23,000 hectares is now the largest protected wetland in the country.
- The Indian Sundarban, also a UNESCO world heritage site, and it is home to the Royal Bengal Tiger.

**Q.7)** Which of the following statements is/are correct about “Wildlife Crime Control Bureau”?

1. The Bureau was constituted by amendment to the Environment Protection Act, 1986.
2. It advises the Government of India on issues relating to wildlife crimes having national and international ramifications.

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation: Wildlife Crime Control Bureau.**

**Statement 1 is incorrect: The Bureau was constituted by amendment to the Wild Life (Protection) Act, 1972.** It has been envisaged as a multi - disciplinary statutory body that will have officials from forests, police, customs and other similar agencies. The constitution is specified in Section 38 (Y) of the Wild Life (Protection) Act, 1972.

**Statement 2 is correct:** The powers and functions of the Bureau are specified under Section 38(Z) of the Wild Life (Protection) Act, 1972. It **Advise the Government of India on issues relating to wildlife crimes having national and international ramifications** and suggest changes required in relevant policy and laws time to time.

**Q.8)** “Canberra Convention” is related to which of the following?

- a) Conservation of Arctic marine living resources.
- b) Conservation of Pacific Ocean marine living resources.
- c) Conservation of Antarctica marine living resources.
- d) None.

**ANS: C**

**Explanation: Canberra Convention.**

- The **Convention on the Conservation of Antarctic Marine Living Resources is an international treaty that was adopted at the Conference on the Conservation of Antarctic Marine Living Resources which met at Canberra, Australia, 7–20 May 1980.**
- It is a multilateral response to concerns that unregulated increases in krill catches in the Southern Ocean could be detrimental for Antarctic marine ecosystems particularly for seabirds, seals, whales and fish that depend on krill for food.

**Q.9)** “World Air Quality Report” is released by which of the following?

- a) World Economic Forum
- b) Greenpeace
- c) United Nation Environmental Programme
- d) None

**ANS: B**

**Explanation: World Air Quality Report.**

## **PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

- The **World Air Quality report** was released by the pollution tracker **IQAir and Greenpeace**.
- The ranking is based on a comparison of PM 2.5 levels.
- India was the fifth most polluted country in 2019 and an account for almost two-thirds of the world's most polluted cities according to the World Air Quality Report 2019.

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

- a) Rocks
- b) Primitive plants
- c) Primitive group of microorganisms
- d) Sacred groves

**ANS: C**

**Explanation: Archaea.**

- Archaea (singular archaeon) are a **primitive group of microorganisms** that thrive in extreme habitats such as hot springs, cold deserts and hyper-saline lakes.
- These slow-growing organisms are also present in the human gut, and have a potential relationship with human health.
- They are known for producing antimicrobial molecules, and for anti-oxidant activity with applications in eco-friendly waste-water treatment.

**Q.11)** The concept of “**common but differentiated responsibility (CBDR)**” is enshrined in which of the following?

- a) Rio Earth Summit
- b) Kyoto Protocol
- c) Convention on Biological Diversity (CBD)
- d) World Summit on Sustainable Development

**ANS: A**

**Explanation:** The concept of **Common But Differentiated Responsibilities (CBDR)** was enshrined as **Principle 7 of the Rio Declaration at the first Rio Earth Summit in 1992**. The declaration states:

- “In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities.
- The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.”

**Q.12)** Which of the following **Greenhouse Gases** are covered under **Kyoto Protocol**?

- 1. Carbon Dioxide
- 2. Methane
- 3. Water Vapour
- 4. Particulate matter
- 5. Sulphur hexafluoride

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** The targets for the first commitment period of the Kyoto Protocol cover emissions of the six main greenhouse gases, namely:

- Carbon dioxide (CO<sub>2</sub>)
- Methane (CH<sub>4</sub>)
- Nitrous Oxide (N<sub>2</sub>O)
- Hydro-fluorocarbons (HFCs)
- Per-fluorocarbons (PFCs) and
- Sulphur hexafluoride (SF<sub>6</sub>).

**Q.13)** The term “**MARKAL model**” is related to which of the following?

- a) Ozone depletion measurement
- b) Sustainable agriculture practices
- c) Energy efficiency
- d) None

**ANS: C**

**Explanation:** MARKAL computes **energy balances at all levels of an energy system:** primary resources, secondary fuels, final energy, and energy services.

- The model aims to **supply energy services at minimum global cost** by simultaneously making equipment investment and operating decisions and primary energy supply decisions, by region.
- For example, in MARKAL, if there is an increase in residential lighting energy service (perhaps due to a decline in the cost of residential lighting), either existing generation equipment must be used more intensively or new equipment must be installed.
- The choice of generation equipment (type and fuel) incorporates analysis of both the characteristics of alternative generation technologies and the economics of primary energy supply.
- MARKAL is thus a vertically integrated model of the entire energy system.

**Q.14)** “**The Future We Want**” document is the outcome document of which of the following?

- a) Rio summit
- b) Rio+ 20 summit
- c) Paris summit
- d) World Summit on Sustainable Development

**ANS: B**

**Explanation:** The General Assembly, Recalling its resolution 64/236 of 24 December 2009, in which it decided to organize the United Nations Conference on Sustainable Development at the highest possible level in 2012, as well as its resolution 66/197 of 22 December 2011.

- Expresses its profound gratitude to the Government and the people of Brazil for hosting the **United Nations Conference on Sustainable Development in Rio de Janeiro (RIO+20 summit)** from 20 to 22 June 2012, and for providing all the necessary support.
- Endorses the outcome document of the United Nations Conference on Sustainable Development, entitled “**The future we want**”, annexed to the present resolution.

**Q.15)** Consider the following statements regarding the **Agasthyamalai Mountain region**:

1. The region receives precipitation from both the southwest and northeast monsoons.



2. It is a Sacred Mountain.
3. The eastern side of Agasthyamalai is composed of the Kalakad Mundanthurai Tiger Reserve (KMTR).

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:** The Agasthyamalai Mountain falls in the Tirunelveli and Kanyakumari districts of Tamil Nadu and the Kollam and Thiruvananthapuram districts of Kerala.

- It is a **Sacred Mountain and pilgrim centre**, where devotees come to worship sage Agasthya. Agasthya was a Dravidian sage, and is considered to be one of the seven rishis (saptarishi) of Hindu mythology. The Tamil language is considered to be a boon from Agasthya. There is a statue of Agasthya at the top of the peak and the devotees can render poojas themselves.
- The Agasthyamalai region constitutes an extensive and compact tract of forest-clad mountains and plays a very important role as a watershed and repository of biodiversity. The **region receives precipitation from both the southwest and northeast monsoons** and has a very short dry season of less than 2-3 months duration.
- Agasthyamalai is one of the few safest homes in Western Ghats for many endemic animals such as Lion -Tailed Macaque, Nilgiri Langur, Brown Palm Civet, Malabar Spiny Dormouse, Nilgiri Marten and Nilgiri Tahr. The **eastern side of Agasthyamalai is composed of the Kalakad Mundanthurai Tiger Reserve (KMTR)**, a 900 sq km. protected area.

**Q.6)** Consider the following statements regarding the **Indian pangolin**:

1. It has sticky tongue, which is longer than its body, is specially adapted for reaching and lapping up insects in deep crevices.
2. It is listed as vulnerable on 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: A**

**Explanation: Indian pangolin.**

**Statement 1 is correct:** Of the eight extant species of pangolin, the Indian Pangolin *Manis crassicaudata* and Chinese Pangolin *M. pentadactyla* occur in India. Indian Pangolin is a large anteater covered dorsally by 11-13 rows of scales.

- The adult male is about one-third larger than the female. A terminal scale is also present on the ventral side of the tail of the Indian Pangolin, which is absent in the Chinese Pangolin.
- Its sticky tongue, which is longer than its body, is specially adapted for reaching and lapping up insects in deep crevices.
- To tear open the anthills or termite mounds, it uses the powerful forelimbs that are armed with three disproportionately long claws. In sharp contrast, the hind legs have tough soles and short, blunt nails on the five toes.

**Statement 2 is incorrect:** Listed in Schedule I of Wildlife (Protection) Act, 1972 and as Endangered on IUCN Red List.

**Q.7)** Recently India, with the help of Bangladesh and Nepal, is **engaged in a tough battle with CITES forum to delist which of the following from the list of threatened varieties?**

- a) Sandalwood
- b) Teakwood
- c) Rosewood
- d) Sal wood

**ANS: C**

**Explanation:** India, with the help of Bangladesh and Nepal, is engaged in a tough battle at the forum for international trade for endangered species to de-list '**Dalbergia sisoo**', **commonly known as rosewood or sheesham**, from the list of threatened varieties in order to protect the livelihood of handicraft manufacturers and farmers in the Sub-continent.

- The Ministry has submitted a proposal to CITES based on Non Detrimental Finding (NDF) study carried out by Botanical Survey of India, which shows that **Dalbergia sissoo** does not fall into any threatened category and is available in abundance both in wild and cultivated populations.
- Moreover, the species grows at a very fast rate and has the capacity to become naturalized outside its native range.

**Q.8)** Consider the following statements regarding the **Tokay Gecko (Gekko gekko)**:

1. It is endemic to North-east region of India.
2. It is listed in Appendix - I of Convention on International Trade in Endangered Species (CITES).

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:** Tokay Gecko (Gekko gekko).

**Statement 1 is incorrect:** The Tokay Gecko (Gekko gekko) is one of the largest geckos in the country and the world; at about 15 inches the males are gigantic. **This is a nocturnal arboreal gecko, ranging from northeast India, to Nepal and Bangladesh, throughout Southeast Asia, Philippines to Indonesia and western New Guinea.** They are very colorful lizards too.

**Statement 2 is incorrect:** The Tokay gecko (Gekko gekko) was included for the **first time under Appendix II of CITES** at the Conference of the Parties (CoP18) to the convention. The gecko is used in Chinese traditional medicine and traded throughout south-east Asia in dried form or preserved in alcohol.

**Q.9)** Which of the following **specie/species** is/are covered under IUCN (Critically Endangered) category, Appendix I of CITES and Schedule I of the Indian Wildlife (Protection) Act, 1972?

1. Asian Elephant
2. Great Indian Bustard
3. Bengal Florican

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: Asian Elephant:** It is found in India, Nepal, Bangladesh, Bhutan and Myanmar. **IUCN status of Asian Elephant is Endangered.** It is also listed in **Appendix I** of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and **Schedule I** of the Wildlife (Protection) Act, 1972.

**Great Indian Bustard:** It is one of the heaviest flying birds in the world. Its largest populations are found in the Indian state of Rajasthan. It is state bird of Rajasthan. It is listed as '**Critically Endangered**' on the IUCN Red List. It is also listed in **Appendix I** of CITES and **Schedule I** of the Indian Wildlife (Protection) Act, 1972.

**Bengal Florican:** In India it is found in Uttar Pradesh, Assam and Arunachal Pradesh. It has been listed as '**Critically Endangered**' on the IUCN Red List. The bird is listed under **Schedule I** of the Wildlife Protection Act of India, 1972 and **Appendix I** of CITES.

**Q.10)** Consider the following statements regarding the **European Union Green Deal**:

- 1. The EU will aim to reach net-zero greenhouse gas emissions by 2050.
- 2. A new circular economy action plan will be tabled in March 2020, as part of a broader EU industrial strategy.
- 3. Renovation rate of buildings at double or triple times.

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:** European Commission president Ursula von der Leyen outlined the European Green Deal on Wednesday, vowing to "leave no-one behind" in the race to achieve a climate neutral economy by 2050. "This is Europe's man on the moon moment," she said in a video statement. "Our goal is to reconcile the economy with our planet" and "to make it work for our people," she added, describing climate policy as Europe's new growth strategy.

Here are the main points in the commission plan:

- **'Climate neutral' Europe:** This is the overarching objective of the European Green Deal. The EU will aim to reach net-zero greenhouse gas emissions by 2050, a goal that will be enshrined in a 'climate law' to be presented in March 2020.
- **Circular economy:** A new circular economy action plan will be tabled in March 2020, as part of a broader EU industrial strategy. It will include a sustainable product policy with "prescriptions on how we make things" in order to use less materials, and ensure products can be reused and recycled.
- **Building renovation:** This is meant to be one of the flagship programmes of the Green Deal. The key objective there is to "at least double or even triple" the renovation rate of buildings, which currently stands at around 1%.
- **Zero-pollution:** Whether in air, soil or water, the objective is to reach a "pollution-free environment" by 2050. New initiatives there include a chemical strategy for a "toxic-free environment".

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- **Ecosystems & biodiversity:** A new biodiversity strategy will be presented in March 2020, in the run-up to a UN biodiversity summit taking place in China in October. “Europe wants to lead by example” with new measures to address the main drivers of biodiversity loss. That includes measures to tackle soil and water pollution as well as a new forest strategy.
- **Farm to fork strategy:** To be tabled in spring 2020, the new strategy will aim for a “green and healthier agriculture” system. This includes plans to “significantly reduce the use of chemical pesticides, fertilisers and antibiotics”.
- **Transport:** One year after the EU agreed new CO<sub>2</sub> emission standards for cars, the automotive sector is once again in the commission’s firing line. The current objective is to reach 95gCO<sub>2</sub>/km by 2021.
- **Money:** To “leave no-one behind,” the commission proposes a ‘Just Transition Mechanism’ to help regions most heavily dependent on fossil fuels. “We have the ambition to mobilise €100 billion precisely targeted to the most vulnerable regions and sectors”.

**Q.11)** 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.12)** 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.

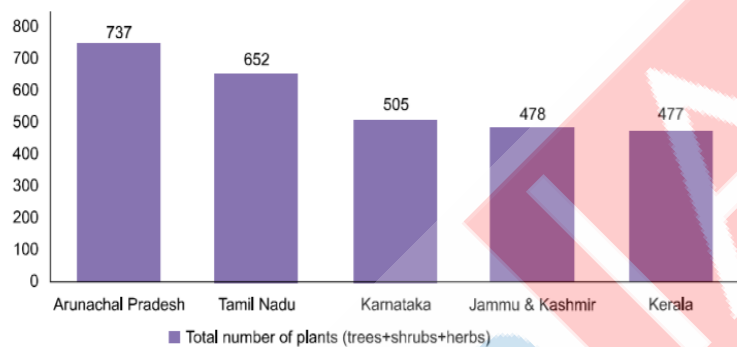
**Q.13)** According to the India State of Forest Report (ISFR) 2019, which of the following state has **highest Plant (tree + shrub + herb) Species richness**?

- 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



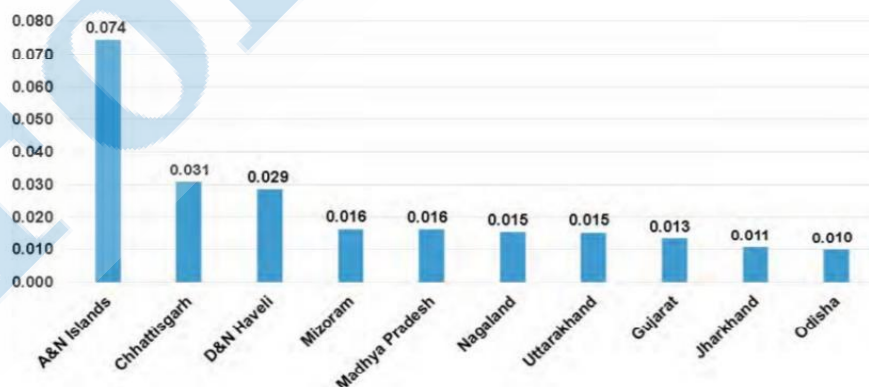
**Q.14)** According to the India State of Forest Report (ISFR) 2019, which of the following has **highest per capita dependence on forests for Bamboo**?

- 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.15)** 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.16)** 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.17)** 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.18)** 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:

**PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

- **Thermal comfort for all** – provision for cooling for EWS and LIG housing,
- **Sustainable cooling** – low GHG emissions related to cooling,
- **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.19)** 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.20)** 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.21)** 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.22)** 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.23)** 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.



## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- 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.24)** 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.25)** 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.26)** 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.27)** 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.

**PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

- **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.28)** 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.29) 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.30)** 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.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- **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.

**Q.31)** Consider the following statements regarding the **Gandhi Solar Park**:

1. It was inaugurated at United Nations headquarters by the Indian Prime Minister during the commemorative event (Gandhi's 150 birth anniversary).
2. It has 193 solar panels, each representing a member of United Nations.
3. It can generate 100 kilo-watt per hour.

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:** In a first of its kind symbolic effort by India at the UN, Prime Minister Narendra Modi inaugurated a **50KW 'Gandhi Solar Park'**, a gesture that highlights India's willingness to go beyond the talk on climate change.

## **PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

- At a contribution of about one million dollars, India has gifted solar panels that have been installed on the roof of the UN Headquarters here, **one panel each for every 193 UN Member State.**
- Modi will remotely inaugurate the solar park at the UN Headquarters and the 'Gandhi Peace Garden' during a special commemorative event marking Gandhi's 150th birth anniversary.

**Q.32)** Which of the following country officially declared the **death of a Glacier?**

- a) Canada
- b) Iceland
- c) Finland
- d) Norway

**ANS: B**

**Explanation:** In Iceland, people commemorated the loss of the glacier Okjokull.

- The glacier was officially declared dead in 2014 at the age of 700, when it was no longer thick enough to move. It has been reduced to a small patch of ice atop a volcano.
- The people walked up the volcano northeast of the capital Reykjavik to lay a plaque which carries a letter to the future.
- The plaque reads "Okjokull is the first Icelandic glacier to lose its status as glacier."

**Q.33)** Consider the following statements regarding the **#FridaysforFuture movement:**

1. It is an initiative of United Nations Environmental Programme (UNEP)
2. It demands first Friday in a month to use renewable energy appliances.

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:** **#FridaysForFuture** is a movement that began in August 2018, after 15-year-old Greta Thunberg and other young activists sat in front of the Swedish parliament every school day for three weeks, to protest against the lack of action on the climate crisis.

- 'Thunberg' called for a strike every Friday until the Swedish parliament revised its policies towards climate change.
- Gradually, students and adults from across the world started mobilising and demonstrating in front of parliaments and local city halls in their respective countries.

**Q.34)** Recently which of the following country was passed the **Zero-Carbon Act?**

- a) Australia
- b) New Zealand
- c) Japan
- d) Sweden

**ANS: B**

**Explanation:** New Zealand's Parliament passed The Zero-Carbon Act, which will commit New Zealand to zero carbon emissions by 2050 or sooner, as part of the country's attempts to meet its Paris climate accord commitments.



## PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020

- The Act is not a separate legislation but is an amendment to the existing Climate Change Responses Act, 2002.
- According to the New Zealand government, this is the first legislation in the world to make a legally binding commitment to living within 1.5 degrees Celsius of global warming.

**Q.35)** According to the Central Water Commission report, 2/3rd of the water quality stations spanning India's major rivers showed contamination by one or more heavy metals. Which of the following is the **most common contaminant metal** found in Indian rivers?

- a) Arsenic
- b) Lead
- c) Iron
- d) Nickel

**ANS: C**

**Explanation:** India's rivers have a heavy metal contamination problem. According to The Hindu, samples taken from **two-thirds of water quality stations on major rivers** revealed the presence of a heavy metal (or in some cases more than one) beyond limits specified by the Bureau of Indian Standards.

- The Central Water Commission (CWC) collected a total of 442 surface water samples, of which 287 were polluted by heavy metals.
- "Samples from 101 stations had contamination by two metals, [and] six stations saw contamination by three metals".
- **The most common heavy metal found was iron**, and above safe limits in 156 samples. Lead, nickel, chromium, cadmium and copper were the other metals.

**Q.36)** With reference to the India State of Forest Report (ISFR) 2019, arrange the following states in **descending order in terms of forest cover as percentage of total geographical area**:

1. Arunachal Pradesh
2. Mizoram
3. Manipur
4. Meghalaya

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** The Union Minister for Environment, Forest and Climate Change, Shri Prakash Javadekar today released the biennial "India State of Forest Report (ISFR)", in New Delhi.

- The report is published by the Forest Survey of India (FSI) which has been mandated to assess the forest and tree resources of the country including wall-to-wall forest cover mapping in a biennial cycle.
- Starting 1987, ISFR 2019 is the 16th report in the series.
- **Area-wise Madhya Pradesh has the largest forest cover in the country** followed by Arunachal Pradesh, Chhattisgarh, Odisha and Maharashtra.

**PRELIMS MARATHON COMPILATION FOR THE MONTH OF JUNE, 2020**

- In terms of **forest cover as percentage of total geographical area, the top five States are Mizoram (85.41%), Arunachal Pradesh (79.63%), Meghalaya (76.33%), Manipur (75.46%) and Nagaland (75.31%).**

**Q.37)** The '**reverse bundling**' scheme is recently in news is related to which of the following?

- a) Power
- b) Contour bonding
- c) Bio-diesel
- d) Organic farming

**ANS: A**

**Explanation:** The Ministry of New and Renewable Energy has proposed a draft policy for the supply of round-the-clock power to distributors through a mix of renewable energy and electricity generated in coal-based thermal power plants.

- Addressing issues of intermittency, limited hours of supply and low capacity utilisation of transmission infrastructure, the draft power policy provides for '**reverse bundling**'—**high-cost thermal power clubbed with cheaper renewable energy.**
- A power generating firm will have to supply electricity that consists of at least 51 percent of renewable energy and the rest drawn from thermal sources.
- The generator will supply renewable energy complemented with thermal power in round-the-clock manner, keeping at least 80 percent availability on an annual basis, the draft said.

**Q.38)** Recently which of the following country has **killed 10000 camels** as preventive measure to overcome drought?

- a) Saudi Arabia
- b) Iraq
- c) Australia
- d) Mongolia

**ANS: C**

**Explanation:** Culling is a practice of segregating organisms from a group according to desired or undesired characteristics and then reducing that population by selective slaughter.

- In **Australia**, camels will be shot by professional firearms experts from helicopters. It is being done to **prevent the animals from drinking too much water** in the drought-affected regions.
- According to reports, 10,000 camels will be shot today after an order from the Aboriginal leaders in the Anangu Pitjantjatjara Yankunytjatjara (APY) lands.
- The camels are being culled because according to locals they have been wrecking havoc searching for water sources.
- Another reason for the culling is being stated as the **greenhouse gas emissions.**
- Camels reportedly **emit methane equivalent to one ton of carbon dioxide per year.**

**Q.39)** Recently the Supreme Court allowed the Centre to introduce the African cheetah to a suitable habitat in India. From which of the following **African country** India is importing the cheetah?

- a) Congo

- b) Kenya
- c) Ethiopia
- d) Namibia

**ANS: D**

**Explanation:** The Supreme Court allowed the Centre to introduce the African cheetah to a suitable habitat in India.

- With India's own cheetahs vanishing, a plea for this had been filed by the National Tiger Conservation Authority (NTCA), seeking permission to **introduce the African cheetah from Namibia**.
- Before Namibia, India had approached Iran for Asiatic cheetahs, but had been refused.
- The **Asiatic cheetah is classified as a "critically endangered" species** by the IUCN Red List, and is believed to survive only in Iran.
- In 1947, Maharaja Ramanuj Pratap Singh Deo of Koriya (now in Chhattisgarh) reportedly killed the last known Asiatic cheetah in India.
- In **1952, the cheetah was officially declared extinct from India**.

**Q.40) Kuno Palpur Wildlife Sanctuary** is located in which of the following state?

- a) Chhattisgarh
- b) Madhya Pradesh
- c) Maharashtra
- d) Gujarat

**ANS: B**

**Explanation:** Kuno-Palpur Wildlife Sanctuary is a hidden gem hiding amidst Vindhyan Hills in the state of Madhya Pradesh.

- This wildlife sanctuary is a well kept secret and is a safe haven for a large number of flora and fauna.
- **Kuno Palpur Wildlife Sanctuary in Barkheda, Madhya Pradesh is underway to become India's second home for the Asiatic lion.**
- The species, whose only refuge in the country has been Gujarat's Gir forest, numbered in 523 in 2015.
- To prevent decline—and possible extinction—in a single habitat due to natural disasters, epidemics, decline in prey or retaliatory killings, an action plan is being implemented to relocate a number of lions to Kuno, a former royal hunting ground.

## *Reports & commissions*

**Q.1)** Which of the following are the dimensions of **Social Mobility Index**?

1. Technology
2. Education
3. Protections and Institutions
4. Environmental protection

Select the correct answer using the code given below:

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

**ANS: A**

**Explanation:** **Social Mobility Index is newly compiled, released by the World Economic Forum** ahead of the 50th Annual Meeting of the WEF in January 2020.

- India has been ranked very low at 76th place out of 82 countries on a new Social Mobility Index compiled by the World Economic Forum, while Denmark has topped the charts.
- Measuring countries across five key dimensions distributed over 10 pillars — **health; education (access, quality and equity); technology; work (opportunities, wages, conditions); and protections and institutions** (social protection and inclusive institutions) — shows that fair wages, social protection and lifelong learning are the biggest drags on social mobility globally.

**Q.2)** Consider the following statements regarding the **Global Hunger Index (GHI) 2019**:

1. It is released by Food and Agriculture Organization (FAO).
2. India has improved its GHI score continuously from 2000 to 2019.

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 GHI has been brought out almost every year by **Welthungerhilfe** (lately in partnerships with Concern Worldwide) since 2000.

- In 2018, **India was ranked 103 out of 119 countries**. In 2000, the country was ranked 83 out of 113 countries. Now, with 117 countries in the fray, it has dropped to 102.
- **India is ranked 102 of 117 countries in the Global Hunger Index 2019**, behind its neighbours Nepal, Pakistan and Bangladesh.
- **It's GHI score has also decelerated — from 38.9 in 2005 to 32 in 2010 and then from 32 to 30.3 between 2010 and 2019.**
- The GHI score is calculated on **four indicators** — **undernourishment; child wasting**, the share of children under the age of five who are wasted (that is, who have low weight for their height, reflecting acute under-nutrition); **child stunting**, children under the age of five who have low height for their age, reflecting chronic under-nutrition; and **child mortality**, the mortality rate of children under the age of five.

**Q.3)** Which of the following report/reports is/are released by **World Bank**?

1. Global Economic Prospect Report.
2. Global Financial Development Report.
3. Global Financial Stability Report.

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: B**

**Explanation:** Both Global Economic Prospect Report and Global Financial Development Report are released by World Bank.

NOTE: Global Financial Stability Report is released by International Monetary Fund (IMF).

**Q.4)** Consider the following statements regarding the **SDG India Index 2019**:

1. It is a single measurable Index to map the progress of States & UTs towards 2030 SDGs.
2. It is developed by NITI Aayog in collaboration with Ministry of Welfare & Social Justice.
3. Himachal Pradesh and Sikkim are the only northern states to equal or more in rankings with southern states.

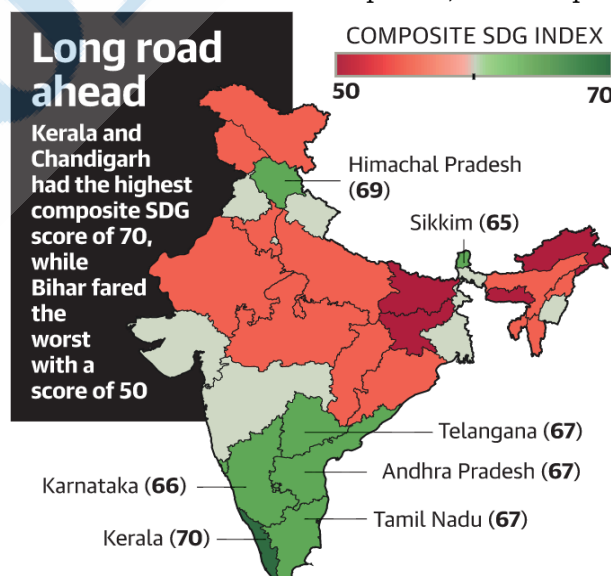
Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** SDG India Index is a single measurable Index to map the progress of States & UTs towards 2030 SDGs.

- The **index is released by NITI Aayog, it is developed in collaboration with the Ministry of Statistics & Programme Implementation (MoSPI).**
- Kerala tops states in progress towards UN Sustainable Development Goals, while Bihar is at the bottom of Niti Aayog's SDG Index.
- **Himachal Pradesh and Sikkim have joined all the southern states** in the top tier of front runners who scored more than 65 points, out of a possible 100.





**Q.5)** Consider the following statements regarding the **State Rooftop Solar Attractiveness Index (SARAL)**:

1. It is designed and developed by Solar Energy Corporation of India (SECI).
2. Rajasthan tops the Index followed by Gujarat and Karnataka.

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:** Ministry of New and Renewable Energy launched the State Rooftop Solar Attractiveness Index (SARAL).

- **Karnataka has been given the first rank in the index**, followed by Telangana, Gujarat and Andhra Pradesh.
- **SARAL has been designed by the Ministry of New and Renewable Energy (MNRE) in association with Shakti Sustainable Energy Foundation (SSEF), Associated Chambers of Commerce and Industry of India (ASSOCHAM) and Ernst & Young (EY).**
- The index captures five key aspects — robustness of policy framework, implementation environment, investment climate, consumer experience and business ecosystem.

**Q.6)** “Sargent plan” during British period in India is related to which of the following?

- a) Education
- b) Finance
- c) Partition
- d) Railways

**ANS: A**

**Explanation:** The goal of the Sargent plan was the reorganization of the entire education system of India. The commission under the chairmanship of the John Sargent submitted its report to the Central Advisory Board of Education CABE in (1944). This scheme of post war educational development was mainly focused on the quality enhancement of higher education (ie. university system).

Recommendations-

- Pre-primary basic school for 3-6 years age group.
- Compulsory and free education for 6-14 year age group.
- High school education of two types – Academic & Technical and Vocational.
- Refresher courses for teachers and better salary for them.
- Abolition of intermediate courses.
- Standard of the universities must be raised.
- Admission should be restricted so only the capable students can go for the higher education.

**Q.7)** Consider the following statements regarding the **financial stability report (FSR)**:

1. It is released biannually by Reserve Bank of India.
2. It is approved by sub-committee of Financial Stability and Development Council (FSDC) before it is published.

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:** The **Financial Stability Reports (FSR)**, published by Reserve Bank of India, after approved by FSDC Sub-Committee since its inception, taking inputs from financial sector regulators i.e. RBI, SEBI, PFRDA, IRDAI including Ministry of Finance, are periodic exercise for reviewing the nature, magnitude and implications of risks that may have a bearing on the macroeconomic environment, financial institutions, markets and infrastructure.

- These reports will also assess the resilience of the financial sector through stress tests.
- FSR is a biannual publication.

**Q.8)** Consider the following statements regarding the **Cabinet Committee on Investment and Growth (CCIG)**:

1. It was created in 2014 to promote capital investment and growth of the economy.
2. It is headed by finance minister.

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:** In June 2019, the Union government formed two cabinet committees — one on Investment, the other on Employment and Skill Development.

**The Prime Minister constitutes Standing Committees** of the Cabinet and sets out the specific functions assigned to them. He can add or reduce the number of committees.

**Investment:** The Cabinet Committee on Investment will “identify key projects required to be implemented on a time-bound basis”, involving investments of Rs 1,000 crore or more, or any other critical projects, as may be specified by it, with regard to infrastructure and manufacturing.

- It will prescribe time limits for giving requisite approvals and clearances by the ministries concerned in identified sectors.
- It will also monitor the progress of such projects.

**Employment:** The Cabinet Committee on Employment and Skill Development is supposed to provide “direction to all policies, programmes, schemes and initiatives for skill development aimed at increasing the employability of the workforce for effectively meeting the emerging requirements of the rapidly growing economy and mapping the benefits of demographic dividend”.

- It is required to enhance workforce participation, foster employment growth and identification, and work towards removal of gaps between requirement and availability of skills in various sectors.
- The panel will set targets for expeditious implementation of all skill development initiatives by the ministries and to periodically review the progress in this regard.

The addition of the two committees is indicative of the new focus areas for the government. The goal of both is new jobs.

**Q.9)** Which of the following committee is related to **anti-defection law**?

- a) Halim Committee
- b) Santhanam Committee
- c) Bhagwan Sahay Committee
- d) None

**ANS: A**

**Explanation:** The Dinesh Goswami Committee on Electoral Reforms, the Law Commission of India and the National Commission to Review the Working of the Constitution has recommended a review of the anti-defection law.

- The issues arising out of the decisions given by different Presiding Officers and the interpretation of the law by various courts were discussed at the Conferences of Presiding Officers of Legislative Bodies in India as well.
- In view of the near unanimity among the Presiding Officers for a review of the law, the then Speaker of Lok Sabha and Chairman of the Conference, Shri G.M.C. Balayogi constituted in October 1998 a **Committee of Presiding Officers headed by the Speaker of the West Bengal Legislative Assembly, Shri Hashim Abdul Halim**, to go into different aspects of the matter.
- The Committee presented its Report in February 2003 recommending inter alia that the provisions relating to splits and mergers be deleted from the Tenth Schedule; the terms 'voluntarily giving up membership' and 'political party' are defined; and that a time frame is laid down for decisions on the anti-defection cases.

**Q.10)** “**Public Interest Foundation & Others vs Union of India 2018**” case is related to which of the following?

- a) Criminalisation of Politics
- b) Gender Inequality
- c) Right to Privacy
- d) Right to Education

**ANS: A**

**Explanation:** The Supreme Court's constitution bench, in its judgment in Public Interest Foundation & Others v Union of India, 2018 explains its limitations in preventing those **charged with heinous offences from becoming legislators and finds that Parliament** alone is competent to do so.

It satisfies itself by appealing to Parliament to make a law for this purpose on priority and issues a few directions to the Election Commission and the political parties to make the disclosure of the criminal antecedents of candidates contesting elections sufficient and clear to the voters, so that the latter could be warned not to vote the candidates, charged with serious offences.