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HISTORY
ECONOMICS
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GEOGRAPHY AND ENVIRONMENT

History

Q.1) "A Nation in Making" book is written by which of the following personality?

- a) Dadabhai Naoroji
- b) Pherozshah Mehta
- c) Surendranath Banerjee
- d) Gopal Krishna Gokhale

ANS: C

Explanation: Sir Surendranath Banerjea (1848–1925) was one of the founders of modern India and a proponent of autonomy within the British Commonwealth.

- He served as an **Indian Civil Service officer** till 1874, before becoming a teacher.
- He founded Ripon College, later renamed after him, in Calcutta and worked on the idea of nationalism.
- He purchased **The Bengalee**, a newspaper he edited for 40 years to propagate his nationalist viewpoint.
- He was twice appointed the president of Indian National Congress, appealed to the British to modify the 1905 Partition of Bengal, and in 1921 he was knighted and accepted office as minister of Local Self-government in Bengal.
- He retired to write his autobiography, A Nation in Making in 1925.

Source: NCERT

Q.2) Which of the following Governor General of India introduced the 'Non-Regulation System'?

- a) Lord William Bentinck
- b) Lord Mayo
- c) Lord Dalhousie
- d) Lord Ellenborough

ANS: C

Explanation: Dalhousie's chief aim was the consolidation of British rule in India. So he adopted the principle of centralization.

For the newly acquired territories he devised the 'Non-Regulation System' under which commissioners were appointed to deal with the administrative problems.

They were made responsible to the Governor-General in the Council.

He handed over all other powers relating to justice, police, and land revenue to the District Magistrates.

Source: Spectrum

Q.3) The term 'mirasdars' is related to which of the following?

- a) Blacksmith
- b) Security Guards
- c) Village volunteers
- d) Hereditary peasant Proprietors

ANS: D

Explanation: The word **mirasdars of Arabic origin**. As mentioned in the Marathi documents, it refers to hereditary or transferable right or patrimony (bop roti) obtained by descent, purchas, or gift, etc.

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The **mirasdars were the holders of land under the mirasi tenure**. They owned the village land and could exact rent in money or service from persons who lived on their land.

Source: Grover & Grover

- **Q.4)** With reference to the changes made with Indian army after 1857 revolt, which of the following statement is **NOT** correct?
- a) The East India Company's European forces were merged with the Crown troops.
- b) The proportion of Europeans to Indians in the army was raised and fixed at one to two in the Bengal Army, Madras and Bombay armies.
- c) European troops were kept in key geographical and military positions.
- d) The older policy of excluding Indians from the officer corps was strictly maintained.

ANS: B

Explanation: The Indian army was carefully reorganized after 1858. Some changes were made necessary by the transfer of power to the Crown. The **East India Company's European forces were merged with the Crown troops**. But the army was reorganized most of all to prevent the recurrence of another revolt. The rulers had seen that their bayonets were the only secure foundation of their rule. Several following steps were taken to minimize, if not completely eliminate, the capacity of Indian soldiers to revolt –

- The domination of the army by its European branch was carefully guaranteed.
- The proportion of Europeans to Indians in the army was raised and fixed at one to two in the Bengal Army and two to five in the Madras and Bombay armies.
- The **European troops were kept in key geographical and military positions**. The crucial branches of the army like artillery and, later in the 20th century, tanks, and armored corps were put exclusively in European hands.
- The older policy of excluding Indians from the officer corps was strictly maintained. Till 1914, no Indian could rise higher than the rank of a subedar.
- The organization of the Indian section of the army was based on the policy of "balance and counterpoise" or "divide and rule" so as to prevent its chances of uniting again in an anti-British uprising.
- **Discrimination** on the basis of caste, region, and religion was practiced, in recruitment to the army.

Source: NCERT

Q.5) "Indian Home Rule Society" was founded by which of the following?

- a) Annie Besant
- b) Bala Gangadhar Tilak
- c) Birendranath Samsal
- d) Shyamji Krishna Varma

ANS: D

Explanation: Shyamji Krishna varma was an Indian revolutionary fighter, lawyer and journalist. He **founded the Indian Home Rule Society**, India House and The Indian Sociologist in London.

Source: Spectrum

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

- a) Economic Drain
- b) Tribal policy
- c) Princely States
- d) Individual Satyagrahas

ANS: A

Explanation: Home Charges represented the single biggest source of the direct drain of wealth, the expenses in Britain borne by the Indian treasury.

These Home Charges were a huge burden on the finances and contributed to a sustained and continuous deficit in the budget throughout the nineteenth century. Home charges included pensions to British Indian officials, army officers, military and other stores purchased in England.

Source: Spectrum

- **Q.7)** "Deepavali declaration" is related to which of the following Viceroy/Governor General of India?
- a) Lord Willingdon
- b) Lord Linlithgow
- c) Lord Reading
- d) Lord Irwin

ANS: D

Explanation: "Deepavali declaration" passed during the tenure of Lord Irwin in 1929 (just after Simon commission 1928).

It was just a show leaf to Indians for dominion status that was to be not granted anywhere in the near future.

Source: Spectrum

- **Q.8)** With reference to the "**Swadeshi Movement**", which of the following statements is/are correct?
- 1. Bande Mataram became the boycott and Swadeshi movement theme song.
- 2. The Shivaji and Ganapati festivals in Western India (Maharashtra) were organized by Lokmanya Tilak to spread the swadeshi message and boycott movements among the masses.

Select the correct answer from the codes given below:

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

ANS: C

Explanation: A Boycott Resolution was passed in Calcutta City Hall on August 7, 1905, where it was decided to boycott the use of Manchester cloth and salt from Liverpool.

- Bande Mataram became the boycott and Swadeshi movement theme song.
- Boycott and public burning of foreign clothes, picketing of shops selling foreign goods, all became common in remote corners of Bengal as well as in many major cities and towns across the country.
- Another form of **mass mobilization** widely used by the Swadeshi movement was the corps of volunteers (samitis). Ashwini Kumar Dutt, a school teacher, set up the Swadesh Bandhab Samiti in Barisal was the best known volunteer organization of all of them
- The **Shivaji and Ganapati festivals in Western India (Maharashtra)** were organized by Lokmanya Tilak to spread the swadeshi message and boycott movements among the masses.

Source: Spectrum

Q.9) Which of the following statements is/are correct about the "General Committee of Public Instruction"?

- 1. It had the responsibility to grant one lakh of rupees for education.
- 2. All the members of the committee were Europeans.

Select the correct answer using the codes given below:

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

ANS: C

Explanation: In 1823, the Governor-General-in Council appointed a "General Committee of Public Instruction", which had the responsibility to grant one lakh of rupees for education.

The committee consisted of 10(ten) European members, of which Lord Macaulay was the president.

The committee decided to spend major portions from the grant for the improvement of oriental literature.

Source: NIOS

- Q.10) Which of the following statements is/are correct about "Indigo Riots"?
- 1. Riots were started in Bengal and spread throughout the country.
- 2. "Neel Darpan" play vividly portrays the oppression by planters upon indigo farmers. Select the correct answer using the codes given below:
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: B

Explanation: Indigo was a commercial crop forced upon the peasantry by the Zamindars and British planters in the Zamindari areas of eastern India.

- At one point indigo cultivation was considered to be a symbol of India's slavery.
 Finally, in 1860 the terribly oppressed indigo peasants launched "Non-Cultivation of indigo" movements.
- Beginning with the ryots of Govindpur village in Nadia district of Bengal, the indigo strikes rapidly spread to other areas.
- By the spring of 1860, it totally covered all the indigo districts of Bengal.
- The indigo peasants got tremendous support from the intelligentsia and the press, as well as from the missionaries of Bengal.
- Outstanding in this respect was the role of Harish Chandra Mukherjee editor of Hindu Patriot.
- Dina Bandhu Mitra's play 'Neel Darpan' was to gain great fame for vividly portraying the oppression by planters upon indigo farmers.

Source: Spectrum

- **Q.11)** The "**Treaty of Sugauli**" is signed between British East India Company and which of the following?
- a) Bhutan
- b) Assam
- c) Myanmar
- d) Nepal

ANS: D

Explanation: The Treaty of Sugauli that established the boundary line of Nepal and colonial India was signed on 2 December 1815 and ratified by 4 March 1816 between the East India Company and King of Nepal following the Anglo-Nepalese War of 1814-16.

The signatory for Nepal was Raj Guru Gajraj Mishra aided by Chandra Sekhar Upadhaya the signatory for the Company was Lieutenant Colonel Paris Bradshaw.

Source: Spectrum

Q.12) Which of the following "Governor-General of India" was responsible for suppression of thugs in India?

- a) Lord Warren Hastings
- b) Lord William Bentinck
- c) Lord Hastings
- d) Lord Dalhousie

ANS: B

Explanation: The name of **Lord William Bentinck** is still cherished in India for suppression of the Thugs. The thugs, i.e., cheats were a sect of hereditary assassins and robbers who lived by preying upon innocent and defenseless travelers.

Source: Spectrum

Q.13) Which of the following statements is/are correct about the "General Committee of Public Instruction"?

- 1. It had the responsibility to grant one lakh of rupees for education.
- 2. All the members of the committee were Europeans.

Select the correct answer using the codes given below:

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

ANS: C

Explanation: In 1823, the Governor-General-in Council appointed a "General Committee of Public Instruction", which had the responsibility to grant one lakh of rupees for education.

- The **committee consisted of 10(ten) European members,** of which Lord Macaulay was the president.
- The committee decided to spend major portions from the grant for the improvement of oriental literature.

Source: Shodhganga

Q.14) Which of the following statements is/are correct about "Indigo Riots"?

- 1. Riots were started in Bengal and spread throughout the country.
- 2. "Neel Darpan" play vividly portrays the oppression by planters upon indigo farmers. Select the correct answer using the codes given below:
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: B

Explanation: Indigo was a commercial crop forced upon the peasantry by the Zamindars and British planters in the Zamindari areas of eastern India.

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- Outstanding in this respect was the role of Harish Chandra Mukherjee editor of Hindu Patriot.
- Dina Bandhu Mitra's play 'Neel Darpan' was to gain great fame for vividly portraying the oppression by planters upon indigo farmers.

Q.15) Which of the following statements is/are NOT correct about "Mahalwari system"?

- 1. Mahal or village is a fiscal unit to a collect rent.
- 2. It is prevailed in North-western, Central and Bombay provinces.

Select the correct answer using the codes given below:

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

ANS: B

Explanation: The settlement was **directly made with the village or Mahal by the Settlement Officers**, who fixed the rent with the consultation of Lambardar and the rent to be paid by the cultivating tenants.

- The system was known as Mauzawari in United Provinces, Malguzari in the Central Provinces, and village or mahali settlement in pre-independent Punjab.
- **Mahal simply defined as a fiscal unit** was a local area coincides with a large or forms a part of village or includes several parts of villages.
- Mahalwari system covered the most fertile tract of British India including Ganga-Jamuna Doab, major areas of Agra and Awadh Provinces, North Western Provinces, old Banares, the Ceded and Conquered districts and Later on it was extended to Central Provinces and the British Punjab.
- The **Ryotwari system of land revenue** was instituted in the late 18th century by Sir Thomas Munro, Governor of Madras in 1820.
- This was practiced in the Madras and Bombay areas, as well as Assam and Coorg provinces.
- In this system, the peasants or cultivators were regarded as the owners of the land.
- They had ownership rights, could sell, mortgage or gift the land.

Source: e-gyankosh

Q.16) 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 **NOT** correct?

a) 1 only

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

ANS: A

Explanation: Slavery was abolished in the British Empire in 1833 and a cause 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.

Source: Spectrum

Q.17) Which of the following is/are correctly matched?

Organization : Founder/President

South India Liberal Federation : C N Annadurai
 Bahishkrit Hitkarni Sabha : Jyotirao Phule
 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) 3 only

ANS: D

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 voluntarially 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.

Source: Spectrum

Q.18) 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.

Source: Spectrum

Q.19) "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 metaphysican, 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."

Source: NCERT

Q.20) 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 reunion 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.
- Ninteen 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;

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- 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.

Source: ICSE

Q.21) Consider the following pairs:

Ancient city : Adjacent River

Harappa : Ravi River
 Mohenjo-daro : Indus River
 Lothal : Mahi River

Which of the above pair/pairs is /are **NOT** correctly matched?

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

ANS: C

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.

Source: Poonam Dahiya

Q.22) 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: 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.
- 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.

Source: NItin Singhania

Q.23) 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.

Source: Nitin Singhania

Q.24) 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 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.
- 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.

Source: NCERT

Q.25) Which of the following statements is/are correct about "Sri Ranganathaswamy Temple"?

- 1. It 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, also **known as Thiruvaranga 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.

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.

Source: CCRT

Q.26) 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.

Source: ASI

Q.27) Consider the following statements regarding the **bronze-casting technique** of Indusvalley civilization:

- 1. The bronze statues were made using the 'lost wax' technique.
- 2. Bronze casting was popular at all the major centers 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.

Source: Nitin Singhania

Q.28) The **Badakshan mines** of Indus valley civilization are 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.

Source: NCERT

Q.29) 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 Sattra, 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."

Source: The HINDU

Q.30) 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.31) Consider the following statements regarding the Mahalvari (Land Revenue Settlement) system:

- 1. It involved detailed surveys of fields and classification of lands according to soil.
- 2. The land assessments were fixed for a definite period.

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: when the Company's rule was more securely established, the view gained ground that the State would benefit more from periodical settlements.

- Further, in certain parts of the Company's territories, viz., the U.P. (now Uttar Pradesh) and the Punjab, there were well organised village communities and, barring a portion of the U.P., there were no local chieftains or large farmers of land in this area.
- These areas thus presented a different problem, and settlement was concluded with village communities and the villagers were held jointly and severally responsible for the payment of revenue. This came to be known as the **Mahalwari system** of land revenue, as the land revenue was assessed on the 'mahal'.
- In some parts of Madras, the land revenue was directly settled with individual ryots in view of, the difficulty of making settlements with the whole villages. This initiated the ryotwari system which was later introduced in Bombay and other neighboring provinces.

• Both these systems—mahalwari and ryotwari involved detailed surveys of fields and classification of lands according to soil. The assessments were fixed not in perpetuity but for a definite period.

Source: NCERT

Q.32) The "**Policy of Paramountacy**" was initiated under which of the following Governor-General?

- a) Warren Hastings
- b) Lord Cornwallis
- c) Lord Hastings
- d) Lord William Bentinck

ANS: C

Explanation: Under **Lord Hastings** (Governor General from 1813 to 1823) a new policy of "paramountcy" was initiated.

- Now the Company claimed that its authority was paramount or supreme, hence its power was greater than that of Indian states.
- In order to protect its interests it was justified in annexing or threatening to annex any Indian kingdom.
- This view continued to guide later British policies as well.

Source: Spectrum

Q.33) Who among the following is called as "Liberator of the Indian Press"?

- a) John Adams
- b) Lord William Bentinck
- c) Charles Metcalfe
- d) Lord Rippon

ANS: C

Explanation: Charles Metcalfe (Governor General – 1835 – 36) known as the "liberator of the Indian press".

- He repealed the Licensing regulation, 1823.
- During his tenure Printing Press grew rapidly.
- The new Metcalfe act 1835 required the publisher to follow a registration procedure and give a precise account of premises of publication.

Source: NCERT

Q.34) Consider the following statements regarding the August Offer:

- 1. Complete independence as the objective for India.
- 2. Expansion of viceroy's executive council which would have a majority of Indians.
- 3. No future constitution to be adopted without the consent of minorities.

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: Hitler's astounding success and the fall of Belgium, Holland and France put England in a conciliatory mood.

- As the war in Europe had undertaken a new turn, the dominant Congress leadership was again in a dilemma.
- Both Gandhi and Nehru strongly opposed the idea of taking advantage of Britain's position. The Congress was ready to compromise, asking the
- British government to let it form an interim government during the war period but the government was not interested.

The government came up with its own offer to get the cooperation of India in the war effort. Linlithgow announced the August Offer (August 1940) which proposed:

- **Dominion status** as the objective for India;
- Expansion of viceroy's executive council which would have a majority of Indians (who would be drawn from major political parties);
- **Setting up of a constituent assembly** after the war where mainly Indians would decide the constitution according to their social, economic and political conceptions, subject to fulfillment of the obligation of the government regarding defense, minority rights, treaties with States, all India services; and
- No future constitution to be adopted without the consent of minorities.

Source: Spectrum

Q.35) Consider the following statements regarding the **Home Rule Movement**:

- 1. Tilak was set up his Home Rule League in April 1916 and it was restricted to Maharashtra (except Bombay city), Karnataka, Central Provinces and Berar.
- 2. Annie Besant was set up her league in September 1916 in Madras and covered the rest of India (including Bombay city).

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: By early 1915, Annie Besant had launched a campaign to demand self-government for India after the war on the lines of white colonies.

- She campaigned through her newspapers, New India and Commonweal, and through public meetings and conferences.
- At the annual session of the Congress in 1915, the efforts of Tilak and Besant met with some success. It was decided that the Extremists be admitted to the Congress.
- Although Besant failed to get the Congress to approve her scheme of Home Rule Leagues, the Congress did commit itself to a programme of educative propaganda and to a revival of local-level Congress committees.
- Not willing to wait for too long, Besant laid the condition that if the Congress did not implement its commitments, she would be free to set up her own league—which she finally had to, as there was no response from the Congress.
- Tilak and Besant set up their separate leagues to avoid any friction.
- There was an informal understanding between both the leagues wherein Tilak's league worked in Maharashtra (except Bombay), Karnataka, Berar and the Central Provinces. Besant's league worked in the rest of the country.
- Tilak's league had its headquarters in Delhi. It had 6 branches. Besant's league had 200 branches and was a looser organisation compared to Tilak's.

Source: Spectrum

Q.36) "Kathi Samu" is an ancient and historical martial art is related to which of the following state?

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

ANS: C

Explanation: Kathi Samu is an ancient and historical martial art which originated in Andhra Pradesh, India.

- Kathi basically means sword and Kathi Samu is a martial art which is fighting with
- Kathi Samu is an ancient skill which was mastered by the royal armies of Andhra Pradesh.
- The Royal Kings practiced this skill as it was used in wars against their enemies and also it was considered to be a matter of pride to master Kathi Samu.
- The soldiers of the army were taught this martial art for the sole purpose of wars against enemies.
- According to research, Kathi Samu is said to be in existence for over 7000 years even before Aryan dynasty came into India.

Source: The Hindu

Q.37) The "Kurumba Art" is recently in news is related to which of the following state?

- a) Odisha
- b) Karnataka
- c) Andhra Pradesh
- d) None

ANS: D

Explanation: Kurumba art is a unique tribal art form found in the Nilgiris. It was discovered by the C.P.Ramaswami Aiyar Foundation and presented to the world.

- Eluthu paarai is an ancient 3000-year-old rock-art site in the Kothagiri region of the Nilgiris.
- The Kurumbas a tribe of hunters and medicine men believe that the art were the work of their ancestors.
- In the late 20th century during the course of a project of the C. P. Ramaswami Aiyar Foundation to survey and document the art and craft traditions of four Nilgiri tribes, the existence of an old artist the only one left in the tribe was discovered.
- The art are primarily ritualistic, describing various facets of tribal life in the remote forests of the Nilgiris.
- The Kurumbas love the hills and have an exquisite style of art. Originally, they drew with burnt twigs and coloured the art with a resin extracted from the bark of the Kino tree (Pterocarpus marsupium).
- Some of the art still use this method, which is slow and cumbersome, but beautiful. On paper, they have learned to use water and poster colours, which flow easier.
- The figures are flat and similar to Warli, with rectangular bodies. However, in spite of the 2-dimensional nature of the stick figures, the Kurumba artists are able to create lines of simple and fluids movements.
- The Kurumba trainees made large art on handmade paper and board, besides painted cards, notepad covers, etc.

- The choice of themes became more versatile as they gained confidence, and their choice varied from the vegetables and tubers to weddings and functions in their community.
- The depictions were of nature trees and mountains, driving away bees while gathering honey, weddings and festivals.
- The solemnity of tribal life with prayers to the forefathers and communal participation at every stage of life was also brought out in the art.

Source: Envis

Q.38) The "Pattachitra paintings" is recently in news is related to which of the following state?

- a) Odisha
- b) Maharashtra
- c) Uttar Pradesh
- d) Nagaland

ANS: A

Explanation: Pattachitra or Patachitra is a general term for traditional, cloth-based scroll painting, based in the eastern Indian states of Odisha and West Bengal.

- Pattachitra art form is known for its intricate details as well as mythological narratives and folktales inscribed in it.
- The name Pattachitra has evolved from the Sanskrit words patta, meaning canvas, and chitra, meaning picture.
- Pattachitra is thus a painting done on canvas, and is manifested by rich colourful application, creative motifs, and designs, and portrayal of simple themes, mostly mythological in depiction.
- The traditions of pattachitra paintings are more than thousand years Most of these paintings depict stories of Hindu deities.
- A traditional per formative art from eastern India- the patachitra tradition is an integral part of intangible heritage and is an important essence of folk and traditional media.

Source: Nitin Singhania

Q.39) Consider the following statements regarding the Champaran Satyagraha:

- 1. Gandhiji was requested by rajkumar shuklato look into problems of farmers.
- 2. Tinkathia system was practiced by European planters around champaran area.
- 3. Peasants sell their produce at market prices.

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: Gandhiji was requested by Rajkumar Shukla, a local man, to look into the problems of the farmers in context of indigo planters of Champaran in Bihar.

- The European planters had been forcing the peasants to grow indigo on 3/20 part of the total land (called tinkathia system).
- When towards the end of the nineteenth century German synthetic dyes replaced indigo, the European planters demanded high rents and illegal dues from the

peasants in order to maximise their profits before the peasants could shift to other crops.

- Besides, the peasants were forced to sell the produce at prices fixed by the Europeans.
- When Gandhi, joined now by Rajendra Prasad, Mazharul- Haq, Mahadeo Desai, Narhari Parekh, and J.B. Kripalani, reached Champaran to probe into the matter, the authorities ordered him to leave the area at once.
- Gandhi defied the order and preferred to face the punishment. This passive resistance or civil disobedience of an unjust order was a novel method at that time.
- Finally, the authorities retreated and permitted Gandhi to make an enquiry.

Source: Spectrum

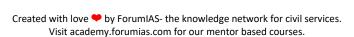
Q.40) Ripon's Resolution has a great historical significance on which of the following given below fields?

- a) Educational reforms
- b) Health reforms
- c) Financial reforms
- d) Decentralization

ANS: D

Explanation: The Government of Ripon desired the provincial governments to apply in case of **local bodies** the same principle of financial decentralization which Lord Mayo's Government had begun towards them. For his contributions, Lord Ripon is called father of local self-government in India.

Source: Spectrum



Economy

- **Q.1)** In economics, **"Fisher effect"** is the relationship between which of the following variables?
- a) Income & Inequality
- b) Growth & Inflation
- c) Trade & Development
- d) Inflation & Interest rate

ANS: D

Explanation: A concept developed by Irving Fisher (1867–1947) which shows relationship between inflation and the interest rate, expressed by an equation popular as the fisher equation, i.e., the nominal interest rate on a loan is the sum of the real interest rate and the rate of inflation expected over the duration of the loan: R = r + F; where R = nominal interest rate, R = r + F; where R = nominal interest rate, R = r + F; where R = nominal interest rate, R = r + F; where R = nominal interest rate and R = r + F; where R = nominal interest rate, R = r + F; where R = nominal interest rate and R = r + F in R

Source: Ramesh Singh

- Q.2) Which of the following sectors is/are part of Index of eight core industries in India?
- 1. Steel
- 2. Cement
- 3. Coal
- 4. Petrol
- 5. Natural gas

Select the correct answer using the code given below:

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

ANS: C

Explanation: The eight core industries, including coal, crude oil, natural gas, refinery products, fertilizers, steel, cement and electricity, comprise 40.27 per cent of the weight of items included in the Index of Industrial Production (IIP).

Source: The Hindu

- Q.3) Which of the following statements is/are correct about "Quantitative Easing"?
- 1. It is a conventional monetary policy of a Central Bank.
- 2. It led to increase in the interest rates.

Choose the correct code from below given options:

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

ANS: D

Explanation: Quantitative easing (QE) is a form of **unconventional monetary policy** of a central bank.

- In Quantitative Easing central bank purchases longer-term securities from the open market in order to increase the money supply and encourage lending and investment.
- Buying these securities adds new money to the economy, and also **serves to lower interest rates** by bidding up fixed-income securities.

Source: The Hindu

Q.4) Consider the following statements regarding the "Financial Stability Development Council (FSDC)":

- 1. FSDC is an apex level forum set up by Government of India in 2010.
- 2. Niti Aayog chairman is also the member of FSDC.
- 3. Council monitors macro prudential supervision of the economy, including functioning of large financial conglomerates.

Which of the following codes below given is/are correct?

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

ANS: C

Explanation: The Financial Stability and Development Council (FSDC) were set up by the Government as the apex level forum in December 2010.

- The Chairman of the Council is the **Finance Minister** and its members include **Minister of State**, **in charge of Department** of Economic Affairs (DEA), the **heads of all Financial Sector Regulators** [Reserve Bank of India (RBI), Securities and Exchange Board of India (SEBI), Pension Fund Regulatory and Development Authority (PFRDA), Insurance Regulatory and Development Authority of India (IRDAI) and Insolvency and Bankruptcy Board of India (IBBI)], Finance Secretary and/or Secretary, Department of Economic Affairs (DEA), **Secretary**, Department of Revenue (DoR), Secretary, Department of Financial Services (DFS), Secretary, Ministry of Corporate Affairs (MCA), Secretary, Ministry of Electronics and Information Technology (MeitY) and **Chief Economic Adviser**. Adviser, Ministry of Finance, Department of Economic Affairs, in-charge-of Financial Stability & Development Council, is the Secretary of the Council.
- Without prejudice to the autonomy of Regulators, the Council monitors macro prudential supervision of the economy, including functioning of large financial conglomerates, and addresses inter-regulatory coordination and financial sector development issues.
- It also focuses on financial literacy and financial inclusion.

Source: Department of Economic Affairs

- **Q.5)** With reference to the "Indian Depository Receipts (IDR)", which of the following statements is/are correct?
- 1. IDR is a mechanism that allows investors in India to invest in listed foreign companies.
- 2. IDRs are denominated in Indian Rupees and issued by a Domestic Depository in India. Select the correct answer using the codes given below:
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: C

Explanation: An IDR is a mechanism that allows investors in India to invest in listed foreign companies, including multinational companies, in Indian rupees.

- IDRs give the holder the opportunity to hold an interest in equity shares in an overseas company.
- IDRs are denominated in Indian Rupees and issued by a Domestic Depository in India
- They can be listed on any Indian stock exchange. Anybody who can invest in an IPO (Initial Public Offer) is/are eligible to invest in IDRs.

Source: The Hindu

Q.6) "External Sector Report" is released by which of the following?

- a) World Trade Organization
- b) World Bank
- c) World Economic Forum
- d) International Monetary Fund

ANS: D

Explanation: The External Sector Report, produced annually since 2012, is a key part of the IMF's surveillance.

External assessments are arrived at by integrating multilateral and country-specific perspectives, while ensuring individual economy assessments add up to a coherent, multilaterally consistent view.

Source: IMF

- **Q.7)** With reference to the "**effects of inflation**", which of the following statements is/are correct?
- 1. Inflation redistributes wealth from creditors to debtors.
- 2. Rising inflation indicates rising aggregate demand.

Select the correct answer using the codes given below:

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

ANS: C

Explanation: There are multi-dimensional effects of inflation on an economy both at the micro and macro levels.

- It redistributes income, distorts relative prices, destabilizes employment, tax, saving and investment policies, and finally it may bring in recession and depression in an economy.
- **Inflation redistributes wealth from creditors to debtors**, i.e., lenders suffer and borrowers benefit out of inflation.
- Rising inflation indicates rising aggregate demand and indicates comparatively lower supply and higher purchasing capacity among the consumers.

Source: Ramesh Singh

- Q.8) Which of the following statements is/are correct about "small finance banks"?
- 1. Small finance banks are universal banks.
- 2. Small Finance Banks was recommended by the Nachiket Mor committee on financial inclusion.

Select the correct answer using the codes given below:

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

ANS: B

Explanation: Small finance banks.

Differentiated Banks (niche banks) are banks that serve the needs of a certain demographic segment of the population.

- Small Finance Banks and Payment Banks are examples of differentiated banks in India.
- Small Finance Banks was recommended by the Nachiket Mor committee on financial inclusion.

Source: Live Mint

Q.9) "Internal Debt" of India consists of which of the following?

- 1. Dated securities
- 2. Treasury bills
- 3. Securities issued to International Financial Institutions
- 4. Securities against small savings

Select the correct answer using the codes given below:

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

ANS: A

Explanation: Internal debt of India consists of:

- Dated government securities or G-secs.
- Treasury Bills or T-bills
- External Assistance
- Short term borrowings
- Public Debt definition by Union Government

Source: Economic Survey

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: 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.

Source: Ramesh Singh

Q.11) Which of the following is/are constraint/constraints for development of integrated value chain system of Agriculture sector?

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- 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.

- 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.
- Inability to acquire land for setting up of market yards, resulting from the restrictions on land leasing and land acquisition, is another major constraint.
- 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.
- Poor maintenance of rural roads is a major constraint as well. Linkages with local and feeder roads remain sub-optimal.
- In the electricity sector, separate feeders for supply of power to agriculture and domestic electrification have not been carried out in many states.

Source: Ramesh Singh

Q.12) 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).

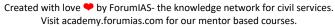
Select the correct answer using the code given below:

- 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.

Source: RBI

Q.13) 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.

Source: RBI

Q.14) 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.

Source: Indian Express

Q.15) 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.

Source: IMF

Q.16) 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 **NOT** correct?

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

ANS: C

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.

Source: MoSPI

Q.17) 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 **NOT** correct?

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

ANS: C

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.

6.59 7.00 6.47 200 6.37 6.25 6.29 180 6.00 160 5.01 4.64 5.00 140 120 Growth Rate 4.00 Production 100 176.3 3.00 165.4 80 46.3 127.9 60 2.00 40 1.00 20 0.00 0 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16 2016-17 2017-18 2018-19 Production (Million tonnes) ——Growth Rate (per cent)

Figure 4: Milk Production and its Growth Rate

Source: Department of Animal Husbandry & Dairying (DAHD)

Source: Economic Survey 2019-20

Q.18) 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, 2 and 3
- b) 1 and 2 only
- c) 2 and 3 only
- d) 1 only

ANS: A

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.

Source: Economic Survey 2019 - 20

Q.19) 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 foodgrains 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.

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• 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.

Source: Ramesh Singh

Q.20) 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.

Source: Ramesh Singh

Q.21) Which of the following is/are part of "revenue expenditure"?

- 1. Interest payments on loans raised by government.
- 2. Subsidies forwarded to all sectors by the government.
- 3. Grants given by the government to Indian states and foreign countries.

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: All expenditures incurred by the government are either of revenue kind or current kind or compulsive kind. The basic identity of such expenditures is that they are of consumptive kind and do not involve creation of productive assets. They are either used in running of a productive process or running a government. A broad category of things that fall under such expenditures in India are:

- Interest payment by the government on the internal and external loans;
- Salaries, Pension and Provident Fund paid by the government to government employees;
- Subsidies forwarded to all sectors by the government;
- Defense expenditures by the government;
- Postal Deficits of the government;
- Law and order expenditures (i.e., police & paramilitary);
- Expenditures on social services (includes all social sector expenditures as education, health care, social security, poverty alleviation, etc.) and general services (tax collection, etc.);
- Grants given by the government to Indian states and foreign countries.

Source: Ramesh Singh

Q.22) Which of the following is **NOT** part of Mundell's "impossible trinity"?

a) Environmental Issues

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- b) Free capital flows
- c) Fixed exchange rate
- d) Independent monetary policy

ANS: A

Explanation: More recent trilemmas in economics, the prima donna of all of them is Mundell's 'impossible trinity'. This old trilemma asserts that a country cannot maintain, simultaneously, all three policy goals of —

- free capital flows,
- a fixed exchange rate, and
- an independent monetary policy.

The impossible trinity has seen enough waters flowing down the time since it were articulated almost five decades ago which a strong theoretical foundation in the Mundell-Fleming Model has developed in the 1960s.

Source: Ramesh Singh

Q.23) Consider the following statements regarding "Expenditure Management Commission (EMC)":

- 1. It is created by Expenditure management Act, 2014.
- 2. Ranga rajan is the first chairman of EMC.

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: By early September 2014, the Government of India constituted an Expenditure Management Commission (EMC) through a Resolution.

- The EMC will look into various aspects of expenditure reforms to be undertaken by the government and other issues concerning Public Expenditure Management.
- The Commission has one full time, one part time and one ex-officio members other than Chairman of (Cabinet rank).
- Dr. Bimal Jalan is its first Chairman.

Source: Ramesh Singh

Q.24) In economics "Dutch disease" is related to which of the following?

- a) Sustainable Development
- b) Animal rearing
- c) Banking provisions
- d) Exports

ANS: D

Explanation: When an increase in one form of net exports drives up a country's exchange rate, it is called the Dutch Disease.

- Such instances make other exports noncompetitive in the world market and impair the ability of domestic products to compete with imports.
- The term originated from the supposed effect of natural gas discoveries on the Netherlands economy.

Source: Ramesh Singh

Q.25) Consider the following statements regarding "World Food Programme":

- 1. It is an initiative of World Economic Forum.
- 2. It is funded entirely by voluntary donations.
- 3. It provides food assistance and tackles the underlying causes of hunger.

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: The World Food Programme is the food-assistance branch of the United Nations and the world's largest humanitarian organization addressing hunger and promoting food security.

- Funded entirely by voluntary donations, in 2018 WFP raised a record US\$7.2 billion.
- WFP has more than 17,000 staff worldwide of who over 90 percent are based in the countries where the agency provides assistance.
- WFP is governed by a 36-member Executive Board.
- It works closely with its two Rome-based sister organizations, the Food and Agriculture Organization of the United Nations and the International Fund for Agricultural Development.
- WFP partners with more than 1,000 national and international NGOs to provide food assistance and tackle the underlying causes of hunger.

Source: The Hindu

Q.26) Consider the following statements regarding ARTIS (Applications for Remedies in Trade for Indian Industry and other Stakeholders):

- 1. It is an online system developed to deal with various trade remedial measures such as anti-dumping duty, safeguards duty and countervailing duty.
- 2. It is launched by Department for Promotion of Industry & Internal Trade.

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 Directorate General of Trade Remedies (DGTR), Ministry of Commerce and Industry has launched ARTIS (Applications for Remedies in Trade for Indian Industry and other Stakeholders).

It is an online system developed for filing applications by the domestic industry with respect to various trade remedial measures such as anti-dumping duty, safeguards duty and countervailing duty.

Source: The Hindu

Q.27) Consider the following statements regarding "Social Progress Index":

- 1. It is compiled and released by World Economic Forum.
- 2. It is based on three dimensions of social progress, basic Human Needs, foundations of Wellbeing, and opportunity.

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 ("SPI"), compiled by the Social Progress Imperative, a US-based non-profit, ranks 149 countries' social performance over six years (2014-2019).

- It uses 51 indicators including: nutrition, shelter, safety, education, health, personal rights and inclusiveness.
- The Social Progress Index is the first holistic measure of a country's social performance that is independent of economic factors.
- The index is based on a range of social and environmental indicators that capture three dimensions of social progress: Basic Human Needs, Foundations of Wellbeing, and Opportunity.
- The 2019 Social Progress Index includes data from 149 countries on 51 indicators.
- The index captures outcomes related to all 17 Sustainable Development Goals and is a comprehensive snapshot of a country's overall progress towards the achievement of the goals.

Source: The Hindu

Q.28) Consider the following statements regarding "Effective Revenue Deficit" (ERD):

- 1. It is the difference between revenue deficit and grants for creation of capital assets.
- 2. It is suggested by the Rangarajan Committee on Public Expenditure.
- 3. The ERD target for 2020-21 has been set under 1% of GDP.

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: B

Explanation: Effective Revenue Deficit is the difference between revenue deficit and grants for creation of capital assets.

- The concept of effective revenue deficit has been suggested by the Rangarajan Committee on Public Expenditure.
- It is aimed to deduct the money used out of borrowing to finance capital expenditure.
- The concept has been introduced to ascertain the actual deficit in the revenue account after adjusting for expenditure of capital nature.
- Focusing on this will help in reducing the consumptive component of revenue deficit and create space for increased capital spending.
- Though the Budget documents have given targets for revenue deficit, the amendments to the Fiscal Responsibility and Budget Management Act 2003 has proposed to substitute the definitions of "effective revenue deficit" and "revenue deficit" with those of "Central government debt" and "general government debt" respectively.

Source: Ramesh Singh

Q.29) Consider the following statements regarding the strategic disinvestment or strategic sale:

1. It implies the sale of the Government shareholding of central public sector enterprises (CPSE) of up to 50%, or such higher percentage.

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2. It is approved by the Ministry of Finance.

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: When the government decides to transfer the ownership and control of a public sector entity to some other entity, either private or public, the process is called strategic disinvestment.

- The Department of Investment and Public Asset Management (DIPAM) which comes under the Finance Ministry defines Strategic disinvestment as follows:
- "Strategic disinvestment would imply the sale of a substantial portion of the Government shareholding of central public sector enterprises (CPSE) of up to 50%, or such higher percentage as the competent authority may determine, along with transfer of management control."
- The Cabinet Committee on Economic Affairs (CCEA) approves the strategic divestment of government holdings.

Source: The Hindu

Q.30) With reference to the **new Non Performing Assets (NPA) recognition norms**, which of the following statements is/are correct?

- 1. The new norms replace all the earlier resolution plans except Joint Lenders Forum (JLF).
- 2. The lenders can initiate the process of a resolution plan (RP) even before a default.
- 3. The lenders shall undertake a prima facie review of the borrower account within 30 days from the day of default.

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: The Reserve Bank of India (RBI) on June 7, 2019 issued a new framework for resolution of bad loans, replacing the previous norms quashed by the Supreme Court in April, offering a 30-day gap for stress recognition instead of the one-day default earlier.

- The **new norms replaces all the earlier resolution plans such** as the framework for revitalising distressed assets, corporate debt restructuring scheme, flexible structuring of existing long-term project loans, strategic debt restructuring scheme (SDR), change in ownership outside SDR, and scheme for sustainable structuring of stressed assets (S4A), and **the joint lenders' forum** with immediate effect.
- The central bank said lenders shall recognise incipient stress in loan accounts, immediately on default, by classifying such assets as special mention accounts (SMA).
- Since default with any lender is a lagging indicator of financial stress faced by the borrower, it is expected that the lenders initiate the process of implementing a resolution plan (RP) even before a default.
- The central bank said once a borrower is reported to be in default by any lenders, financial institutions, small finance banks or NBFCs, the lenders shall undertake a prima facie review of the borrower account within 30 days from the day of default.

Source: The Hindu

Q.31) Consider the following statements regarding the **Asset Monetisation Framework**:

- 1. It is prepared by Reserve bank of India.
- 2. It helps to monetise stressed debts of banking system.

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 framework is being drafted by the Department of Investment and Public Asset Management (DIPAM). The policy framework lays down the Institutional framework for monetization of the following:

- Identified non-core assets of CPSEs under strategic disinvestment;
- Immovable Enemy Property under the custody of Custodian of Enemy Property (CEPI), MHA as per sub section 6 of section 8A of the Enemy Property Act, 1968;
- This framework is also available for use to monetize assets of other CPSEs/PSUs/other Government Organizations with the approval of the Competent Authority;
- Sick/Loss making CPSEs under closure normally follow the DPE closure guidelines dated 14.06.2018 in this regard. However, any sick/loss making CPSE can also adopt this framework with the approval of Competent Authority.

The objective of the asset monetization programme of the Government of India is to unlock the value of investment made in public assets which have not yielded appropriate or potential returns so far.

Source: The Hindu

Q.32) Which of the following enterprises is/are funded mostly under Venture Capital funds?

- 1. Start-ups.
- 2. Small and medium enterprises.
- 3. Large enterprises.

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: Venture capital funds are investment funds that manage the money of investors who seek private equity stakes in startup and small- to medium-sized enterprises with strong growth potential.

- These investments are generally characterized as high-risk/high-return opportunities.
- In the past, venture capital investments were only accessible to professional venture capitalists, although now accredited investors have a greater ability to take part in venture capital investments.

Source: Economic Survey

Q.33) Consider the following statements regarding the Market Stabilization Scheme (MSS):

- 1. It is a tool used by central bank (RBI) to increase the liquidity and bringing the money market under control.
- 2. It was initiated by Raghuram Rajan in 2013.

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: Market Stabilisation Scheme or MSS is a tool used by the Reserve Bank of India to **suck out excess liquidity from the market** through issue of securities like Treasury Bills, Dated Securities etc. on behalf of the government.

- The money raised under MSS is kept in a separate account called MSS Account and not parked in the government account or utilized to fund its expenditures.
- The Reserve Bank under Governor YV Reddy initiated the MSS scheme in 2004, to control the surge of US dollars in the Indian market; RBI started buying US dollars while pumping in rupee.
- This eventually led to over-supply of the domestic currency raising inflationary expectations. MSS was introduced to mop up this excess liquidity.

Source: Ramesh Singh

Q.34) Which of the following is/are type (s) of Government Securities (G-Sec)?

- 1. Treasury Bills (T-bills)
- 2. Cash Management Bills (CMBs)
- 3. Dated Government Securities

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 Government Security (G-Sec) is a tradeable instrument issued by the Central Government or the State Governments. It acknowledges the Government's debt obligation.

Such securities are short term (usually called treasury bills, with original maturities of less than one year) or long term (usually called Government bonds or dated securities with original maturity of one year or more).

In India, the Central Government issues both, treasury bills and bonds or dated securities while the State Governments issue only bonds or dated securities, which are called the State Development Loans (SDLs).

G-Secs carry practically no risk of default and, hence, are called risk-free gilt-edged instruments.

- **Treasury Bills (T-bills):** Treasury bills or T-bills, which are money market instruments, are short term debt instruments issued by the Government of India and are presently issued in three tenors, namely, 91 day, 182 day and 364 day.
- Cash Management Bills (CMBs): In 2010, Government of India, in consultation with RBI introduced a new short-term instrument, known as Cash Management Bills (CMBs), to meet the temporary mismatches in the cash flow of the Government

of India. The CMBs have the generic character of T-bills but are issued for maturities less than 91 days.

• **Dated G-Secs:** Dated G-Secs are securities which carry a fixed or floating coupon (interest rate) which is paid on the face value, on half-yearly basis. Generally, the tenor of dated securities ranges from 5 years to 40 years.

Source: RBI

Q.35) "Mission Purvodaya" is often seen in news is related to which of the following?

- a) Steel sector
- b) Coal sector
- c) Refinery sector
- d) Cement sector

ANS: A

Explanation: Mission Purvodaya in steel sector envisions creating an integrated steel hub in Eastern India.

- With abundance of raw materials, strategic geographical location and strong and developing connectivity, Odisha is well poised to be the heart of this eastern steel hub.
- The Mission is rolled out by Union Petroleum and Natural Gas & Steel Ministry.
- More than 75% of India's envisioned incremental steel capacity will come from eastern India, with Odisha alone crossing 100 MTPA.
- In Odisha, Kalinganagar will be developed as the epicenter of Mission Purvodaya.

Source: The Hindu

Q.36) Consider the following statements regarding the **Vizag-Chennai Industrial Corridor** (**VCIC**):

- 1. It is part of Kolkata-Kanyakumari East Coast Economic Corridor.
- 2. It is funded by Asian Infrastructure Investment Bank (AIIB).

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: Asian Development Bank (ADB) had prepared Conceptual Development Plan (CDP) for Vizag-Chennai Industrial Corridor (VCIC).

- The Andhra Pradesh government has mooted development of nodes in Visakhapatnam, Machilipatnam, Donakonda and on the Yerpedu-Srikalahasti stretch.
- The VCIC has been identified for development in the first phase of Kolkata-Kanyakumari East Coast Economic Corridor.
- The ADB, which prepared the concept paper, has agreed to give \$500 million towards multi-tranch financing facility and policy-based loan worth \$125 million.

Source: The Hindu

Q.37) Consider the following statements regarding the **Farmer Producer Organization** (FPO):

1. Farmers, Local representatives and other interested parties are the shareholders of FPO.

2. NABARD has dedicated funds to promote FPOs.

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: An FPO, formed by a **group of farm producers**, is a registered body with producers as shareholders in the organization.

- It deals with business activities related to the farm produce and it works for the benefit of the member producers.
- Small Farmers' Agribusiness Consortium (SFAC) is providing support for promotion of FPOs.
- NABARD has dedicated Funds like Producer Organisation Development Fund (PODF) and PRODUCE for promotion of FPOs.
- Financing FPOs through NABARD's subsidiary NABKISAN Finance Ltd., digitisation of FPO data, development of performance measurement tool, etc. have also contributed to the ongoing efforts.
- Besides, NABARD is running an awareness campaign on the role of FPOs in building resilience against climate change, increase in productivity and optimal efficiency in the agri value chain.

Source: SFAC

Q.38) 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.

Source: Investopedia

Q.39) 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 **NOT** correct?

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

ANS: A

Explanation: 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.

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.

Source: MoSPI

Q.40) Consider the following statements regarding the **strategic disinvestment or strategic sale**:

- 1. It implies the sale of the Government shareholding of central public sector enterprises (CPSE) of up to 50%, or such higher percentage.
- 2. It is approved by the Ministry of Finance.

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: When the government decides to transfer the ownership and control of a public sector entity to some other entity, either private or public, the process is called strategic disinvestment.

- The Department of Investment and Public Asset Management (DIPAM) which comes under the Finance Ministry defines Strategic disinvestment as follows:
- "Strategic disinvestment would imply the sale of a substantial portion of the Government shareholding of central public sector enterprises (CPSE) of up to 50%, or such higher percentage as the competent authority may determine, along with transfer of management control."
- The Cabinet Committee on Economic Affairs (CCEA) approves the strategic divestment of government holdings.

Source: Indian Express

Polity

- Q.1) Which of the following statements is/are NOT correct about the 'Regulating Act of 1773'?
- 1. It laid the foundations of central administration in India.
- 2. It provided for the establishment of a Supreme Court at Calcutta and Madras.
- 3. It permitted the servants of the Company to participate in private trade. 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: Features of the Regulating act of 1773:

- It designated the Governor of Bengal as the 'Governor-General of Bengal' and created an Executive Council of four members to assist him. The first such Governor-General was Lord Warren Hastings.
- It made the governors of Bombay and Madras presidencies subordinate to the governor-general of Bengal (Centralization), unlike earlier, when the three presidencies were independent of one another.
- It provided for the **establishment of a Supreme Court at Calcutta (1774)** comprising one chief justice and three other judges.
- It **prohibited** the servants of the Company from engaging in any private trade or accepting presents or bribes from the 'natives'.
- It **strengthened the control of the British Government** over the Company by requiring the Court of Directors (governing body of the Company) to report on its revenue, civil, and military affairs in India.

Source: Laxmikanth

- **Q.2)** With reference to the 'Constituent Assembly', which of the following statements is/are correct?
- 1. It was constituted according to the principles of Cripps mission.
- 2. The representatives of princely states were elected by the people on limited franchise. 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 Constituent Assembly was constituted in November 1946 under the scheme formulated by the **Cabinet Mission Plan**.

The representatives of princely states were to be **nominated** by the heads of the princely states.

Source: Laxmikanth

- **Q.3)** Which of the following is/are 'unitary features' of Indian union?
- 1. Single Constitution

- 2. Integrated Judiciary
- 3. Flexibility of Constitution

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 Indian Constitution also contains a large number of unitary or non-federal features, viz., a strong Centre, single Constitution, single citizenship, flexibility of Constitution, integrated judiciary, appointment of state governor by the Centre, all-India services, emergency provisions, and so on.

Source: Laxmikanth

Q.4) With reference to the 'Indian Constitution', which of the following feature (s) is/are borrowed from Australian Constitution?

- 1. Freedom of trade.
- 2. Joint sitting of the two Houses of Parliament
- 3. The language used in the Preamble

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 features borrowed from Australian Constitution are:

- Concurrent List
- Freedom of trade
- Commerce and intercourse
- Joint sitting of the two Houses of Parliament
- The language used in the Preamble

Source: Laxmikanth & Indian Express

- **Q.5)** With reference to the 'Preamble', which of the following words is/are found in the **Original Preamble**?
- 1. Justice
- 2. Liberty
- 3. Fraternity
- 4. Socialist

Select the correct answer using the code given below:

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

ANS: C

Explanation: The Preamble is called the introduction letter of the Indian Constitution. The preamble was amended by the 42nd Constitutional Amendment Act in 1976, in which three new words Socialist, Secular, and Integrity were added.

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Source: Laxmikanth

Q.6) 'Article 3' of Indian constitution is related to which of the following?

- a) Citizenship
- b) Name and territory of the union
- c) Formation of new states
- d) Definition of state

ANS: C

Explanation: Article 3 authorizes the Parliament to:

- form a new state by separation of territory from any state or by uniting two or more states or parts of states or by uniting any territory to a part of any state,
- increase the area of any state,
- diminish the area of any state,
- alter the boundaries of any state, and
- alter the name of any state.

Source: Laxmikanth

Q.7) Which of the following Amendment Act of Indian Constitution is also known as "Mini-Constitution" of India?

- a) 23rd Amendment Act, 1969
- b) 35th Amendment Act, 1974
- c) 42nd Amendment Act, 1976
- d) 44th Amendment Act, 1978

ANS: C

Explanation: 42nd Amendment Act, 1976 is one of the most important amendments to the Indian Constitution.

- It was enacted by Indian National Congress headed by Indira Gandhi then.
- Due to the large number of amendments this act has brought to the Indian Constitution, it is also known as 'Mini-Constitution.'

Source: Laxmikanth

- Q.8) Which of the following statements is/are correct about "State Public Service Commission (SPSC)"?
- 1. The chairman of a SPSC is appointed and removed by the President of India.
- 2. The chairmen of a SPSC hold the office for a term of six years or until they attain the age of 65 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: D

Explanation: Although the chairman and members of a SPSC are appointed by the governor, they can be removed only by the president (and not by the governor).

The chairman and members of the Commission hold office for a term of six years or until they attain the age of 62 years, whichever is earlier (in the case of UPSC, the age limit is 65 years).

Source: Laxmikanth

Q.9) Which of the following is/are comes under the **definition of state** (Article 12)?

- 1. Government of India and Government of states.
- 2. Statutory authorities.
- 3. Non statutory authorities.

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 term State has been used in different provisions concerning the fundamental rights. Hence, Article 12 has defined the term for the purposes of Part III. According to it, the State includes the following:

- Government and Parliament of India, that is, executive and legislative organs of the Union government.
- Government and legislature of states, that is, executive and legislative organs of state government.
- All local authorities, which is, municipalities, panchayats, district boards, improvement trusts, etc.
- All other authorities, that is, **statutory or non-statutory authorities** like LIC, ONGC, SAIL, etc.

Source: Laxmikanth

Q.10) Which of the following right (s) is/are covered under Article 21 of the Indian Constitution?

- 1. Right to travel abroad.
- 2. Right to move freely throughout the territory of India.
- 3. Right to reside and settle in any part of the territory 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: A

Explanation: The Right to move freely throughout the territory of India and Right to reside and settle in any part of the territory of India comes under Protection of six rights regarding freedom (Article 19). Right to travel abroad is comes under Protection of life and personal liberty (Article 21).

Source: Laxmikanth

- Q.11) 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 Created with love ♥ by ForumIAS- the knowledge network for civil services.

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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.

Source: Indian Express

Q.12) 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.
- Automatic Exchange of Information (AEOI) is the exchange of information between countries without having to request it.
- In the first tranche of information, Switzerland has shared bank account details with the Indian government under the AEOI (Automatic Exchange of Information) framework.

Source: The Hindu

Q.13) 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 33rd 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".

Source: Indian Express

Q.14) 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.

Source: The Hindu

- **Q.15)** 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.

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Source: The Hindu

Q.16) 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.

Source: Laxmikanth

Q.17) 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.

Source: The Laxmikanth Governance

Q.18) 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.

Source: The Hindu

- **Q.19)** Which of the following is the **first state in India** to operationalise a law that makes **social audit** of government programmes and schemes a part of government practice?
- a) Meghalaya
- b) Tripura
- c) Andhra Pradesh
- d) Kerala

ANS: A

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

Source: The Hindu

- Q.20) 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.

Source: Laxmikanth

Q.21) "Part X" of the Indian Constitution is related to which of the following?

- a) Anti-Defection
- b) Scheduled and Tribal Areas
- c) Election Commission
- d) Foreign Affairs

ANS: B

Explanation: Article 244 in Part X of the Constitution envisages a special system of administration for certain areas designated as 'scheduled areas' and 'tribal areas'.

- The Fifth Schedule of the Constitution deals with the administration and control of scheduled areas and scheduled tribes in any state except the four states of Assam, Meghalaya, Tripura and Mizoram.
- The Sixth Schedule of the Constitution, on the other hand, deals with the administration of the tribal areas in the four northeastern states of Assam, Meghalaya, Tripura and Mizoram.

Source: Laxmikanth

Q.22) Consider the following statements regarding "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 muncipalities in the states.

Source: Laxmikanth

Q.23) Consider the following statements regarding "Finance Commission":

- 1. It is a quasi-judicial body.
- 2. It is constituted by the Prime Minister of India every fifth year or at such earlier time as he considers necessary.

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 280 of the Constitution of India provides for a Finance Commission as a quasi-judicial body.

It is constituted by the president of India every fifth year or at such earlier time as he considers necessary.

Source: Laxmikanth

Q.24) "Protocol on Inland Water Transit and Trade (PIWTT)" is an Agreement between India and which of the following Country?

- a) Pakistan
- b) Nepal
- c) Myanmar
- d) Bangladesh

ANS: D

Explanation: India and Bangladesh signed several milestone agreements today, for enhancing inland and coastal waterways connectivity between the two countries for trade and cruise movements.

- Briefing media persons in New Delhi, Shipping Secretary Shri Gopal Krishna, and
 his Bangladesh counterpart Shri Md. Abdus Samad informed that the two countries
 have signed an agreement to use Chattogram and Mongla Ports in Bangladesh for
 movement of goods to and from India.
- A Standard Operating Procedure (SOP) has also been signed for movement of passenger and cruise services.
- In addition to this, an addendum to 'Protocol on Inland Water Transit and Trade' (PIWTT) between India and Bangladesh has been signed for inclusion of Dhubri in India and Pangaonin Bangladesh as new Ports of Call.
- These agreements will facilitate easier movement of goods and passengers between the two countries, giving an impetus to trade and tourism.

Source: The Hindu

Q.25) Consider the following statements regarding "International Security Assistance Force (ISAF)":

- 1. It is led by United States of America.
- 2. Its primary objective was to enable the Afghan government to provide effective security across the country.

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: NATO took the lead of the International Security Assistance Force (ISAF) in Afghanistan on 11 August 2003.

- Mandated by the United Nations, ISAF's primary objective was to enable the Afghan government to provide effective security across the country and develop new Afghan security forces to ensure Afghanistan would never again become a safe haven for terrorists.
- From 2011, responsibility for security was gradually transitioned to Afghan forces, which took the lead for security operations across the country by summer 2013.

Source: The Hindu

Q.26) 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 33rd 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".

Source: Indian Express

Q.27) 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.

Source: The Hindu

Q.28) 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.

Source: EFTA

Q.29) 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.

Source: The Hindu

Q.30) 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.

Source: The Hindu

Q.31) According to Article 348 (1) of Indian Constitution, which of the following area (s) is/are **English language** officially used?

- 1. Supreme Court
- 2. High Court
- 3. Drafting bills

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 higher judiciary appeared to be the sole exception to this English-to-Hindi journey as Article 348(1) stipulates the use of English in the Supreme Court and High Courts as well as for drafting Bills, Acts and Orders.

But Article 348(2) read with Section (7) of the Official Languages Act 1963 provides for Hindi or other official languages to be used in High Courts "in addition to English".

Source: Laxmikanth

Q.32) Arrange the following stages of **budget presentation** in Parliament:

- 1. Presentation of budget
- 2. General discussion
- 3. Voting on demands for grants

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- 4. Scrutiny by departmental committees
- 5. Passing of appropriation bill

Select the correct answer using the code given below:

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

ANS: B

Explanation: The budget goes through the following six stages in the Parliament:

- Presentation of budget.
- General discussion.
- Scrutiny by departmental committees.
- Voting on demands for grants.
- Passing of appropriation bill.
- Passing of finance bill.

Source: Laxmikanth

Q.33) Consider the following statements regarding Tribal Advisory Council (TAC):

- 1. Each state having scheduled areas has to establish a tribal advisory council.
- 2. It is to consist of 20 members, three-fourths of whom are representatives of the scheduled tribes in the state assembly.

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: Each state having scheduled areas has to establish a tribal advisory council to advice on welfare and advancement of the scheduled tribes.

- It is to consist of 20 members, three-fourths of whom are to be the representatives of the scheduled tribes in the state legislative assembly.
- A similar council can also be established in a state having scheduled tribes but not scheduled areas therein, if the president so directs.

Source: Laxmikanth

Q.34) Consider the following statements regarding Central Administrative Tribunal (CAT):

- 1. CAT exercises original jurisdiction in relation to recruitment and all service matters of public servants.
- 2. CAT is not bound by the procedure laid down in the Civil Procedure Code of 1908.

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: The Central Administrative Tribunal (CAT) was set up in 1985 with the principal bench at Delhi and additional benches in different states.

- At present, it has 17 regular benches, 15 of which operate at the principal seats of high courts and the remaining two at Jaipur and Lucknow.
- These benches also hold circuit sittings at other seats of high courts.
- The CAT exercises original jurisdiction in relation to recruitment and all service matters of public servants covered by it.
- Its jurisdiction extends to the all-India services, the Central civil services, civil posts under the Centre and civilian employees of defence services.
- However, the members of the defence forces, officers and servants of the Supreme Court and the secretarial staff of the Parliament are not covered by it.
- The CAT is not bound by the procedure laid down in the Civil Procedure Code of 1908. It is guided by the principles of natural justice.
- These principles keep the CAT flexible in approach. Only a nominal fee of 50 is to be paid by the applicant. The applicant may appear either in person or through a lawyer.

Source: Lamikanth

Q.35) Consider the following statements regarding the National Emergency (Article 352):

- 1. President proclaims a national emergency only after receiving a written recommendation from the cabinet.
- 2. President can declare a national emergency only on the actual occurrence of war or external aggression.

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: Under Article 352, the President can declare a national emergency when the security of India or a part of it is threatened by war or external aggression or armed rebellion.

- It may be noted that the president can declare a national emergency even before the actual occurrence of war or external aggression or armed rebellion, if he is satisfied that there is an imminent danger.
- The President, however, can proclaim a national emergency only after receiving a written recommendation from the cabinet.
- This means that the emergency can be declared only on the concurrence of the cabinet and not merely on the advice of the prime minister.
- In 1975, the then Prime Minister, Indira Gandhi advised the president to proclaim emergency without consulting her cabinet. The cabinet was informed of the proclamation after it was made, as a fait accompli.
- The 44th Amendment Act of 1978 introduced this safeguard to eliminate any possibility of the prime minister alone taking a decision in this regard.

Source: Laxmikanth

Q.36) Consider the following statements regarding the **qualifications of Supreme Court Judge**:

- 1. He should be a citizen of India.
- 2. He should have been a Judge of a High Court for 5 years.
- 3. He should have been Advocate of a High Court for 7 years.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: A person to be appointed as a judge of the Supreme Court should have the following qualifications:

- 1. He should be a citizen of India.
- 2. (A) He should have been a judge of a High Court (or high courts in succession) for five years; or (B) He should have been an advocate of a High Court (or High Courts in succession) for ten years; or (C) He should be a distinguished jurist in the opinion of the president.

From the above, it is clear that the Constitution has not prescribed a minimum age for appointment as a judge of the Supreme Court.

Source: Laxmikanth

Q.37) 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.

Source: Laxmikanth

Q.38) Which of the following Act/Acts has/have been "passed by Parliament on the request of the states"?

- 1. The Prize Competition Act, 1955.
- 2. The Wild Life (Protection) Act, 1972.
- 3. The Air (Prevention and Control of Pollution) Act, 1981.

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: When the legislatures of two or more states pass resolutions requesting the Parliament to enact laws on a matter in the State List, then the Parliament can make laws for regulating that matter.

- A law so enacted applies only to those states which have passed the resolutions. However, any other state may adopt it afterwards by passing a resolution to that effect in its legislature.
- Such a law can be amended or repealed only by the Parliament and not by the legislatures of the concerned states.
- Some examples of laws passed under the above provision are Prize Competition Act, 1955; Wild Life (Protection) Act, 1972; Water (Prevention and Control of Pollution) Act, 1974; Urban Land (Ceiling and Regulation) Act, 1976; and Transplantation of Human Organs Act, 1994.

Source: Laxmikanth

Q.39) Consider the following pairs:

List : Subject

1. Union List : Public health

2. State List : Regulation of mines and mineral development

3. Concurrent List : Electricity

Which of the above pairs is/are correctly matched?

a) 1 only

b) 1 and 2 only

c) 2 and 3 only

d) 1, 2 and 3

ANS: C

Explanation: Public health and sanitation, Regulation of mines and mineral development comes under State list. Electricity is in Concurrent list.

Source: Laxmikanth

Q.40) With reference to the "Union Public Service Commission (UPSC)", which of the following statements is/are correct?

- 1. The UPSC consists of a chairman and other members appointed by the president of India.
- 2. The Constitution authorizes the Parliament to determine the conditions of service of the chairman and other members of the Commission.

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 UPSC consists of a chairman and other members appointed by the president of India.

- The Constitution, without specifying the strength of the Commission has left the matter to the discretion of the president, who determines its composition.
- Usually, the Commission consists of nine to eleven members including the chairman.

• The Constitution also **authorizes the president** to determine the conditions of service of the chairman and other members of the Commission.

Source: Laxmikanth

Q.41) The term "hometown diplomacy" is a bilateral relation between India and which of the following country?

- a) China
- b) United States of America
- c) Japan
- d) Russia

ANS: A

Explanation: On April 1, 2020, China and India usher in the important moment of the 70th anniversary of the establishment of diplomatic relations.

- Looking back at the past 70 years, China-India relations have moved ahead despite wind and rain and gone through an extraordinary development path.
- In the 1950s, the leaders of the older generation of the two countries made the historical decision to establish diplomatic relations between China and India, and jointly advocated the Five Principles of Peaceful Coexistence.
- "Hindi Chini Bhai Bhai" (Indians and Chinese are brothers) resounded throughout our two countries.
- From the 1980s, the two sides agreed to solve the boundary question through peaceful and friendly consultation, established strategic and cooperative partnership for peace and prosperity, and achieved all-round development of bilateral relations.

After 2013, Chinese President Xi Jinping and Indian Prime Minister Narendra Modi initiated the "hometown diplomacy", held two informal summits in Wuhan and Chennai respectively, carried out strategic communication on overarching, long-term and strategic issues of global and regional importance, and agreed to strengthen the closer partnership for development between the two countries.

Source: The Hindu

Q.42) Consider the following statements regarding the Eastern Economic Forum (EEF):

- 1. EEF was established in 2010 and forum conducts its meetings biannually.
- 2. India pledged to extend \$ 10 billion line of credit to Russia's far eastern region at 5^{th} EEF. 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 Eastern Economic Forum was established by decree of the President of the Russian Federation Vladimir Putin in 2015 to support the economic development of Russia's Far East and to expand international cooperation in the Asia-Pacific region.

Unveiling the Russian edition of India's 'Look East, Act East' policy, Prime Minister Narendra Modi pledged on September 2019 to extend a \$1 billion Line of Credit to Russia's Far East region (RFE).

Source: Indian Express

Q.43) The Global Forum on Remittances, Investment and Development (GFRID) is related to which of the following?

- a) The United Nations Conference on Trade and Development
- b) The United Nations Industrial Development Organization
- c) World Economic Forum
- d) None

ANS: D

Explanation: The Global Forum on Remittances, Investment and Development (GFRID) brings together key decision makers, stakeholders and practitioners who are engaged in the field of remittances and migration for development.

- **Since its first forum in 2007, IFAD has gathered** over 1,000 participants from the public and private sector, and the civil society, to facilitate the creation of partnerships and the exchange of best practices in maximizing the impact of remittances to the benefit of migrants' communities of origin.
- In doing so, IFAD partners with key international financial institutions and other prominent organizations, such as the European Commission (2015) and the United Nations Department of Economic and Social Affairs (2017).
- The forum is held biannually, in conjunction with the observance of the International Day of Family Remittances (IDFR) on 16 June.

Source: IFAD

Q.44) The "Lucknow Declaration" is sometimes seen in news is related to which of the following?

- a) Indo-African joint declaration on terrorism
- b) Indo-African joint declaration on climate change
- c) Indo-China declaration on bilateral investment
- d) Indo-European Union declaration on bilateral investment

ANS: A

Explanation: India and several African countries on February 2020 pledged to deepen cooperation to combat the growing threat of terrorism and preserve maritime security by sharing information, intelligence and surveillance, in a joint deceleration (lucknow declaration) adopted at the first India- Africa Defence Ministers conclave at the ongoing Defexpo.

Source: The Hindu

Q.45) The "Sagarmatha Sambaad" is sometimes seen in news is an initiative of which of the following country?

- a) Bhutan
- b) India
- c) Nepal
- d) Pakistan

ANS: C

Explanation: Nepal has invited the Prime Ministers of India and Pakistan along with several other heads of government and heads of state for the **Sagarmatha Sambaad**.

The first ever multi-stakeholder dialogue event is expected to be the biggest diplomatic initiative in Nepal's recent history that will be attended by many global figures apart from the leaders of the member countries of the South Asian Association for Regional Cooperation (SAARC).

Source: The Hindu

Q.46) Consider the following statements regarding the Migration and Mobility Partnership Agreement:

- 1. It is a bilateral agreement between India and United States of America.
- 2. It enhances people-to-people contacts, fostering mobility of students and strengthening cooperation on issues related to irregular migration and human trafficking between the two sides.
- 3. It is valid for 7 years and it also incorporates automatic approval after 7 years.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: The Union Cabinet has ratified the Migration and Mobility Partnership Agreement between India and France aimed at enhancing people-to-people contacts, fostering Mobility of students, academics, researchers and skilled professionals.

- The Agreement was actually signed in March, 2018 during the State Visit of the French President to India.
- The **Agreement is initially valid for a period of seven years**, incorporates provision for automatic renewal and a monitoring mechanism through a Joint Working Group.

Source: Indian Express

Q.47) The "**West Asia Peace Plan**" is sometimes seen in news is an initiative of which of the following?

- a) United States of America
- b) Permanent Security Council Countries (P5 members)
- c) Russia
- d) China and Russia

ANS: A

Explanation: The West Asia peace plan unveiled by U.S. President Donald Trump on January 2020 seeks to give the Israelis what they have long wanted — an expansive state with Jerusalem as its "undivided capital" and tight security control over a future Palestinian state.

- With his plan, Mr. Trump is actually pushing to revive the stalled two-state talks between the Israelis and the Palestinians, but on his own terms.
- Israeli Prime Minister Benjamin Netanyahu, who had earlier spoken against the twostate solution, has accepted the Trump plan, while appearing beside the President in the White House.
- The Palestinians were absent.

Source: The Hindu

Q.48) Consider the following statements regarding Central Administrative Tribunal (CAT):

- 1. CAT exercises original jurisdiction in relation to recruitment and all service matters of public servants.
- 2. CAT is not bound by the procedure laid down in the Civil Procedure Code of 1908.

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: The Central Administrative Tribunal (CAT) was set up in 1985 with the principal bench at Delhi and additional benches in different states.

- At present, it has 17 regular benches, 15 of which operate at the principal seats of high courts and the remaining two at Jaipur and Lucknow.
- These benches also hold circuit sittings at other seats of high courts.
- The CAT exercises original jurisdiction in relation to recruitment and all service matters of public servants covered by it.
- Its jurisdiction extends to the all-India services, the Central civil services, civil posts under the Centre and civilian employees of defence services.
- However, the members of the defence forces, officers and servants of the Supreme Court and the secretarial staff of the Parliament are not covered by it.
- The CAT is not bound by the procedure laid down in the Civil Procedure Code of 1908. It is guided by the principles of natural justice.
- These principles keep the CAT flexible in approach. Only a nominal fee of 50 is to be paid by the applicant. The applicant may appear either in person or through a lawyer.

Source: Laxmikanth

Q.49) Consider the following statements regarding the National Emergency (Article 352):

- 1. President proclaims a national emergency only after receiving a written recommendation from the cabinet.
- 2. President can declare a national emergency only on the actual occurrence of war or external aggression.

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: Under Article 352, the President can declare a national emergency when the security of India or a part of it is threatened by war or external aggression or armed rebellion.

- It may be noted that the president can declare a national emergency even before the actual occurrence of war or external aggression or armed rebellion, if he is satisfied that there is an imminent danger.
- The President, however, can proclaim a national emergency only after receiving a written recommendation from the cabinet.
- This means that the emergency can be declared only on the concurrence of the cabinet and not merely on the advice of the prime minister.
- In 1975, the then Prime Minister, Indira Gandhi advised the president to proclaim emergency without consulting her cabinet. The cabinet was informed of the proclamation after it was made, as a fait accompli.
- The 44th Amendment Act of 1978 introduced this safeguard to eliminate any possibility of the prime minister alone taking a decision in this regard.

Source: Laxmikanth

Q.50) Consider the following statements regarding the **qualifications of Supreme Court Judge**:

- 1. He should be a citizen of India.
- 2. He should have been a Judge of a High Court for 5 years.
- 3. He should have been Advocate of a High Court for 7 years.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: A person to be appointed as a judge of the Supreme Court should have the following qualifications:

- 1. He should be a citizen of India.
- 2. (A) He should have been a judge of a High Court (or high courts in succession) for five years; or (B) He should have been an advocate of a High Court (or High Courts in succession) for ten years; or (C) He should be a distinguished jurist in the opinion of the president.

From the above, it is clear that the Constitution has not prescribed a minimum age for appointment as a judge of the Supreme Court.

Source: Laxmikanth



Science and technology

Q.1) Consider the following statements regarding "Agni 5 Missile":

- 1. It is a nuclear-capable ballistic missile developed by DRDO.
- 2. Range of Agni 5 Missile is 7000km.

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: India's defence scientists have successfully launched Agni 5, the nuclear-capable ballistic missile, with over 5,000 km range.

- It is a three stage missile, 17 metres tall, and two metres wide and capable of carrying upto 1.5 tonne of payload, especially nuclear warheads.
- It is developed by labs (DRDO) under the Missile Complex in Hyderabad and several industries across the country were first flight tested in 2012.

Source: The Hindu

Q.2) Consider the following statements regarding "Central Drugs Standard Control Organization (CDSCO)":

- 1. It is a central drug authority to implement the directions and orders under Drugs and Cosmetics Act.
- 2. Major function of CDSCO is regulatory control over approval of new drugs and clinical trials.

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 Central Drugs Standard Control Organization (CDSCO) is the Central Drug Authority for discharging functions assigned to the Central Government under the Drugs and Cosmetics Act. CDSCO has six zonal offices, four sub-zonal offices, 13 port offices and seven laboratories under its control. Major functions of CDSCO:

- Regulatory control over the import of drugs,
- Approval of new drugs and clinical trials,
- Meetings of Drugs Consultative Committee (DCC) and Drugs Technical Advisory Board (DTAB),
- Approval of certain licenses as Central License Approving Authority is exercised by the CDSCO headquarters.

Source: The CDSCO website

Q.3) "**GLONASS**" or Global Navigation Satellite System is developed by which of the following country?

a) USA

- b) China
- c) European Union
- d) Russia

ANS: D

Explanation: GLONASS is an acronym, which stands for Globalnaya Navigazionnaya Sputnikovaya Sistema, or Global Navigation Satellite System.

- GLONASS is Russia's version of GPS (Global Positioning System).
- Soviet Union started the development of GLONASS in 1976.
- GLONASS is the most expensive program of the Russian Federal Space Agency, consuming a third of its budget in 2010.

Source: The Hindu

Q.4) Consider the following statements regarding "Lithium":

- 1. It has the lowest density of all metals.
- 2. It is used in rechargeable batteries for mobile phones, laptops, digital cameras and electric vehicles.
- 3. Lithium is abundantly available in India.

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

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

ANS: C

Explanation: Lithium is an alkali metal. It has the lowest density of all metals.

- The most important use of lithium is in rechargeable batteries for mobile phones, laptops, digital cameras and electric vehicles.
- · But as well as the lithium-ion batteries for which it has grown in popularity, the highly reactive and flammable alkali mineral - sometimes referred to as "white gold" - is also used in ceramics and glass, lubricating greases, polymer production, and air treatment.
- According to the latest figures from the US Geological Survey (USGS), global lithium production in 2018 reached around 85,000 tonnes – up from 69,000 in the previous year.
- Continued exploration efforts have seen global lithium resource estimates reach 62 million tonnes - a significant proportion of which are located in South America's "lithium triangle" - an area encompassing Chile, Argentina and Bolivia.
- India currently imports all its lithium needs.
- It imported lithium batteries worth \$1.2 billion in fiscal 2019, up from \$384 million in FY17.
- Recently researchers at the Atomic Minerals Directorate, a unit of India's Atomic Energy Commission, have estimated lithium reserves of 14,100 tonnes in a patch of land surveyed in Mandya, 100 km from Bengaluru.

Source: The Hindu

Q.5) Consider the following statements regarding "Defense Research and Development Organization (DRDO)":

- 1. It is an agency of Government of India charged with military's research and development.
- 2. It is headquartered in Kolkata.
- 3. It is under administrative control of Ministry of Science and technology.

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4. It also works in the field of life science engineering.

Which of the statements given above is/are correct?

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

ANS: D

Explanation: The Defense Research and Development Organization (DRDO) is an agency of the Government of India, charged with the military's research and development, headquartered in New Delhi, India.

- It was formed in 1958 by the merger of the Technical Development Establishment and the Directorate of Technical Development and Production with the Defense Science Organization.
- It is under the administrative control of the Ministry of Defense, Government of India.

Source: DRDO website

- **Q.6) Innovate in India (i3)** initiative is launched by Government of India related to which of the following sector?
- a) Automobile Sector
- b) Defense Sector
- c) Pharmaceutical Sector
- d) Food processing Sector

ANS: C

Explanation: The first ever Industry-Academia mission to accelerate biopharmaceutical development in India will be formally launched by the Cabinet Minister for Science and Technology, Earth Sciences, Environment, Forests and Climate Change, Dr. Harsh Vardhan in New Delhi on 30th June 2017.

- The program named Innovate in India (i3) will witness an investment of USD 250 million with USD 125 million as a loan from World Bank and is anticipated to be a game changer for the Indian Biopharmaceutical industry.
- It aspires to create an enabling ecosystem to promote entrepreneurship and indigenous manufacturing in the sector.

Source: PIB

Q.7) Consider the following statements regarding "National Biotechnology Development Strategy (NBDS) 2015-2020":

- 1. It was launched in 2015 with an aim to establish India as a world class bio manufacturing hub.
- 2. It aims to make India ready to meet the challenge of achieving US\$100bn by 2025.

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: DBT had earlier announced the First National Biotechnology Development strategy in 2007 which provided an insight into the enormous opportunities.

After this, NBDS was launched in 2015 with an aim to establish India as a world class bio manufacturing hub.

It aims to achieve:

- Making India ready to meet the challenge of achieving US\$100bn by 2025
- Launching Four Major Missions Healthcare, Food and Nutrition, Clean Energy and Education backed with significant investments for the creation of new biotech products
- Create a strong infrastructure for R&D and commercialization and empower India's human by creating a Life Sciences and Biotechnology Education Council
- Creating a Technology Development and Translation network across the country with global partnership
- To revitalize the knowledge environment at par with the growing bio-economy, focus
 of biotechnology tools for inclusive development etc.

Source: PIB

Q.8) Consider the following statements regarding "Hyper Spectral Imaging Satellite (HYSIS)":

- 1. It combines the power of digital imaging and spectroscopy to attain both spatial and spectral information from an object.
- 2. Hyper spectral images provide much more detailed information about the scene than normal camera.

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: ISRO's PSLV C43 launched India's first Hyperspectral Imaging Satellite (HysIS) along with 30 foreign satellites from Satish Dhawan Space Centre, Sriharikota.

- HysIS is an earth observation satellite built around ISRO's Mini Satellite-2 (IMS-2) bus.
- It combines the power of digital imaging and spectroscopy to attain both spatial and spectral information from an object.
- This result can be then used to identify measure and locate different materials and their chemical and physical properties.
- Every pixel in the image contains a continuous spectrum (in radiance or reflectance) and can be used to characterize the objects in the scene with great precision and detail.

Source: ISRO

- **Q.9)** Which among the following space agency tested a device called as "**Lunar Evacuation System Assembly (LESA)**", which is designed to assist in astronaut rescue missions on the surface of the Moon?
- a) European Space Agency
- b) NASA
- c) ISRO
- d) Japan Aerospace Exploration Agency (JAXA)

ANS: A

Explanation: The European Space Agency (ESA) recently tested a device which is designed to assist in astronaut rescue missions on the surface of the Moon.

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- The test was among preparations for NASA's 2024 Artemis Mission.
- The device is called the Lunar Evacuation System Assembly (LESA).
- LESA is a pyramid-like structure. It can be operated by a single astronaut to help rescue an injured astronaut on the surface of the moon.
- It will enable an astronaut to lift their crewmate onto a mobile stretcher in less than 10 minutes, before carrying them to the safety of a nearby pressurized lander.
- ARTEMIS stands for Acceleration, Reconnection, Turbulence and Electrodynamics of the Moon's Interaction with the Sun. It will be a manned moon mission.
- The Artemis mission includes establishing of lunar outpost, investigating the Moon's resources and how they might be exploited and using it a base to explore Mars and further into deep space.

Source: European Space Agency

Q.10) Consider the following statements regarding "Indian Computer Emergency Response Team (CERT-In)":

- 1. It is a functional organization of Ministry of Science & Technology.
- 2. It provides Incident Prevention and Response services as well as Security Quality Management Services.
- 3. It draws its functions under Information Technology (Amendment) Act, 2008.

Which of the following below given codes are correct?

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

ANS: C

Explanation: CERT-In is a functional organization of Ministry of Electronics and Information Technology, Government of India, with the objective of securing Indian cyber space.

CERT-In provides Incident Prevention and Response services as well as Security Quality Management Services.

The Information Technology (Amendment) Act 2008 designated CERTIn to serve as the national agency to perform the following functions in the area of cyber security:

- Collection, analysis and dissemination of information on cyber incidents.
- Forecast and alerts of cyber security incidents.
- Emergency measures for handling cyber security incidents.
- Coordination of cyber incident response activities.
- Issue guidelines, advisories, vulnerability notes and whitepapers relating to information security practices, procedures, prevention, response and reporting of cyber incidents.
- Such other functions relating to cyber security as may be prescribed.

Source: PIB

Q.11) Which of the following statements is/are **NOT** correct about "Nuclear Fuel Complex" (NFC)?

- 1. It is the only organization in India which caters to the fuel requirements of nuclear power reactors.
- 2. It is the only organization in the world today to have a comprehensive manufacturing cycle from ore to core.

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: Nuclear Fuel Complex, Hyderabad is an industrial unit of the Department of Atomic Energy, Government of India.

- NFC is the **only organization in India** which caters to the fuel requirements of nuclear power reactors.
- Nuclear Fuel Complex, Hyderabad was conceived in late 60's as a pivotal industrial
 arm of the Department of Atomic Energy with the mandate to fuel the nuclear
 power program of Govt. of India.
- An ISO certified organization, **NFC** is the only organization in the world today to have a comprehensive manufacturing cycle from ore to core, involving processing of both Uranium & Zirconium streams under the same roof.

Source: Nuclear Fuel Complex

Q.12) Consider the following statements regarding "Vitrification technology":

- 1. It can be used to contain High Level Waste (HLW) of Nuclear Spent Fuel.
- 2. At present India imports this technology from Russia.

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 immobilisation of HLW requires the formation of an insoluble, solid waste form that will remain stable for many thousands of years.

- In general borosilicate glass has been chosen as the medium for dealing with separated HLW.
- The stability of ancient glass for thousands of years highlights the suitability of borosilicate glass as a matrix material. This type of process, referred to as **vitrification**.
- Most HLW, other than spent fuel itself, arises in a liquid form from the reprocessing of spent fuel.
- This HLW comprises highly-radioactive fission products and some transuranic elements with long-lived radioactivity.
- India is one of the few countries to have mastered the technology of vitrification. Over the years BARC has developed the technology for vitrification of HLW.
- India has a unique distinction of having operating **vitrification plant at Tarapur** and **Trombay**.
- In our existing plant at Trombay vitrification process is essentially batch operation consisting of heating and fusing of pre-concentrated waste and glass forming additives and is carried out in melters based on induction heating.

Source: The Hindu & IAEA

Q.13) "CODIS" is related to which of the following?

- a) Food Preservation Index
- b) DNA index system
- c) Carbon Dioxide measurement Index

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d) Biomass Index

ANS: B

Explanation: CODIS is the acronym for the Combined DNA Index System and is the generic term used to describe the FBI's program of support for criminal justice DNA databases as well as the software used to run these databases.

The National DNA Index System or NDIS is considered one part of CODIS, the national level, containing the DNA profiles contributed by federal, state, and local participating forensic laboratories.

Source: The Hindu

Q.14) "JUICE Mission" is going to launch by which of the following Space Agency?

- a) NASA
- b) ROSCOSMOS
- c) French Space Agency
- d) European Space Agency

ANS: D

Explanation: JUICE, also known as the JUpiter ICy moons Explorer, is a European Space Agency mission intended to explore Jupiter and three of its icy moons: Europa, Callisto and Ganymede.

- A single orbital spacecraft, with no lander, will be the first to orbit Ganymede, and one of a handful of spacecraft to visit the Jupiter system since the 1970s. JUICE is targeted to launch in June 2022 aboard an Ariane 5 spacecraft.
- It will take more than 7.5 years to get to Jupiter, using gravity assists from Venus and Earth to speed the spacecraft up and get it into the outer solar system.
- The spacecraft is expected to be inserted in Jupiter's orbit in January 2030, starting a 2.5-year observation session of Jupiter's moons, as well as the planet's atmosphere and magnetosphere.

Source: The Hindu & NASA

Q.15) Consider the following statements regarding "Prithvi Missile":

- 1. It is an indigenously developed ballistic missile developed under the Integrated Guided Missile Development Program (IGMDP).
- 2. It is a surface-to-surface short range ballistic missile.

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 Prithvi was India's first indigenously developed ballistic missile produced by the Integrated Guided Missile Development Program (IGMDP).

Prithvi is a road-mobile, surface to surface short range ballistic missile (SRBM) powered by a single-stage, two engines, and liquid-fuel. Development of the Prithvi began in 1983, and it was first tested fired on February 25, 1988.

Source: The Hindu

Q.16) Consider the following statements regarding "Indian Data Relay Satellite System (IDRSS)":

- 1. It is a satellite to satellite communication and transfer of data.
- 2. It will also be useful in monitoring launches and benefitting crew members of the Gaganyaan mission.
- 3. At present only USA and Russia have DRS system.

Which of the following above statements is/are NOT correct?

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

ANS: C

Explanation: India plans for its own space-to-space tracking and communication of its space assets this year by putting up a new satellite series called Indian Data Relay Satellite System (IDRSS).

- A set of 2 IDRSS satellites will be placed in geostationary orbit, enabling satellite to satellite communication and transfer of data.
- It will track, send and receive real-time information from other Indian satellites, in particular those in low-earth orbits (LEO) which have limited coverage of earth.
- It will also be useful in monitoring launches and benefitting crew members of the Gaganyaan mission ensuring mission control throughout their travel.
- First satellite will be launched by 2020 end and second one by 2021. India will join US, China, Japan and Europe who already have such DRS systems.

Source: The Hindu

Q.17) Consider the following statements regarding "Cartosat-3":

- 1. It is an earth observation satellite and helps to detect changes in natural geographical or man-made features.
- 2. The mission life of the Cartosat-3 is 10 years.

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: Cartosat satellites are earth observation satellites, used mainly for large-scale mapping of the Earth through high-resolution cameras.

- They help to detect changes in natural geographical or man-made features.
- Cartosat-3 satellite is a third-generation agile advanced satellite having high resolution imaging capability.
- The mission life of the Cartosat-3 is 5 years. It will be followed by additional satellites of the same design, namely Cartosat-3A and 3B, next year.

Source: The Hindu & ISRO

Q.18) Which of the following missile is an "Anti-Tank Missile"?

- a) Agni Missile
- b) Nag Missile
- c) Trishul Missile
- d) Prithvi Missile

ANS: B

Explanation: Nag is a third-generation; fire-and-forget, anti-tank guided missile developed by India's state-owned Defence Research and Development Organisation (DRDO) to support both mechanised infantry and airborne forces of the Indian Army.

Source: The Hindu

Q.19) Consider the following statements regarding "Radio Frequency Identification (RFID)" technology:

- 1. It is an electronic tag that can exchange data with an RFID reader through radio waves.
- 2. It is faster connection and its operational range is about 10m.

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: B

Explanation: RFID technology is an electronic tag that can exchange data with an RFID reader through radio waves.

RFID is faster connection and its operational range is about 100m.

Source: Indian Express

Q.20) Which of the following is/are provisions of the DNA Technology (Use and Application) Regulation Bill, 2019?

- 1. DNA testing is allowed to individual identity and civil matters.
- 2. No consent is required from arrested person for collecting DNA.

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: In a landmark decision, the Lok Sabha passed "The DNA Technology (Use and Application) Regulation Bill - 2019".

- The purpose of this Bill is to expand the application of DNA-based forensic technologies to support and strengthen the justice delivery system of the country.
- The utility of DNA based technologies for solving crimes, and to identify missing persons, is well recognized across the world.
- By providing for the mandatory accreditation and regulation of DNA laboratories, the Bill seeks to ensure that with the proposed expanded use of this technology in this country, there is also the assurance that the DNA test results are reliable, and furthermore that the data remain protected from misuse or abuse in terms of the privacy rights of our citizens.
- The key components of this Bill include: establishment of a DNA Regulatory Board; accreditation of DNA laboratories undertaking DNA testing, analysing, etc.; establishment of the National and Regional DNA Data Banks, as envisaged in the Bill, will assist in forensic investigations.
- This will aid in scientific up-gradation and streamlining of the DNA testing activities in the country with appropriate inputs from the DNA Regulatory Board which would be set up for the purpose.

• The Bill will add value in empowering the criminal justice delivery system by enabling the application of DNA evidence, which is considered the gold standard in crime investigations.

Source: PRS India

Q.21) Which of the following statements is/are **NOT** 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: C

Explanation: 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.
- 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.

Source: Indian Express

Q.22) 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.

Source: The Hindu

Q.23) The terms "Antu, Kueyen, Melipal and Yepun" is related to which of the following?

- a) Asteroids
- b) Planets of Jupiter

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- 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.

Source: National Geographic Channel

Q.24) Which of the following statements is/are NOT 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) 3 only
- d) 1, 2 and 3

ANS: C

Explanation: 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.
- 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.
- 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.

Source: ISRO

Q.25) 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.

- 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.
- 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.

Source: The Hindu

Q.26) Consider the following statements regarding the **gas hydrates**:

- 1. They are formed when a gas such as methane gets trapped in well-defined cages of water molecules forming crystalline solids.
- 2. They 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 (CO2) can exist as gas hydrates at temperatures and pressures seen in interstellar atmosphere.
- The methane and CO2 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.

Source: Indian Express

Q.27) 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.

Source: The Hindu

Q.28) Consider the following statements regarding the **Gluten**:

- 1. It is a general name for the proteins found in fruits and vegetables.
- 2. It 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 NOT correct?

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

ANS: A

Explanation: Gluten.

- 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.

Source: The Hindu

Q.29) Consider the following statements regarding **e-waste clinic**:

- 1. India's first e-waste clinic has been inaugurated in Bhopal, 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) 1, 2 and 3

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.

Source: The Hindu

Q.30) Consider the following statements regarding the IndiGen programme:

- 1. It aims to undertake whole genome sequencing of ten thousand Indian individuals representing diverse ethnic groups from India.
- 2. It 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).

Source: CSIR

Q.31) Consider the following statements regarding "Indian Data Relay Satellite System (IDRSS)":

- 1. It is a satellite to satellite communication and transfer of data.
- 2. It will also be useful in monitoring launches and benefitting crew members of the Gaganyaan mission.
- 3. At present only USA and Russia have DRS system.

Which of the statements above given is/are correct?

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

ANS: B

Explanation: India plans for its own space-to-space tracking and communication of its space assets this year by putting up a new satellite series called Indian Data Relay Satellite System (IDRSS).

- A set of 2 IDRSS satellites will be placed in geostationary orbit, enabling satellite to satellite communication and transfer of data. It will track, send and receive real-time information from other Indian satellites, in particular those in low-earth orbits (LEO) which have limited coverage of earth.
- It will also be useful in monitoring launches and benefitting crew members of the Gaganyaan mission ensuring mission control throughout their travel.
- First satellite will be launched by 2020 end and second one by 2021. India will join US, China, Japan and Europe who already have such DRS systems.

Source: ISRO

Q.32) Consider the following statements regarding "Cartosat-3":

- 1. It is an earth observation satellite and helps to detect changes in natural geographical or man-made features.
- 2. The mission life of the Cartosat-3 is 10 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: B

Explanation: Cartosat satellites are earth observation satellites, used mainly for large-scale mapping of the Earth through high-resolution cameras.

- They help to detect changes in natural geographical or man-made features.
- Cartosat-3 satellite is a third-generation agile advanced satellite having high resolution imaging capability.
- The mission life of the Cartosat-3 is 5 years.

• It will be followed by additional satellites of the same design, namely Cartosat-3A and 3B, next year.

Source: ISRO

Q.33) Consider the following statements with respect to "5G":

- 1. It is a wireless communication technology uses radio waves or radio frequency (RF) energy to transmit and receive data.
- 2. It will provide the capacity and bandwidth to accommodate technologies such as Internet of Things.

Which of the following above statements is/are correct?

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

ANS: C

Explanation: 5G is a wireless communication technology using radio waves or radio frequency (RF) energy to transmit and receive data.

- It is the next generation mobile networks technology after 4G LTE networks.
- 5G technologies will enter services gradually, beginning in 2019 and advance to a full range of services by 2024.
- 5G will provide the capacity and bandwidth as per the need of the user to accommodate technologies such as Internet of Things.
- It will provide Faster Data Speed, Ultra-low latency etc.

Source: ISRO

Q.34) "RAISE 2020" is recently seen in news is related to which of the following?

- a) CoVID-19
- b) Environmental Conservation
- c) Artificial Intelligence
- d) Organic farming

ANS: C

Explanation: Responsible AI for Social Empowerment 2020 (RAISE 2020) is a global meeting of minds to use Artificial Intelligence (AI) for social empowerment, inclusion and transformation in key areas like Healthcare, Agriculture, Education and Smart Mobility amongst other sectors.

Source: The Hindu

Q.35) Consider the following statements regarding "Astra Missile":

- 1. It is an indigenously developed Surface to Air Missile.
- 2. It works on beyond visual range air to air missile (BVRAAM) technology.

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: Recently India successfully test-fired its first indigenous air-to-air missile 'Astra'.

- It is designed and developed by DRDO.
- It works on beyond visual range air to air missile (BVRAAM) technology that enables fighter-pilots to shoot precisely at the enemy targets which are beyond their visual range.
- It was launched from Sukhoi-30 MKI fighter jet and will be further integrated with other jets such as Mirage 2000, the MiG-29 and Tejas.
- With this India joined the league of other countries having this technology such as France, Germany, UK, South Africa etc.

Source: The Hindu

Q.36) Consider the following statements with respect to "Uranium Corporation of India limited (UCIL)":

- 1. It is a public sector enterprise under Ministry of Power.
- 2. Uranium ore mined in India is of very high grade.

Which of the following codes below given is/are correct?

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

ANS: D

Explanation: Uranium Corporation of India Limited was incorporated on 4th October 1967.

- It is a Public Sector Enterprise under the Department of Atomic Energy with a special standing at the forefront of Nuclear Power cycle.
- Fulfilling the requirement of uranium for the Pressurized Heavy Water Reactors, UCIL plays a very significant role in nuclear power generation of the country.
- Uranium ore mined in India are of very low grade as compared to those available in other countries.
- After recovery of uranium in the mill, bulk of the material processed emerges as tailings.
- Its radioactivity content is very low.

Source: The Hindu

Q.37) Which of the following missile is an "Anti-Tank Missile"?

- a) Agni Missile
- b) Nag Missile
- c) Trishul Missile
- d) Prithvi Missile

ANS: B

Explanation: Nag is a third-generation; fire-and-forget, anti-tank guided missile developed by India's state-owned Defence Research and Development Organisation (DRDO) to support both mechanised infantry and airborne forces of the Indian Army.

Source: The Hindu

Q.38) "Skybot F850" is recently in news, is related to which of the following?

- a) Unmanned Aerial Vehicle
- b) Humanoid robot
- c) Nano Satellite
- d) None

ANS: B

Explanation: Russia sent the humanoid robot Fedor, also known as Skybot F850 to International Space Station.

- It will spend 10 days in space to assist astronauts.
- Fedor is Russia's first robot in space.

Source: Indian Express

Q.39) Consider the following statements with respect to "Clearspace -1 Mission":

- 1. Mission is to be launched by French Space Agency.
- 2. Mission is about cleaning up Earth's orbit Space trash.

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 European Space Agency (ESA) is planning to launch Clearspace -1 Mission by 2025.

- Mission is to launch a four-armed robot, Chaser, to clean up Earth's orbit.
- Chaser is to be developed by a Swiss start-up ClearSpace under ClearSpace-1 mission.

Source: The European Space Agency

Q.40) Consider the following statements with respect to "Radio Frequency Identification (RFID)" technology:

- 1. It is an electronic tag that can exchange data with an RFID reader through radio waves.
- 2. It is faster connection and its operational range is about 10m.

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: RFID technology is an electronic tag that can exchange data with an RFID reader through radio waves.

RFID is faster connection and its operational range is about 100m.

Source: The Hindu

Q.41) The "LOx methane" is recently in news is related to which of the following?

- a) Space rocket engine fuel
- b) High speed diesel variant
- c) Bio-diesel
- d) None

ANS: A

Explanation: The Indian Space Research Organization (ISRO) is developing methane-powered rocket engines.

• The space agency is developing two 'LOx methane' engines (liquid oxygen oxidiser and methane fuel) engines.

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- One of the two projects is trying to convert the existing cryogenic engine, which uses liquid hydrogen for fuel, into a LOx methane engine.
- The other is a smaller engine of 3 tonnes thrust, which will feature an electric motor.
- These are being developed at ISRO's Liquid Propulsion Systems Centre at Trivandrum.

Source: The Hindu

Q.42) The "Head on Generation (HOG)" technology is sometimes in news is related to which of the following?

- a) Driverless car
- b) Drones
- c) Tractors
- d) Trains

ANS: D

Explanation: The South Central Railway (SCR) announced the introduction of a new technology – Head On Generation (HOG) system – in Telangana Express where power from the engine would be supplied to the entire train for lighting and air-conditioning.

- The trains like these have two power cars known as End On Generators (EOG) on either end to provide electricity to all the coaches.
- These power cars produce electricity by the diesel generators with each using 40 litres of fuel per hour for a non-AC coach and 65-70 litres of diesel per hour per coach in case of an AC coach.
- The new HOG technology obviates the need for using diesel as power is tapped from the overhead electric traction lines through a pantograph to the train engine and the same is distributed to the trailing coaches.
- Earlier, the power supply from the overhead electric traction was being used to only run the engine and haul the coaches.
- "The new system does not require any diesel and hence, will reduce air and noise pollution, besides providing uninterrupted illumination in all the coaches.
- On an average, it will reduce carbon emission by 700 metric tonnes per year per train".

Source: Indian Express

Q.43) The "EChO Network" is sometimes in news is related to which of the following?

- a) Space radar system
- b) Defense radar system
- c) Cross-disciplinary leadership
- d) Network of Government data

ANS: C

Explanation: EChO Network, a national program to provide a template for **cross-disciplinary leadership** in India with the specific focus of increasing research, knowledge, and awareness of Indian ecology and the environment.

- India faces unprecedented threats to its human environmental and ecosystems, solving which requires a confluence of India's strong technological expertise and knowledge of the natural world itself.
- EChO Network would develop a national network to catalyse a new generation of Indians who can synthesize interdisciplinary concepts and tackle real-world problems in medicine, agriculture, ecology, and technology.

- With no precedent for such a network anywhere in the world, EChO Network establishes a new platform to change how science is embedded in our modern society.
- Through interactive sessions with citizens, industry, academia, and the government, the Network will identify gaps in knowledge regarding selected topics in human and environmental ecosystems.
- The program will then train postdoctoral leaders in research and outreach on these topics, while also incorporating current public and private efforts into a national network.
- It would then go on to establishing nation-wide awareness in these issues through public discourse and education for citizens, industry, and government with information exchange at all educational levels.
- Over time EChO Network intends to create an international distributed institute comprising individuals housed within industry, government, private, and academic sectors, combining their expertise and resources collectively to tackle large scale problems.

Source: Indian Express

Q.44) Recently a **Bilateral Patent Prosecution Highway (PPH)** pilot program has commenced between the Indian Patent Office (IPO) and which of the following?

- a) Switzerland Patent Office
- b) Japan Patent Office
- c) The United States Patent and Trademark Office
- d) The National Industrial Property Institute (France)

ANS: B

Explanation: A Bilateral Patent Prosecution Highway (PPH) pilot program has commenced between the Indian Patent Office (IPO) and the **Japan Patent Office** (JPO).

The Patent Prosecution Highway (PPH) is a set of initiatives for providing accelerated patent prosecution procedures by sharing information between some patent offices.

Source: The Hindu

Q.45) Consider the following statements regarding the Local Treatment of Urban Sewage streams for Healthy Reuse (LOTUS-HR) program:

- 1. It is jointly supported by Government of India and Government of Sweden.
- 2. It aims to demonstrate a novel holistic waste-water management approach that will produce clean water that can be reused for various proposes.
- 3. The partners in the project are IIT-Delhi, NEERI and The Energy and Resources Institute (TERI).

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: Department of biotechnology (DBT) and NWO, the Netherlands Science Agency announced a joint call for proposals to clean the Barapullah drain in New Delhi.

• LOTUS-HR stands for Local Treatment of Urban Sewage streams for Healthy Reuse plant.

- The project was initiated in 2017. It aims to demonstrate a novel holistic waste-water management approach that will produce clean water that can be reused for various proposes.
- The project also aims to simultaneously recover nutrients and energy from the urban wastewater thus converting drain into profitable mines.
- The project is jointly supported by Department of Biotechnology, Government of India and the Netherlands Organization for Scientific Research, Government of the Netherlands.

The partners in the project are IIT-Delhi, NEERI and The Energy and Resources Institute (TERI).

Source: The Hindu

Q.46) Consider the following statements regarding the Acute Encephalitis Syndrome (AES):

- 1. It is characterized as acute-onset of fever and a change in mental status and/or new-onset of seizures in a person of any age at any time of the year.
- 2. The causative agents of AES are viruses, Bacteria, fungus, Chemicals and toxins. 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: Acute encephalitis syndrome (AES) is a serious public health problem in India. It is characterized as acute-onset of fever and a change in mental status (mental confusion, disorientation, delirium, or coma) and/or new-onset of seizures in a person of any age at any time of the year.

- The syndrome most commonly affects children and young adults and can lead to considerable morbidity and mortality.
- Viruses are the main causative agents in AES cases, although other sources such as bacteria, fungus, parasites, spirochetes, chemicals, toxins and noninfectious agents have also been reported over the past few decades.
- In May-June 2019, the acute encephalitis syndrome (AES) in Bihar's Muzaffarpur, Vaishali, Sheohar and East Champaran districts has so far claimed the lives of over 100 children.
- More than 400 children with AES have been admitted to various hospitals. **Most of** the deaths have been attributed to low blood sugar level (hypoglycaemia).
- In Bihar, convulsions in children (which is AES) are found in combination with hypoglycaemia.

Source: The Hindu

Q.47) Consider the following statements regarding the Japanese Encephalitis (JE):

- 1. It is a mosquito-borne viral infection of the brain.
- 2. It will spread from one person to another.
- 3. There is no cure for JE.

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: Japanese Encephalitis (JE) is a mosquito-borne viral infection of the brain. There is, however, a debate about the origin of the disease and whether it is enteroviruses — caused by virus found in pigs and birds. There is no cure for JE.

- The efficacy of the JE vaccine is between 85-90%. The lessons learnt from polio vaccination drives is that people left out of each round of vaccination are the most disenfranchised, most likely to take ill and least likely to seek medical care in time.
- One hundred and ninety positive cases of Japanese Encephalitis (JE) have been reported and 49 people have died of the vector-borne disease in Assam since January 2019 to June 2019.
- Assam is an ecologically favorable region for the spread of JE due to heavy rainfall, large paddy fields and water bodies and pig farming almost throughout the State.
- Pigs act as amplifying host for the JE virus transmitted through culex mosquito, as
 do wading birds such as herons and egrets.

Source: The Hindu

- **Q.48)** The **genetic strategy** known as RIDL (the Release of Insects carrying Dominant Lethal genes), sometimes seen in news is related to which of the following?
- a) Mosquito
- b) Locusts
- c) Butterfly
- d) Beetles

ANS: A

Explanation: A new initiative aims at reducing the population of Aedes aegypti mosquito by introducing genetically modified version of mosquitoes.

- Aedes aegypti mosquito is the carrier of diseases such as Zika, dengue and chikungunya.
- The genetic strategy employed to control A. aegypti population known as RIDL (the Release of Insects carrying Dominant Lethal genes) is to reduce the population of the naturally occurring A. aegypti mosquitoes and not affect or alter their genetics.

Source: The Hindu

- **Q.49)** The term **ethephon**, sometimes seen in news is related to which of the following?
- a) Ripening agent
- b) Herbicide
- c) Vaccine
- d) None

ANS: A

Explanation: The Food Safety and Standards Authority of India (FSSAI) seized one tonne of artificially ripened bananas and plantains from a market in Tiruppur (Tamil Nadu). According to FSSAI officials, a trader had used **ripening agent ethephon (2-chloroethylphosphonic acid)** on the bananas and plantains kept for sale.

Source: Down to Earth

- **Q.50)** The **Biorock or mineral accretion technology**, sometimes seen in news is related to which of the following?
- a) Mangrove protection
- b) Coral reefs restoration

c) Carbon storage

Source: The Hindu

d) Shale gas extraction

ANS: B

Explanation: The Zoological Survey of India (ZSI), with help from Gujarat's forest department, is attempting for the first time a **process to restore coral reefs using biorock or mineral accretion technology**.

- A biorock structure was installed one nautical mile off the Mithapur coast in the Gulf of Kachchh.
- Biorock is the name given to the substance formed by electro accumulation of
 minerals dissolved in seawater on steel structures that are lowered onto the
 sea bed and are connected to a power source, in this case solar panels that
 float on the surface.
- The technology works by passing a small amount of electrical current through electrodes in the water.
- When a positively charged anode and negatively charged cathode are placed on the sea floor, with an electric current flowing between them, calcium ions combine with carbonate ions and adhere to the structure (cathode).
- This results in calcium carbonate formation. Coral larvae adhere to the CaCO3 and grow quickly.

Geography

Q.1) Which of the following is/are the characteristics of "Tropical Evergreen Forests"?

- 1. Tropical Evergreen Forests are located at more than 200cm rainfall.
- 2. It has no dry season.
- 3. Vegetation of all kinds found in these forests.

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: Tropical Evergreen forests are restricted to heavy rainfall areas of the Western Ghats and the island groups of Lakshadweep, Andaman and Nicobar, upper parts of Assam and Tamil Nadu coast.

- They are at their best in areas having more than 200 cm of rainfall with a short dry season.
- The trees reach great heights up to 60 metres or even above. Since the region is warm and wet throughout the year, it has a luxuriant vegetation of all kinds trees, shrubs and creepers giving it a multilayered structure.
- There is no definite time for trees to shed their leaves. As such, these forests appear green all the year round.

Source: NCERT

Q.2) "Bailadila Iron ore mine" is located in which of the following state?

- a) Jharkhand
- b) Karnataka
- c) Chhattisgarh
- d) Odisha

ANS: C

Explanation: Durg-Bastar-Chandrapur belt lies in Chhattisgarh and Maharashtra.

- Very high grade hematites are found in the famous Bailadila range of hills in the Bastar district of Chattisgarh.
- The range of hills comprises of 14 deposits of super high grade hematite iron ore.
- It has the best physical properties needed for steel making.
- Iron ore from these mines is exported to Japan and South Korea via Vishakhapatnam port.

Source: NCERT

Q.3) Which of the following is/are factors of **soil formation**?

- 1. Parent rock
- 2. Time
- 3. Relief
- 4. Flora, Fauna and Micro-organism

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: D

Explanation: The major factors of soil formation are the nature of the parent rock and climatic factors. Other factors are the topography, role of organic material and time taken for the composition of soil formation. All these differ from place to place.

Source: NCERT

Q.4) Which of the following statement is/are correct about "konkan coast"?

- 1. It extends from Mumbai to South Karnataka.
- 2. Annual range of temperature is high.
- 3. It receives rainfall by the Arabian Sea branch of Southwest monsoon. Select the correct answer using the code given below:
- a) 1, 2 and 3
- b) 3 only
- c) 2 and 3 only
- d) 1 and 3 only

ANS: D

Explanation: India's climate is controlled by a number of factors which can be broadly divided into two groups — factors related to location and relief, and factors related to air pressure and winds.

- With a long coastline, large coastal areas have an equable climate.
- Areas in the interior of India are far away from the moderating influence of the sea. Such areas have extremes of climate.
- That is why the people of Mumbai and the Konkan coast have hardly any idea of extremes of temperature and the seasonal rhythm of weather.
- On the other hand, the seasonal contrasts in weather at places in the interior of the country such as Delhi, Kanpur and Amritsar affect the entire sphere of life.

Source: NCERT

Q.5) Consider the following statements regarding "black soils":

- 1. Black soils also called as regur soils.
- 2. It covers the areas of Punjab, Rajasthan and Maharashtra.
- 3. They are made up of extremely coarse material.

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: Black soils are black in colour and are also known as regur soils.

- Black soil is ideal for growing cotton and is also known as black cotton soil.
- It is believed that climatic conditions along with the parent rock material are the important factors for the formation of black soil.
- This type of soil is typical of the Deccan trap (Basalt) region spread over northwest Deccan plateau and is made up of lava flows.

- They cover the plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhattisgarh and extend in the south east direction along the Godavari and the Krishna valleys.
- The black soils are made up of extremely fine i.e. clayey material. They are well-known for their capacity to hold moisture.
- In addition, they are rich in soil nutrients, such as calcium carbonate, magnesium, potash and lime. These soils are generally poor in phosphoric contents.
- They develop deep cracks during hot weather, which helps in the proper aeration of the soil.
- These soils are sticky when wet and difficult to work on unless tilled immediately after the first shower or during the pre-monsoon period.

Source: NCERT

Q.6) The primitive form of cultivation is called 'Bewar' or 'Dahiya' is practiced in which of the following state?

- a) Assam
- b) Kerala
- c) Haryana
- d) Madhya Pradesh

ANS: D

Explanation: The 'slash and burn' agriculture is known as 'Milpa' in Mexico and Central America, 'Conuco' in Venezuela, 'Roca' in Brazil, 'Masole' in Central Africa, 'Ladang' in Indonesia, 'Ray' in Vietnam.

In India, this primitive form of cultivation is called 'Bewar' or 'Dahiya' in Madhya Pradesh, 'Podu' or 'Penda' in Andhra Pradesh, 'Pama Dabi' or 'Koman' or Bringa' in Odisha, 'Kumari' in Western Ghats, 'Valre' or 'Waltre' in South-eastern Rajasthan, 'Khil' in the Himalayan belt, 'Kuruwa' in Jharkhand, and 'Jhumming' in the North-eastern region.

Source: Britannica

Q.7) "Parkland Landscape" is related to which type of forests in India?

- a) Evergreen Forest
- b) Tropical Thon Forest
- c) Dry Deciduous Forest
- d) Montane Forest

ANS: C

Explanation: Dry deciduous forest covers vast areas of the country, where rainfall ranges between 70 -100 cm.

- On the wetter margins, it has a transition to the moist deciduous, while on the drier margins to thorn forests.
- These forests are found in rainier areas of the Peninsula and the plains of Uttar Pradesh and Bihar.
- In the higher rainfall regions of the Peninsular plateau and the northern Indian plain, these forests have a parkland landscape with open stretches in which teak and other trees interspersed with patches of grass are common.
- As the dry season begins, the trees shed their leaves completely and the forest appears like vast grassland with naked trees all around.
- Tendu, palas, amaltas, bel, khair, axlewood, etc. are the common trees of these forests.

• In the western and southern part of Rajasthan, vegetation cover is very scanty due to low rainfall and overgrazing.

Source: NCERT

Q.8) Consider the following statements regarding "Peninsular Plateau":

- 1. It is a tableland composed of the old crystalline, igneous and metamorphic rocks.
- 2. The Deccan Plateau is higher in the west and slopes gently eastwards.

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: The Peninsular plateau is a tableland composed of the old crystalline, igneous and metamorphic rocks.

- It was formed due to the breaking and drifting of the Gondwana land and thus, making it a part of the oldest landmass.
- The Deccan Plateau is a triangular landmass that lies to the south of the river Narmada.
- The Satpura range flanks its broad base in the north while the Mahadev, the Kaimur hills and the Maikal range from its eastern extensions.
- Locate these hills and ranges in the physical map of India. The Deccan Plateau is higher in the west and slopes gently eastwards.
- An extension of the Plateau is also visible in the northeast– locally known as the Meghalaya, Karbi-Anglong Plateau and North Cachar Hills.
- It is separated by a fault from the Chotanagpur Plateau.
- Three Prominent hill ranges from the west to east are the Garo, the Khasi and the Jaintia Hills.

Source: NCERT

Q.9) Consider the following statements regarding "Indian Desert":

- 1. It lies towards the western margins of the Aravali Hills.
- 2. In Indian desert Streams appear in winter season.
- 3. Luni is the only large river in Indian Desert region.

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: The Indian desest lies towards the western margins of the Aravali Hills.

- It is an undulating sandy plain covered with sand dunes.
- This region receives very low rainfall below 150 mm per year.
- It has arid climate with low vegetation cover.
- Streams appear during the rainy season.
- Soon after they disappear into the sand as they do not have enough water to reach the sea.
- Luni is the only large river in this region.

Source: NCERT

Q.10) Which of the following pair (s) is/are **NOT** correctly matched?

Peak Range

Anai Mudi : Cardamom Hills
 Doda Beta : Nilgiri Hills
 Guru Shikhar : Western Himalay

3. Guru Shikhar : Western Himalayas Select the correct code from given below options:

a) 1 and 2 only

b) 2 only

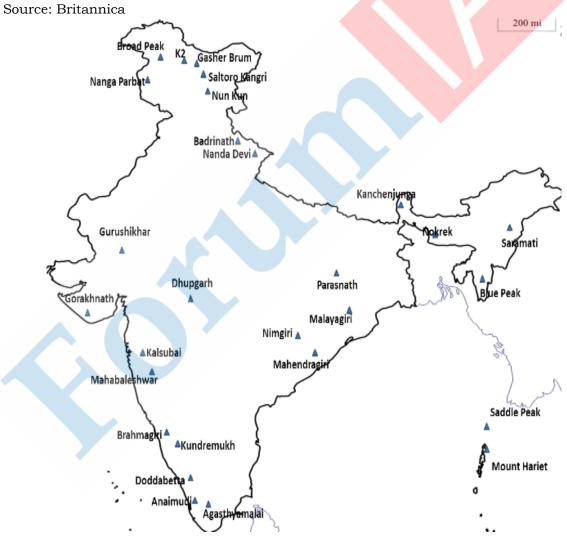
c) 1 and 3 only

d) 1, 2 and 3

ANS: C

Explanation: Anamudi is a mountain located in the Indian state of Kerala. It is the highest peak in the Western Ghats and South India, at an elevation of 2,695 metres.

- Its parental hills are Anaimalai hills.
- Doda beta is the highest peak of nilgiri hills while Guru Shikhar is the highest peak of Aravali Range located in Rajasthan.



Q.11) "Hadgarh Wildlife Sanctuary" is recently in news is located in which of the following State?

- a) Jharkhand
- b) West Bengal

- c) Assam
- d) Odisha

ANS: D

Explanation: Hadgarh Wildlife Sanctuary lies in the district of Keonjhar and Mayurbhanj.

- It is near the Hadgarh reservoir of Salandi Dam.
- This region is rich in mixed deciduous forest and play home to variety of wildlife.
- The wide range of fauna that can be seen at Hadgarh Wildlife Sanctuary in Odisha, India includes leopard, tiger, fishing cat, jungle cat, langur, pangolin and hyena.
- Hadgarh Wildlife Sanctuary is also abode of several species of birds and reptiles.
- The conservation area of Hadgarh Wildlife Sanctuary is very popular with the tourists who wish to relish the wild and un-spoilt natural environment.

Source: The Hindu

Q.12) Consider the following statements regarding "Montreal Protocol":

- 1. It is on substances that deplete the Ozone Layer is the landmark multilateral environmental agreement that regulates the production and consumption.
- 2. It was adopted on Earth Summit 1992.

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 Montreal Protocol on Substances that Deplete the Ozone Layer is the landmark multilateral environmental agreement that regulates the production and consumption of nearly 100 man-made chemicals referred to as ozone depleting substances (ODS).

- When released to the atmosphere, those chemicals damage the stratospheric ozone layer, Earth's protective shield that protects humans and the environment from harmful levels of ultraviolet radiation from the sun.
- Adopted on 15 September 1987, the Protocol is to date the only UN treaty ever that has been ratified every country on Earth all 197 UN Member States.

Source: UNEP

Q.13) "Pampas Grass" is found in which of the following Continent?

- a) South America
- b) North America
- c) Australia
- d) Africa

ANS: A

Explanation: Pampas grass, (Cortaderia selloana), tall reedlike grass of the family Poaceae, native to southern South America.

- Pampas grass is named for the Pampas plains, where it is endemic.
- It is cultivated as an ornamental in warm parts of the world and is considered an invasive species in some areas outside its native range, including New Zealand, South Africa, and the southwestern United States.

Source: NCERT

Q.14) The "Environmental Performance Index" report is published by which of the following institution?

- a) Yale University and WEF
- b) WHO
- c) World Bank
- d) UNEP

ANS: A

Explanation: Careful measurement of environmental trends and progress provides a foundation for effective policymaking.

- The 2018 Environmental Performance Index (EPI) ranks 180 countries on 24
 performance indicators across ten issue categories covering environmental health
 and ecosystem vitality.
- These metrics provide a gauge at a national scale of how close countries are to established environmental policy goals.
- The EPI thus offers a scorecard that highlights leaders and laggards in environmental performance, gives insight on best practices, and provides guidance for countries that aspire to be leaders in sustainability.
- The EPI is produced jointly by Yale University and Columbia University in collaboration with the World Economic Forum.

Source: The Hindu

- **Q.15)** Consider the following statements with regarding "Extended Producer Responsibility (EPR)":
- 1. In 2016 Extended Producer Responsibility (EPR) was introduced into the Plastic Waste Management Rules, 2016.
- 2. The E-Waste (Management and Handling) Rules, 2011 introduced the concept of EPR for the first time in 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: C

Explanation: The E-Waste (Management and Handling) Rules, 2011 introduced the concept of EPR for the first time in India which made all the producers of electronic goods responsible for the waste production management.

- The amendment to the e-waste policy, with the new E-Waste (Management) Rules, 2016, set stringent targets for the producers to collect and recycle end-of-life products of their goods.
- The EPR policy also finds place in Plastic Waste Management Rules, 2016 as well as the Solid Waste Management Rules, 2016.

Source: The HINDU

- **Q.16)** The "Green Climate Fund" is a financial mechanism to which of the following Convention?
- a) UNCCD
- b) Rotterdam Convention
- c) UNFCCC
- d) Basel Convention

ANS: C

Explanation: The Green Climate Fund (GCF) was set up in 2010 as a financial mechanism under the United Nations Framework Convention on Climate Change (UNFCCC).

- The GCF mechanism allows funding from developed countries to developing countries to allow them to mitigate climate change and also adapt to disruptions arising from a changing climate.
- The GCF is based in Incheon, South Korea.
- It is governed by a Board of 24 members and supported by a Secretariat.
- The Fund also targets societies that are vulnerable to the effects of climate change, in particular Least Developed Countries (LDCs), Small Island Developing States (SIDS), and African States.

Source: UNFCCC

Q.17) Which of the following conditions is/are essential for "wheat cultivation"?

- 1. Optimum temperature during growing period is around 30°C.
- 2. A frost-free period of about 100 days.
- 3. Light clay or heavy loam soil.

Select the correct answer using the code given below:

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

ANS: C

Explanation: The temperature required for wheat during growing season is around 15.5°C.

- The weather should be warm and moist during the early stage of growth and sunny and dry in the later stages.
- The average temperature of the hottest month should not exceed 20°C.
- A frost-free period of 100 days is usually required but some fast-ripening varieties may mature only in 90 days.
- The soil suitable for wheat is either light clay or heavy loam.
- The world's best wheat comes from the chernozem soils in the 'Black Earth' region of the Ukrainian Steppes, the dark brown soil of North America and also the grey brown podzolic soils of the deciduous forest region.

Source: NCERT

Q.18) "Gwadar port" is often seen in news is located in which of the following country?

- a) Pakistan
- b) Iran
- c) India
- d) Sri Lanka

ANS: A

Explanation: Gwadar is Pakistan's largest infrastructural project since independence.

- After the completion of the first phase of Gwadar port, billions of dollars have been invested in Gwadar and in the next one or two years the investment can cross the figure of trillions.
- China is a major investor in Gwadar, and has spent \$248 million in the first phase of Gwadar port.

Source: The Hindu

Q.19) The "driest place" on earth is located in which of the following deserts?

- a) Atacama
- b) Sahara
- c) Kalahari
- d) Gobi

ANS: A

Explanation: The driest place on Earth is in Antarctica in an area called the Dry Valleys, which have seen no rain for nearly 2 million years.

- There is absolutely no precipitation in this region and it makes up a 4800 square kilometer region of almost no water, ice or snow.
- While some areas of the Atacama along the coast have succulent plants like cacti, the more arid parts of the desert have no vegetation.
- These parched regions do not even have cyanobacteria green photosynthetic microorganisms that live in rocks or under stones in most other deserts.

Source: National Geographic Channel

Q.20) Consider the following statements regarding "Barail Range":

- 1. It is the highest hill range in Assam.
- 2. It is the watershed between the Brahmaputra and Barak rivers.

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

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

ANS: D

Explanation: The Barail is the highest hill range in Assam.

- It includes the North Cachar Hill Reserve Forest (RF) of Cachar district, Barail RF of Cachar and North Cachar Hills districts and the unclassified forests stretching from the Simleng river valley in the west to Laike in the east (in North Cachar Hills district).
- The Barail Range is the watershed between the Brahmaputra and Barak rivers.
- The terrain ranges from flat and undulating in the river valleys, to mountainous with steep slopes.

Source: Savinder Singh

Q.21) Consider the following statements regarding "forest area" in the country:

- 1. In India more than 35 percent of the geographical land covers with forest area.
- 2. According to National Forest Policy 1952, 33% of the geographical area should be forest area.

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: Forest area in the country is far lower than the desired 33 per cent of geographical area, as it was outlined in the National Forest Policy (1952).

It was considered essential for maintenance of the ecological balance.

Source: NCERT

Q.22) Consider the following statements regarding "black soils":

- 1. Black soils also called as regur soils.
- 2. It covers the areas of Punjab, Rajasthan and Maharashtra
- 3. The black soils are made up of extremely coarse material

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: Black soils are black in colour and are also known as regur soils.

- Black soil is ideal for growing cotton and is also known as black cotton soil.
- It is believed that climatic conditions along with the parent rock material are the important factors for the formation of black soil.
- This type of soil is typical of the Deccan trap (Basalt) region spread over northwest Deccan plateau and is made up of lava flows. They cover the plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhattisgarh and extend in the south east direction along the Godavari and the Krishna valleys.
- The black soils are made up of extremely fine i.e. clayey material. They are well-known for their capacity to hold moisture.
- In addition, they are rich in soil nutrients, such as calcium carbonate, magnesium, potash and lime. These soils are generally poor in phosphoric contents.
- They develop deep cracks during hot weather, which helps in the proper aeration of the soil.
- These soils are sticky when wet and difficult to work on unless tilled immediately after the first shower or during the pre-monsoon period.

Source: NCERT

Q.23) Consider the following statements regarding "Himalayan Yew":

- 1. Chemical compound called 'taxol' is extracted from this tree, and it has been successfully used to treat some cancer
- 2. It is abundantly found in North east Himalayas and Western Ghats.

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 Himalayan Yew (Taxus wallachiana) is a medicinal plant found in various parts of Himachal Pradesh and Arunachal Pradesh.

- A chemical compound called 'taxol' is extracted from the bark, needles, twigs and roots of this tree, and it has been successfully used to treat some cancers the drug is now the biggest selling anti-cancer drug in the world.
- The species is under great threat due to over-exploitation. In the last one decade, thousands of yew trees have dried up in various parts of Himachal Pradesh and Arunachal Pradesh.

Source: NCERT

Q.24) Consider the following statements regarding "wheat crop":

- 1. It is a kharif crop.
- 2. It requires 50 to 75 cm rainfall.
- 3. It is the main food crop, in north and north-western part of the country.

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: Wheat is the second most important cereal crop. It is the main food crop, in north and north-western part of the country.

- This rabi crop requires a cool growing season and a bright sunshine at the time of ripening.
- It requires 50 to 75 cm of annual rainfall evenly distributed over the growing season.
- There are two important wheat-growing zones in the country the Ganga-Satluj plains in the northwest and black soil region of the Deccan.
- The major wheat-producing states are Punjab, Haryana, Uttar Pradesh, Bihar, Rajasthan and parts of Madhya Pradesh.

Source: ICSE

Q.25) Consider the following statements regarding "laterite Soils":

- 1. They develop in areas with high temperature and low rainfall.
- 2. They respond well to Fertilizers and manures.

Which of the above statements is/are correct?

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

ANS: B

Explanation: Laterite has been derived from the Latin word 'later' which means brick.

- The laterite soil develops in areas with high temperature and heavy rainfall. This is the result of intense leaching due to heavy rain.
- Humus content of the soil is low because most of the micro-organisms, particularly the decomposers, like bacteria, get destroyed due to high temperature.
- Laterite soils are suitable for cultivation with adequate doses of manures and fertilizers.
- These soils are mainly found in Karnataka, Kerala, Tamil Nadu, Madhya Pradesh, and the hilly areas of Orissa and Assam.
- After adopting appropriate soil conservation techniques particularly in the hilly areas of Karnataka, Kerala and Tamil Nadu, this soil is very useful for growing tea and coffee.
- Red laterite soils in Tamil Nadu, Andhra Pradesh and Kerala are more suitable for crops like cashew nut.

Source: NCERT

Q.26) "The rainfall mostly experienced in winters. It is also known as Subtropical Winter Rain Zone. The vegetation is mostly deciduous type. In summer, short stature, moisture retentive trees especially citrus fruits grow here." Which region is defined in the above lines?

- a) Mediterranean region
- b) Tropical monsoon type
- c) Tropical grasslands
- d) Temperate grasslands

ANS: A

Explanation: The climate is known for warm to hot, dry summers and mild to cool, wet winters. Winter temperatures are usually between 30 and 65 degrees.

- Summer months all average above 50 degrees. The warmest month averages about 72 degrees.
- The cause of this climate is directly related to large bodies of water such as the Mediterranean Sea and ocean currents.
- During the summer, cold currents keep the climate mild and dry. Ocean currents shift as the seasons change.
- During the winter the water that was warmed up all summer moves in and keeps the land warm and often brings rain.
- Plants in Mediterranean climate must be able to survive long dry summers. Evergreens such as Pine and Cypress trees are mixed with deciduous trees such as some Oaks.
- Fruit trees and vines such as grapes, figs, olives, and citrus fruits grow well here. Other plants include what are called "scrub", which include small shrubs, grasses, and herbs.

Source: National Geographic Channel

Q.27) Consider the following statements regarding "Tropical Thorn Forest":

- 1. These occur in areas with rainfall less than 50 cm.
- 2. Important species found here are oak, teak and sal.
- 3. The forests are given an expression of scrub vegetation.

Which of the statements given above is/are correct?

- a) 1 and 2
- b) 1 and 3
- c) 2 and 3
- d) All of the above

ANS: B

Explanation: Tropical thorn forests occur in the areas which receive rainfall less than 50 cm

- These consist of a variety of grasses and shrubs. It includes semi-arid areas of south west Punjab, Haryana, Rajasthan, Gujarat, Madhya Pradesh and Uttar Pradesh.
- In these forests, plants remain leafless for most part of the year and give an expression of scrub vegetation.
- Important species found are babool, ber, and wild date palm, khair, neem, khejri, palas, etc. Tussocky grass grows upto a height of 2 m as the under growth.

Source: ICSE

Q.28) "Parkland Landscape" is related to which type of forests in India?

- a) Evergreen Forest
- b) Tropical Thon Forest
- c) Dry Deciduous Forest
- d) Montane Forest

ANS: C

Explanation: Dry deciduous forest covers vast areas of the country, where rainfall ranges between 70 -100 cm.

- On the wetter margins, it has a transition to the moist deciduous, while on the drier margins to thorn forests.
- These forests are found in rainier areas of the Peninsula and the plains of Uttar Pradesh and Bihar.
- In the higher rainfall regions of the Peninsular plateau and the northern Indian plain, these forests have a **parkland landscape** with open stretches in which teak and other trees interspersed with patches of grass are common.
- As the dry season begins, the trees shed their leaves completely and the forest appears like vast grassland with naked trees all around.
- Tendu, palas, amaltas, bel, khair, axlewood, etc. are the common trees of these forests.
- In the western and southern part of Rajasthan, vegetation cover is very scanty due to low rainfall and overgrazing.

Source: NCERT

Q.29) Consider the following statements regarding "Indian Desert":

- 1. The Indian desest lies towards the western margins of the Aravali Hills.
- 2. In Indian desert Streams appear in winter season.
- 3. Luni is the only large river in Indian Desert region.

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

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

ANS: B

Explanation: The Indian desest lies towards the western margins of the Aravali Hills.

- It is an undulating sandy plain covered with sand dunes.
- This region receives very low rainfall below 150 mm per year. It has arid climate with low vegetation cover.
- Streams appear during the rainy season.
- Soon after they disappear into the sand as they do not have enough water to reach the sea
- Luni is the only large river in this region.

Source: NCERT

Q.30) Consider the following statements regarding "Earthquakes":

- 1. The L (surface or long) waves travel along the surface and are recorded before Primary and Secondary waves.
- 2. Shadow zone of Primary waves is wider than Secondary waves.

Which of the above statements is/are correct?

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

ANS: D

Explanation: Earthquakes produce three types of seismic waves: primary waves, secondary waves, and surface waves.

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Each type moves through materials differently. In addition, the waves can reflect, or bounce, off boundaries between different layers.

The waves can also bend as they pass from one layer into another. Scientists learn about Earth's layers by studying the paths and speeds of seismic waves traveling through Earth.

- Primary Waves: The fastest seismic waves are called primary waves, or P waves. These waves are the first to reach any particular location after an earthquake occurs.
- Secondary Waves: Secondary waves are the second seismic waves to arrive at any particular location after an earthquake, though they start at the same time as primary waves. Secondary waves travel through Earth's interior at about half the speed of primary waves. Secondary waves are also called S waves. As they pass through a material, the material's particles are shaken up and down or from side to side. Secondary waves rock small buildings back and forth as they pass.
- Surface Waves: Surface waves are seismic waves that move along Earth's surface, not through its interior. They make the ground roll up and down or shake from side to side. Surface waves cause the largest ground movements and the most damage. Surface waves travel more slowly than the other types of seismic waves.

Source: NCERT

Q.31) Which of the following is/are **NOT** correctly matched?

Mechanism/Process Rock

Sandstone 1. Mechanically formed sedimentary rock 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: C

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.

Source: NCERT

Q.32) 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

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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.

Source: NCERT

Q.33) 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 **NOT** correct?

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

ANS: D

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.
- 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.

Source: National Geographic Channel

Q.34) 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.

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Source: Majid Hussain

Q.35) 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.

Source: NCERT

Q.36) 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

Reservoir	Volume (Million Cubic km)	Percentage of the Total
Oceans	1,370	97.25
Ice Caps	29	2.05
and Glaciers 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

Source: NCERT

Q.37) 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.

Source: NOAA

Q.38) 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 correct?

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

ANS: D

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.

Source: NOAA

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

Slash and burn agriculture Region

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. Jhuming in North eastern states of India, Milpa in Central America and Mexico and Ladang in Indonesia and Malaysia.

Source: NCERT

Q.40) 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.

Source: NCERT

Q.41) Which of the following river (s) is/are antecedent origin?

- 1. Alaknanda
- 2. Gandak

3. Kosi

Select the correct answer using the codes given below:

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

ANS: D

Explanation: The drainage pattern was already present before a period of uplift and folding that formed the present structure.

- As the uplift took place, the rivers were able to cut down at approximately the same rate and so maintain their courses.
- This process is called antecedence and the drainage system thus developed is called antecedent drainage.
- Many of the Himalayan Rivers have antecedent origin i.e. these rivers existed even before the Himalayan ranges were uplifted.
- These rivers originate in the Tibetan side beyond the mountain ranges of Himalayas.
 The Indus, Satluj, Alaknanda, Gandak, Kosi, Brahmaputra all has an antecedent origin.
- Since these rivers are antecedent, they run transverse to the mountain ranges cutting deep V-shaped, steep-sided valleys (deep gorges).

Source: NCERT & ICSE

Q.42) Which of the following is/are NOT correctly matched?

Pass : Significance

1. Zoji la (Pass) : Connects Srinagar to Leh

2. Banihal Pass : Satluj River flows through this Pass3. Nathu la (Pass) : Chumbi River flows through this Pass

Select the correct answer using the codes given below:

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

ANS: B

Explanation: Zoji La: Zoji La is a high mountain pass located in the Kargil district of Ladakh.

- The **pass links Leh and Srinagar** and provides an important link between Union Territories of Ladakh and Kashmir.
- In 2018, the Zojila tunnel project was launched.
- The tunnel is Asia's longest and strategic bi-directional tunnel, which will provide all-weather connectivity between Srinagar, Kargil and Leh.

Banihal Pass: It is in Jammu & Kashmir. The National Highway No.1A that links Srinagar to Jammu goes through it.

NOTE: Satluj River flows through Shipki La (Pass).

Nathu La: It is in Sikkim. It gives way to Tibet from Darjeeling and Chumbi Valley. The **Chumbi River flows through this pass**.

Source: Oriental Black Swan

Q.43) The Gersoppa falls is located in which of the following state?

a) Karnataka

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

ANS: A

Explanation: Jog Falls, also called Gersoppa Falls, cataract of the Sharavati River, western Karnataka state, southwestern India. The Jog Falls are located 18 miles (29 km) upstream from Honavar at the river's mouth on the Arabian Sea.

Source: Majid Singh

Q.44) Consider the following statements regarding the Dharwar Rock System:

- 1. These are the oldest sedimentary rocks.
- 2. The Aravali mountain range has been made with these rocks.

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: Dharwar system is later than the Archean system but older than the other systems.

- The Dharwar period of rock formation has been largely fixed from 2500 million years ago to 1800 million years ago.
- Dharwar Rock System is special because it is the **first metamorphic sedimentary** rocks in India.
- They are named Dharwar system because they were first studied in Dharwar region of Karnataka.
- But they are also found in Aravallis, Tamil Nadu, Chota-nagpur plateau, Meghalaya, Delhi, and the Himalayas region.
- The Dharwar rocks are rich in iron ore, manganese, lead, zinc, gold, silver etc.

Source: NCERT

Q.45) Which of the following is/are **NOT** correctly matched?

River : Adjacent Town

1. Yamuna River : Etawah

2. Musi River : Bhadrachalam

3. Kaveri River : Chennai

Select the correct answer using the codes given below:

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

ANS: C

Explanation: Rivers and their adjacent towns.

Tamil Nadu

CITY	RIVER
Chennai	Cooum, Adyar
Coimbatore	Noyyal
Erode	Kaveri
Madurai	Vaigai
Thiruchirapalli	Kaveri
Tirunelveli	Thamirabarani

Telangana

CITY	RIVER
Hyderabad	Musi

Uttar Pradesh

CITY	RIVER
Agra	Yamuna
Allahabad	Ganges
Auraiya	Yamuna
Ayodhya	Saryu
Chakeri	Ganges
Etawah	Yamuna
Farrukhaband	Ganges
Fatehgarh	Ganges
Gorakhpur	Rapti

Source: Majid Singh

Q.46) Which of the following Soils is/are Zonal Soil?

- 1. Alluvial Soils
- 2. Red Soils
- 3. Black Soils

Select the correct answer using the codes given below:

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

ANS: C

Explanation: The Soils can be classified on the basis of dominating factors:

Zonal Soil – These soils occur in broad geographical areas or zones.

- They are influenced more by the climate and vegetation of the area rather than the rock-type.
- They are mature, as a result of stable conditions over a long period of time.
- For example red soils, black soils, laterite soils, desert soils etc.

Azonal Soil – It is that soil which has been developed by the process of deposition by the agents of erosion.

- It means that it has been made by the fine rocky particles transported from the faroff regions.
- These are immature soils and lack well-developed soil profiles.
- This may be due to the non-availability of sufficient time for them to develop fully or due to the location on very steep slopes which prohibits profile development.
- For Example alluvial and loess soils.

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Intrazonal Soil - These soils occur within other zonal soils.

- It is a well-developed soil reflecting the influence of some local factor of relief, parent material, or age rather than of climate and vegetation.
- For example, calcareous soil (soils which develop from limestone), peat soil.

Source: Khullar

Q.47) Which of the following state (s)/place (s) of India is/are come (s) under **Seismic Zone V**?

- 1. Entire North eastern India
- 2. Delhi-NCR region
- 3. Andaman & Nicobar Islands

Select the correct answer using the codes given below:

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

ANS: B

Explanation: The Bureau of Indian Standards has classified regions in India into four seismic zones on the basis of historical seismic activity.

- These are zones II, III, IV and V. Among these, Zone V is the most seismically active region and zone II is the least active.
- According to Modified Mercalli scale, the seismic zone intensity is/are classified as zone II (low intensity zone), zone III (moderate intensity zone), zone IV (severe intensity zone) and zone V (very severe intensity zone).

According to the Ministry of Earth Sciences:

- Zone V includes entire northeastern India, parts of Jammu and Kashmir and Himachal Pradesh, Uttaranchal, Rann of Kutch in Gujarat, parts of North Bihar and Andaman & Nicobar Islands.
- **Zone-IV** includes the remaining parts of Jammu and Kashmir and Himachal Pradesh. **Delhi-NCR region**, Sikkim, northern parts of Uttar Pradesh, Bihar and West Bengal, parts of Gujarat and small portions of Maharashtra near the west coast and Rajasthan also fall in this zone.
- Regions under zone III are Goa, Kerala, Lakshadweep, and remaining parts of Uttar Pradesh, Gujarat and West Bengal, parts of Punjab, Rajasthan, Madhya Pradesh, Bihar, Jharkhand, Chhattisgarh, Maharashtra, Orissa, Andhra Pradesh, Tamilnadu and Karnataka.
- The remaining portion of the country falls under zone II.

Source: Indian Express

Q.48) The **Beaufort Gyre** (Sea water current), sometimes seen in news is related to which of the following?

- a) Arctic Ocean
- b) Pacific Ocean
- c) Indian Ocean
- d) None

ANS: A

Explanation: According to the scientists, including those from NASA's Jet Propulsion Laboratory in the US, a sea-water current called the Beaufort Gyre keeps the polar environment in balance by storing fresh water near the surface of the Arctic Ocean.

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- Wind blows the gyre in a clockwise direction around the western Arctic Ocean, north of Canada, where it naturally collects fresh water from the melting of glaciers, and river runoff.
- The researchers said this fresh water is important in the Arctic since it floats above the warmer, salty water, and helps protect the sea ice from melting in turn regulating the Earth's climate.
- As the fresh water is slowly released by the gyre into the Atlantic Ocean over a
 period of decades, it allows the Atlantic Ocean currents to carry it away in small
 amounts.
- However, since the 1990s, the researchers said, the gyre has accumulated a large amount of fresh water 8,000 cubic kilometres or almost twice the volume of Lake Michigan in the US.
- According to the new study, the cause of this gain in freshwater concentration is the loss of sea ice in summer and autumn.
- Due to this decades-long decline of the Arctic's summertime ice cover, the Beaufort Gyre is more exposed to the wind, which has spun the gyre faster, trapping the fresh water in its current.

Source: The Hindu

Q.49) Consider the following statements regarding the **Atlantic Meridional Overturning** Circulation (AMOC):

- 1. It is a large system of ocean currents that carry warm water from the tropics northwards into the North Atlantic.
- 2. Its circulation effects the location of droughts and frequency of hurricanes.

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 Atlantic Meridional Overturning Circulation (AMOC) is a large system of ocean currents that carry warm water from the tropics northwards into the North Atlantic.

- The AMOC is a large system of ocean currents, like a conveyor belt, driven by differences in temperature and salt content the water's density.
- As warm water flows northwards it cools and some evaporation occurs, which increases the amount of salt.
- Low temperature and a high salt content make the water denser, and this dense water sinks deep into the ocean.
- The cold, dense water slowly spreads southwards, several kilometres below the surface (As that water cools and sinks it drives a slow circulation of the oceans that is critical to global climate, affecting the location of droughts and frequency of hurricanes).
- Eventually, it gets pulled back to the surface and warms in a process called "upwelling" and the circulation is complete.
- This global process makes sure that the world's oceans are continually mixed, and that heat and energy are distributed around the earth. This, in turn, contributes to the climate we experience today.
- As that water cools and sinks it drives a slow circulation of the oceans that is
 critical to global climate, affecting the location of droughts and frequency of
 hurricanes.

• It also stores heat-trapping carbon dioxide deep in the ocean.

Source: The Hindu

Q.50) Which of the following Ocean current is called as "Black Stream"?

- a) Gulf Stream Current
- b) Labrador Current
- c) Kuroshio Current
- d) Alaska Current

ANS: C

Explanation: THE KUROSHIO IS a warm northeasterly ocean current off the coast of Japan. This current is also called the gulf stream of the Pacific or Japan Current.

- Kuroshio means "the black stream" in Japanese, named after the deep ultramarine color of the high salinity water, which is found flowing north of the current's axis.
- The system includes the following branches: Kuroshio, up to 35 degrees N; Kuroshio extension, extending eastward into two branches up to 160 degrees E longitude;
- North Pacific current, a further eastward continuation, which throws branches to the south as far as 150 degrees W;
- Tsushima current, branches of the main current that run into the Japan Sea, along the west coast of JAPAN;
- And Kuroshio counter-current, the large swirl or eddy on the east and south east of the Kuroshio.

Source: ICSE

Q.51) Consider the following statements regarding "Soils in India":

- 1. All India Soil Survey Committee of 1953 was divided the Indian soils into eight major groups.
- 2. Black soils are mainly found in Maharashtra, Madhya Pradesh, parts of Karnataka, Andhra Pradesh, Gujarat and Tamil Nadu.

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 Indian Council of Agricultural Research (ICAR) set up an All India Soil Survey Committee in 1953 which divided the Indian soils into eight major groups.

They are:

- Alluvial soils
- Black soils
- Red soils,
- Laterite and Lateritic soils
- Forest and Mountain soils
- Arid and Desert soils
- Saline and Alkaline soils
- Peaty and Marshy soils

The black soils are also called regur (from the Telugu word Reguda) and black cotton soils because cotton is the most important crop grown on these soils.

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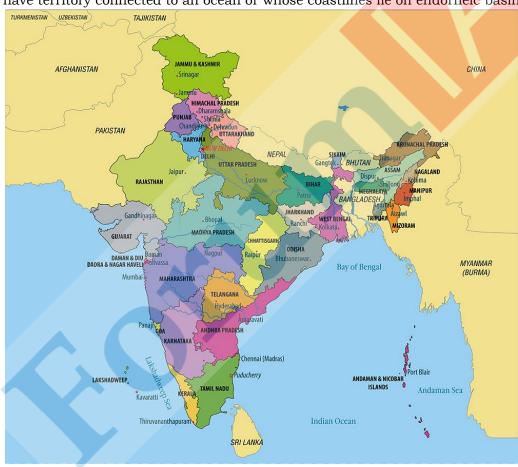
- Several theories have been put forward regarding the origin of this group of soils but most pedologists believe that these soils have been formed due to the solidification of lava spread over large areas during volcanic activity in the Deccan Plateau, thousands of years ago.
- These soils are mainly found in Maharashtra, Madhya Pradesh, parts of Karnataka, Andhra Pradesh, Gujarat and Tamil Nadu.

Source: India-agronet

Q.52) Which of the following state is a landlocked state?

- a) Telangana
- b) Kerala
- c) Gujarat
- d) Andhra Pradesh

ANS: A **Explanation:** A landlocked country or landlocked state is a sovereign state that does not have territory connected to an ocean or whose coastlines lie on endorheic basins.



Source: NCERT

Q.53) Consider the following statements regarding the "cotton cultivation in India":

- 1. It can be grown on all type of soil having pH ranges in-between 6 and 8.
- 2. Sandy, saline or water logged soils are suitable for cotton cultivation. Which of the statements given above is/are correct?
- a) 1 only
- b) 2 only
- c) Both 1 and 2

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d) Neither 1 nor 2

ANS: A

Explanation: Cotton is one of the most important fibre and cash crop of India as well as of entire world.

- It plays a dominant role in the industrial and agricultural economy of the country.
- It provides the basic raw material to cotton textile industry.
- In India it provides direct livelihood to 6 million farmers and about 40-50 million people are employed in cotton trade and its processing.
- Cotton is a water thirsty crop and around 6% of the water for irrigation in is used for its cultivation.
- In India, it is grown on a large scale in Maharashtra, Gujarat, Karnataka, Madhya Pradesh, Punjab, Rajasthan, Haryana, Tamil Nadu and Uttar Pradesh.
- Gujarat is the largest producer of cotton followed by Maharashtra and Punjab.
- It is vital kharif crop of Punjab. The average lint yield of the State is around 697 kg per hectare.
- It can be grown on all type of soil having pH ranges in-between 6 and 8. Deep, friable, well drained and fertile soil are good for crop cultivation.
- Sandy, saline or water logged soils are not suitable for cotton cultivation. The depth of soil should not be less than 20-25 cm.

Source: Majid Singh

Q.54) Consider the following statements regarding the "chick pea or Bengal gram":

- 1. It is used for human consumption as well as for feeding to animals.
- 2. India ranks first in the world in respect of production and acreage of chick pea. 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: Gram commonly known as chick pea or Bengal gram is the most important pulse crop of India.

- It is used for human consumption as well as for feeding to animals.
- Fresh green leaves are used as vegetable while straw of chickpea is an excellent fodder for cattle. The grains are also used as vegetable.
- India, Pakistan, Ethiopia, Burma and Turkey are main gram growing countries.
- India ranks first in the world in respect of production and acreage followed by Pakistan.
- In India, Madhya Pradesh, Rajasthan, Uttar Pradesh, Haryana, Maharashtra and Punjab are major gram producing states.
- On basis of size, color and shape of seeds, gram is divided into two group 1) Desi or brown gram 2) Kabuli or white gram. Yield potential of kabuli is poor as compared to Desi gram.

Source: Agrinet

Q.55) Which of the following river is NOT flows through Andhra Pradesh?

- a) Godavari
- b) Pennar
- c) Cauvery

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d) Krishna

ANS: C

Explanation: Andhra Pradesh is a riverine state with 40 major, medium and minor rivers.

- Godavari, Krishna, Vamsadhara, Nagavali and Pennar are major interstate rivers.
- Godavari River enters at Bhurgampad Mandal of state of Andhra Pradesh and flows for a distance of around 250 kms eastward before joining Bay of Bengal.
- The River Tungabhadra is a tributary of Krishna forms boundary between Karnataka and Andhra Pradesh for the length of 58 Kms, from where it flows past Rajolibanda anicut and then the river Tungabhadra forms border between the States of Telangana and Andhra Pradesh until its confluence with main Krishna at Srisailam.
- The River Krishna then forms border between the states of Telangana and Andhra Pradesh from Srisailam to Pulichintala for about 290 kms flows passing through NSP Dam.
- The river then flows for a length of 105 kms through Prakasam barrage at Vijayawada and joins Bay of Bengal after traversing about 90 kms. Thus the total length of 485 km of Krishna River flows through A.P state.
- The total length of the Pennar river from the head to its outfall into the Bay of Bengal in Nellore district, is 597 Km. (61 km in Karnataka and 536 km in Andhra Pradesh).
- Pennar River originates in south west region of Andhra Pradesh with small catchment area of Karnataka and flows eastward before joining Bay of Bengal.

Source: AP Government

Q.56) Consider the following statements regarding the "Peninsular Drainage System":

- 1. Peninsular Drainage System is older than Himalayan drainage system.
- 2. The Western Ghats running close to the western coast act as the water divide between the major Peninsular Rivers.

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 Peninsular drainage system is older than the Himalayan one. This is evident from the broad, largely-graded shallow valleys, and the maturity of the rivers.

- The Western Ghats running close to the western coast act as the water divide between the major Peninsular Rivers, discharging their water in the Bay of Bengal and as small rivulets joining the Arabian Sea.
- Most of the major Peninsular Rivers except Narmada and Tapi flow from west to east. The Chambal, the Sind, the Betwa, the Ken, the Son, originating in the northern part of the Peninsula belong to the Ganga river system.
- The other major river systems of the peninsular drainage are the Mahanadi the Godavari, the Krishna and the Kaveri.
- Peninsular rivers are characterized by fixed course, absence of meanders and nonperennial flow of water.

Source: NCERT

Q.57) Which of the following United Nations agency launched the "2 Billion Kilometers to Safety campaign"?

- a) UNEP
- b) UNESCO
- c) UNDP
- d) UNHCR

ANS: D

Explanation: UNHCR, the UN Refugee Agency, announced a new global campaign calling on people all over the world to cover the distance travelled by refugees each year.

- The 2 Billion Kilometres to Safety campaign will encourage people to support refugees by championing individual acts of solidarity. These acts, when taken together, acknowledge the resilience and strength of refugees.
- UNHCR traced the journeys of refugees around the world and calculated that collectively, people forced to flee travel approximately two billion kilometres every year to reach the first point of safety.
- In 2016, Syrian refugees travelled more than 240 kilometres to reach Turkey. South Sudanese refugees travelled more than 640 kilometres to reach Kenya and Rohingya refugees in Myanmar travelled approximately 80 kilometres to reach Bangladesh.
- The 2 Billion Kilometres to Safety campaign invites people to act in solidarity and run, walk or cycle to achieve a cumulative total of two billion kilometres.

Source: The Hindu

Q.58) Recently the union cabinet approved a proposal to set up a **major port at Vadhavan** is located in which of the following state?

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

ANS: B

Explanation: The Union Cabinet approved a proposal to set up a major port at Vadhavan near Dahanu in Maharashtra with a total cost of ₹65,545 crore, including about ₹14,500 crore of GST.

This is part of the government's plan to develop infrastructure projects with a cost of ₹100-lakh crore over the next five years.

Source: The Hindu

Q.59) Consider the following statements regarding "Agriculture Census":

- 1. It is conducted on the similar line of population census.
- 2. It was first conducted in 1921.

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: Agriculture census is conducted at an interval of every five years by the Department of Agriculture, Cooperation and Farmers Welfare.

- Data on structural aspects of operational holdings in the country is collected through the census.
- The first census was conducted with reference year 1970-71.

Source: The Hindu

Q.60) Consider the following statements regarding "Mahila Kisan Sashaktikaran Pariyojana (MKSP)":

- 1. It is exclusively for women farmers.
- 2. It is implemented by ministry of agriculture and farmers welfare.
- 3. It is a sub-component of Rashtriya Krishi Vikas Yozana.

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: Mahila Kisan Sashaktikaran Pariyojana (MKSP) is Implemented by Ministry of Rural Development, it is a programme exclusively for women farmers.

- It is a sub-component of Deendayal Antyodaya Yojana-National Rural Livelihood Mission.
- It aims to empower women by enhancing their participation in agriculture and to create sustainable livelihood opportunities for them.
- Up to 60% (90% for North Eastern States) of the funding support for such projects is provided by the government.
- It is in line with the provisions of the National Policy for Farmers (2007).

Source: PIB

Q.61) Arrange the following water reservoirs on Earth's surface in ascending order:

- 1. Ground Water
- 2. Atmosphere
- 3. Soil Moisture
- 4. Biosphere

Select the correct answer using the code given below:

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

ANS: D

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. Nearly 59 per cent of the water that falls on land returns to the atmosphere through evaporation from over the oceans as well as from other places. The remainder runs-off on the surface, infiltrates into the ground or a part of it becomes glacier.

Table 13.1: Water on the Earth's surface

Reservoir	Volume (Million Cubic km)	Percentage of the Total
Oceans	1,370	97.25
Ice Caps	29	2.05
and Glaciers 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

Source: NCERT

Q.62) Consider the following statements regarding the **Oceans**:

- 1. Around 50-80% of the oxygen production on Earth comes from the ocean.
- 2. The majority of this production is from oceanic plankton.

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: Scientists estimate that 50-80% of the oxygen production on Earth comes from the ocean.

- The majority of this production is from oceanic plankton drifting plants, algae, and some bacteria that can photosynthesize.
- One particular species, Prochlorococcus, is the smallest photosynthetic organism on Earth.
- But this little bacterium produces up to 20% of the oxygen in our entire biosphere.
- That's a higher percentage than all of the tropical rainforests on land combined.
- It's important to remember that although the ocean produces at least 50% of the oxygen on Earth, roughly the same amount is consumed by marine life.
- Like animals on land, marine animals use oxygen to breathe, and both plants and animals use oxygen for cellular respiration.
- Oxygen is also consumed when dead plants and animals decay in the ocean.

Source: Ncert

Q.63) World's largest dead zone is located in which of the following sea?

- a) Arabian Sea
- b) Gulf of Mexico
- c) Aral Sea
- d) Bay of Bengal

ANS: A

Explanation: A massive "dead zone" in the Arabian Sea is the largest in the world, a new study reveals.

Dead zones are oxygen-starved ocean regions where few organisms can survive.

- They emerge in ocean depths ranging from 650 to 2,600 feet (200 to 800 meters), when influxes of chemical nutrients typically from human pollution spur algae growth, which sucks up oxygen.
- A significant oxygen-deprived region has bloomed in the Gulf of Oman for decades, but it was last surveyed in the 1990s.
- The Gulf of Oman, which spans 70,000 square miles (181,000 square kilometers), connects the Arabian Sea to the Persian Gulf.
- It has long been off-limits to researchers because of the region's political instability and the threat of ocean piracy.
- For eight months, these AUVs gathered data on oxygen levels, and then transmitted their readings to the scientists via satellite.
- Researchers then used computer models to visualize the ocean currents that circulated oxygen around the gulf from the Arabian Sea.
- They found that the oxygen-poor region had grown dramatically, and the scant oxygen formerly held in the depleted zone based on data from the 1990s had drained significantly, leaving bigger areas with no oxygen at all.

Source: The Hindu

Q.64) The highest tides in the world occur in the **Bay of Funday** is located in which of the following country?

- a) United States of America
- b) Chile
- c) Argentina
- d) None

ANS: D

Explanation: The highest tides in the world occur in the Bay of Fundy in Nova Scotia, Canada.

- The tidal bulge is 15 16 m. Because there are two high tides and two low tides every day (roughly a 24 hour period); then a tide must come in within about a six hour period.
- As a rough estimate, the tide rises about 240 cm an hour (1,440 cm divided by 6 hours).

Source: Ncert

Q.65) Arrange the following **dams/reservoirs** from north to south direction:

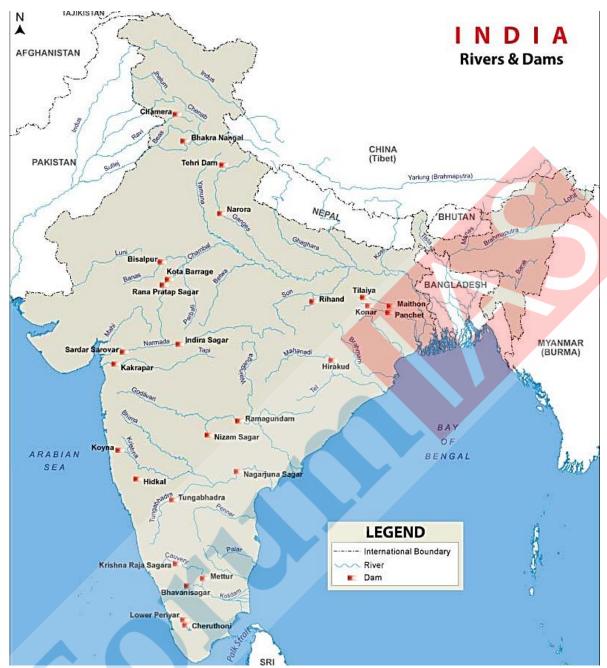
- 1. Mettur dam
- 2. Nizam sagar
- 3. Nagarjuna sagar
- 4. Indira sagar

Select the correct answer using the code given below:

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

ANS: A

Explanation:



Source: Maps of India

Q.66) Arrange the following rivers flow through Arunachal Pradesh from east to west:

- 1. Subansiri River
- 2. Kameng River
- 3. Lohit River
- 4. Dibang River

Select the correct answer using the code given below:

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

ANS: D

Explanation:



Source: Maps of India

Q.67) Which of the following state has the unique distinction of having three (3) biosphere reserves of UNESCO (MAB) programme?

- a) Tamil Nadu
- b) Assam
- c) Madhya Pradesh
- d) Kerala

ANS: A

Explanation: Tamil Nadu has been a pioneer State in Protected Area management and development of forest resources and wildlife.

- The total area under the protected area management is 7,072.95 sq. km. which comes to 30.92% of the State's Forest area.
- The Protected Areas in the State includes 5 National parks, 15 Wildlife sanctuaries, 15 bird sanctuaries and 2 conservation reserves besides 4 Tiger Reserves viz. Anamalai, Kalakkad Mundanthurai, Mudumalai and Sathyamangalam.
- These Protected Areas have been established under Wildlife (Protection) Act, 1972.

Further Tamil Nadu also has the distinction of having 3 Biosphere Reserves viz. Nilgiris, Gulf of Mannar and Agasthyamalai, which are internationally acclaimed for their rich and unique biodiversity.

Source: Envis

Q.68) The logo of which of the following famous organizations is a Giant Panda?

- a) World Resources Institute (WRI)
- b) World Wildlife Fund or World Wide Fund for Nature (WWF)
- c) IUCN
- d) United Nations Environment Programme (UNEP)

ANS: B

Explanation: The inspiration came from Chi-Chi: a giant panda that had arrived at the London Zoo in the year 1961, when WWF was being created.

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Aware of the need for a strong, recognizable symbol that would overcome all language barriers, WWF's founders agreed that the big, furry animal with her appealing, black-patched eyes would make an excellent logo.

Source: Ncert

Q.69) The "Bridgestone World Solar Challenge (BWSC)" is often seen in news is conducted in which of the following country?

- a) Austria
- b) France
- c) Australia
- d) Japan

ANS: C

Explanation: For over 30 years, the Bridgestone World Solar Challenge has welcomed the greatest minds from around the world to Australia to push the limits of technological innovation and travel the outback in a vehicle powered only by the energy of the sun.

- Traversing 3,000km from Darwin to Adelaide, teams comprise of tertiary and secondary students from over 30 countries.
- These students and their support team have achieved greatness by engineering and building a vehicle with their own hands and powering it across some of the world's most challenging landscape.
- In 2017, the Bridgestone World Solar Challenge celebrated its 30th Anniversary. The 2021 competition marks the 16th journey from the Top End to Adelaide.
- Based on the original notion that a 1000W car would complete the journey in 50 hours, solar cars are allowed a nominal 5kW hours of stored energy, which is 10% of that theoretical figure.
- All other energy must come from the sun or be recovered from the kinetic energy of the vehicle. These are arguably the most efficient electric vehicles.

Source: The Hindu

Q.70) Which of the following institution (s) is/are announced/launched the "Clean Air Initiative"?

- 1. Climate and Clean Air Coalition.
- 2. World Health Organization (WHO).
- 3. United Nations Development Programme (UNDP).

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: Ahead of the upcoming 2019 Climate Action Summit, the United Nations, the World Health Organization (WHO), the United Nations Environment Programme (UN Environment) and Climate and Clean Air Coalition announced today the "Clean Air Initiative", calling on governments at all levels to join the Initiative.

- The "Clean Air Initiative" calls on national and sub national governments to commit to achieving air quality that is safe for citizens, and to align climate change and air pollution policies by 2030.
- According to WHO, each year, air pollution causes 7 million premature deaths, of which 600,000 are children.

 According to the World Bank, air pollution costs the global economy an estimated US\$5.11 trillion in welfare losses and in the 15 countries with the highest greenhouse gas emissions, health impacts of air pollution are estimated to cost more than 4 per cent of GDP.

• Meeting the Paris Agreement on climate change, however, could save over 1 million lives a year by 2050 and yield health benefits worth an estimated US\$54.1 trillion – about twice the costs of mitigation – through reduced air pollution alone.



Environment

Q.1) Consider the following statements regarding "Young Champions of the Earth" award:

- 1. Individuals under 15 years of age are eligible to contest.
- 2. Award is given by UNDP.

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: Young Champions of the Earth aims to celebrate and support individuals aged between 18 and 30 who have outstanding potential to create a positive environmental impact.

- In 2020, seven young people selected from every global region will be named Young Champions of the Earth.
- These winners receive seed funding, intensive training and tailored mentoring to bring their big environmental ideas to life.
- We're looking for artists, scientists, economists, communicators and entrepreneurs from all walks of life who have big, bold ideas for the environment, for humanity, for a greener future.
- Shortlisted finalists from every region will be selected following an open call for applications.
- A Global Jury will then choose seven winners. Each winner is expected to implement their big idea and keep UNEP updated on their progress by producing videos and blogs that we will share on our website.
- Winners will also be given funding to support their communication efforts throughout the year, so that they can produce high-quality materials to share with our audiences.

Source: UNEP

- **Q.2)** Which of the following is/are categories (performance indicators) of **climate change performance index**?
- 1. GHG emissions
- 2. Renewable energy
- 3. Energy use
- 4. Sustainable development

Select the correct answer using the code given below:

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

ANS: A

Explanation: Climate Change Performance Index (CCPI) is published by Germanwatch, Climate Action Network International and the NewClimate Institute, annually.

It aims to enhance transparency in international climate politics and enables comparison of climate protection efforts and progress made by individual countries.

The ranking results are defined by a country's aggregated performance in 14 indicators within the four categories:

- GHG Emission- 40%
- Renewable Energy 20%
- Energy Use- 20%
- Climate Policy- 20%

Source: The Hindu

Q.3) Consider the following statements regarding Carbon Pricing Leadership Coalition (CPLC):

- 1. CPLC is an initiative of World Bank that catalyzes action towards the successful implementation of carbon pricing around the world.
- 2. From India, Delhi Metro Rail Corporation and Indian Railways are the government level partners.

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 Carbon Pricing Leadership Coalition (CPLC) is a voluntary initiative that catalyzes action towards the successful implementation of carbon pricing around the world.

- The CPLC brings together leaders from government, business, civil society and academia to support carbon pricing, share experiences and enhance the global, regional, national and sub-national understanding of carbon pricing implementation.
- The CPLC Secretariat is administered by The World Bank Group. From India, Delhi Metro Rail Corporation and Indian Railways are the government level partners.

Source: The Hindu

- Q.4) Which of the following national parks is/are located in the Kerala?
- 1. Eravikulam National Park
- 2. Silent Valley National Park
- 3. Pampadum Shola National Park
- 4. Bandipur National Park

Choose the correct code from below given options:

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

ANS: A

Explanation: National park is an area which is strictly reserved for the betterment of wildlife & biodiversity.

- Activities like developmental, forestry, poaching, hunting and grazing on cultivation are not permitted.
- Even private ownership rights are not allowed in these parks. Their boundaries are well marked and restricted.

There are 6 national parks in Kerala and are as follows:

- Anamudi Shola National Park which is located in Idukki.
- Eravikulam National Park in Munnar
- Mathikettan Shola National Park at Udumbanchola taluk in Idukki.
- Pampadum Shola National Park at Marayoor Village in Idukki.
- Periyar National Park in Thekkady.
- Silent Valley National Park in Palakkad

Source: The Envis

Q.5) Consider the following statements regarding "Tiger Reserves" in India:

- 1. At present in India 50 tiger reserves spread out in 18 tiger range states.
- 2. The tiger reserves are constituted on core/buffer areas which don't have any legal status.
- 3. The buffer areas consist of forest land only.

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: Statement 1 is correct: The Government of India has launched the 'Project Tiger' in 1973. From 9 tiger reserves since its formative years, the Project Tiger coverage has increased to 50 at present, spread out in 18 of our tiger range states.

Statement 2 is incorrect: The tiger reserves are constituted on a core/buffer strategy. The core areas have the legal status of a national park or a sanctuary.

Statement 3 is incorrect: The buffer or peripheral areas are a mix of forest and non-forest land, managed as a multiple use area. The Project Tiger aims to foster an exclusive tiger agenda in the core areas of tiger reserves, with an inclusive people oriented agenda in the buffer.

Source: THE MOEFCC

Q.6) Consider the following statements regarding "Keystone Species":

- 1. Keystone species is an organism that helps hold the system together.
- 2. Predators, ecosystem engineers and mutualists are three types of keystone Species.

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: Keystone Species.

Statement 1 is correct: In any arrangement or community, the "keystone" is considered one of the most vital parts. In a marine ecosystem, or any type of ecosystem, a keystone species is an organism that helps hold the system together.

Statement 2 is correct: There are three types of keystone species cited by many scientists: predators, ecosystem engineers, and mutualists.

- Predators help control the populations of prey species, which in turn affects the quantity of plants and animals further along the food web.
- An ecosystem engineer is an organism that creates, changes, or destroys a habitat.

• When two or more species in an ecosystem interact for each other's benefit, they are called mutualists.

Source: National Geographic Channel

Q.7) "Lawalong Wildlife Sanctuary" is located in which of the following state?

- a) Kerala
- b) Arunachal Pradesh
- c) Jharkhand
- d) Chhattisgarh

ANS: C

Explanation: Lawalong Wildlife Sanctuary was set up in 1978 to the southwest of Hazaribagh in the Chhotanagpur plateau area.

- It covers an area of about 211 sq. kms.
- The terrain is undulating and dissected by rivers and streams.
- Located in the south-west part of Chatra district, Lawalong sanctuary has a rich wildlife, including tiger and bison.
- Different spices of birds and serpents are also found here.
- A variety of wildlife including Tiger, Panther, Hyena, Spotted Deer, Wild Boar, Nilgai are available in this sanctuary.

Source: The HINDU

Q.8) Which of the following is/are characteristics of "Persistent organic pollutants (POPs)"?

- 1. Highly toxic to humans and wildlife.
- 2. Last for many years in the environment.
- 3. Long-range transport.

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: Persistent organic pollutants (POPs) are a group of chemicals possessing the following characteristics:

- They are highly toxic to humans and wildlife (harmfulness);
- They can last for many years in the environment before degrading into less dangerous forms (persistence);
- They bio-accumulate in the food chain (bio-accumulation);
- They are transported over large distances through air and water and can be found worldwide (long-range transport).

Source: Rotterdam Convention

Q.9) "Nitrogen fixation" on earth is/are accomplished by which of the following ways?

- 1. Organic matter decomposition.
- 2. Thunder and lightning.
- 3. The Haber-Bosch process.

Select the correct answer using the code given below:

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

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

ANS: A

Explanation: Nitrogen is a critical limiting element for plant growth and production.

- It is a major component of chlorophyll, the most important pigment needed for photosynthesis, as well as amino acids, the key building blocks of proteins.
- It is also found in other important bio-molecules, such as ATP and nucleic acids.
- Even though it is one of the most abundant elements (predominately in the form of nitrogen gas (N2) in the Earth's atmosphere), plants can only utilize reduced forms of this element.

Plants acquire these forms of "combined" nitrogen by:

- the addition of ammonia and/or nitrate fertilizer (from the Haber-Bosch process) or manure to soil,
- the release of these compounds during organic matter decomposition,
- the conversion of atmospheric nitrogen into the compounds by natural processes, such as lightning, and
- biological nitrogen fixation.

Source: National Geographic Channel

Q.10) "Askot Wildlife Sanctuary" is located in which of the following state?

- a) Himachal Pradesh
- b) Gujarat
- c) Chhattisgarh
- d) Uttarakhand

ANS: D

Explanation: Himalayan tailless bush blue, Arhopala ganesa ganesa, is a butterfly that is usually present in the elevation between 1200 meters and 2400 meters in the states of Jammu & Kashmir and Uttarakhand.

- It later recorded an altitude 3577 meters in Askot Wildlife Sanctuary in Uttarakhand.
- Researchers believe that these butterflies have migrated in search of a suitable climate where the climates in several Himalayan mountain ranges have already noticed significant changes.

Source: The Hindu

Q.11) Consider the following statements:

- 1. Lotic habitats are those existing in relatively fast running streams like springs, rivers and brooks.
- 2. Lentic habitats are represented by the lakes, ponds, and swamps.

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: Fresh community consists of an array of organisms depending on the physic-chemical and biological characteristics of the freshwater environment. Freshwater habitats are divided into two major categories:

- Lotic (lotus=washed, or running water): Lotic habitats are those existing in relatively fast running streams, springs, rivers and brooks.
- Lentic (lenis=calm, or standing water): Lentic habitats are represented by the lakes, ponds and swamps.

Source: NCERT

Q.12) Consider the following statements regarding "Carbon Credit":

- 1. It is a tradable permit.
- 2. The holder of the credit has the right to emit ten ton of carbon dioxide or an equivalent of another greenhouse gas.
- 3. The main goal for the creation of carbon credits is the reduction of emissions of carbon dioxide and other greenhouse gases.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: A carbon credit is a tradable permit or certificate that provides the holder of the credit the right to emit one ton of carbon dioxide or an equivalent of another greenhouse gas.

- The main goal for the creation of carbon credits is the reduction of emissions of carbon dioxide and other greenhouse gases from industrial activities to reduce the effects of global warming.
- Carbon credits are market mechanisms of the minimization of greenhouse gases emission.
- The introduction of carbon credit was ratified in the Kyoto Protocol.
- The Paris Agreement validates the application of carbon credits to reduce emissions of the greenhouse gases and sets the provisions for the further facilitation of the carbon credits markets.

Types of Carbon Credits

There are two types of the carbon credits:

- **Voluntary emissions reduction (VER):** A carbon offset that is exchanged in the over-the-counter or voluntary market for credits.
- **Certified emissions reduction (CER):** Emission units (or Carbon credits) created through a regulatory framework with the purpose of offsetting a project's emission. The main difference between the two is that there is a third party certifying body that regulates the CER as opposed to the VER.

Source: The Hindu

Q.13) Which of the following protected area is a Marine National Park?

- a) Malvan marine sanctuaries
- b) Gulf of Kachchh
- c) Wan door mahatma Gandhi marine protected areas
- d) Both B and C

ANS: D

Explanation: In India, 605 protected areas covering 5.2% of the total geographical area.

- Under this 96 national parks, 509 wildlife sanctuaries, 3 conservation reserve.
- These are established under the wildlife (protection) Act.

In India, there are 4 important marine national parks

- Gulf of Kachchh National marine park (established in 1980; Okha to Jodia, Gujarat coast covering 42 islands; area 400 km2.
- Gulf of Mannar National marine park (established in 1986; Rameswarwm to Tuticorin, Tamilnadu; area 623ha)
- Wan door mahatma Gandhi marine park (established in 1983; area 281.50 km2, South Andaman)
- Rani Jhansi marine national park (established in 1996, area256.41 km2, Andaman)

Marine Sanctuaries:

- Bhitarakanika Gahiramatha sanctuaries (established in 1997: area 1,453 km2,
 Odisha
- Malvan marine sanctuaries (established in 1987; area 29.12km2, Maharastra)
- Gulf of Kachchh (established in 1980, area 295.03 km2, Gujarat.

Source: ENVIS

Q.14) Which of the following fauna of India is an ape?

- a) Golden Langur
- b) Lion-tailed Macaque
- c) Hoolak Gibbon
- d) Slow loris

ANS: C

Explanation: Apes Family of India: Unlike Africa in India we have only one species of Apes which even though is an ape yet is not one to be classified as one of the Great Apes (Chimpanzees & Gorillas).

It does has distinctive build of an ape-arms are longer than the legs and the body is tailless.

Hoolock Gibbon (Hylobates hoolock):

- It is the only ape to be found in India and is generally to seen in the forests of the North- East India and neighboring Bangladesh and Burma.
- The males have a black coat and the females can be distinguished by their lighter coat having grayish color.
- Hoolocks prefer to live in small groups in the hilly forests and feed on tender leaves, fruits, and insects including spiders.
- Their main source of water is from the dew which forms on the leaves.
- The young ones are normally born in the winter months between December and March.
- The average height of a Gibbon is 3 feet and the arms are normally double the length of its legs.

Source: The Hindu

Q.15) Consider the following statements regarding "Indian State of Forest Report":

- 1. The India State of Forest Report 2019 has been prepared by Forest Survey of India (FSI).
- 2. Tree and Forest cover was increased compared to last assessment.

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 India State of Forest Report 2019 has been prepared by Forest Survey of India (FSI).

- The report is a biennial exercise.
- It assesses the forest and tree cover, bamboo resources, carbon stock and forest fires.
- The forest cover in the country has increased by 3,976 square kilometer in the last two years.
- The tree and forest cover together made up 25.56% of India's area.
- In the last assessment it was 24.39%.

Source: The Hindu

Q.16) "Living Planet Report" is published by which of the following organization?

- a) Global Environment Facility
- b) IUCN
- c) World Wide Fund for Nature (WWF)
- d) World Economic Forum

ANS: C

Explanation: The World Wide Fund for Nature (WWF) is an international non-governmental organization founded in 1961, working in the field of wilderness preservation, and the reduction of human impact on the environment.

- It was formerly named the World Wildlife Fund, which remains its official name in Canada and the United States.
- WWF aims to "stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature."
- The Living Planet Report is published every two years by WWF since 1998; it is based on a Living Planet Index and ecological footprint calculation.
- In addition, WWF has launched several notable worldwide campaigns including Earth Hour and Debt-for-Nature Swap, and its current work is organized around these six areas: food, climate, freshwater, wildlife, forests, and oceans.

Source: The Hindu

Q.17) Which of the following conventions were outcome of the Earth summit of 1992?

- 1. Convention on Biological Diversity (CBD)
- 2. Agenda 21
- 3. The United Nations Framework Convention on Climate Change (UNFCCC) 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: In June 1992 representatives from 172 nations convened in Rio de Janeiro, Brazil, for the United Nations Conference on Environment and Development (UNCED), commonly called the Earth Summit.

- Earth Summit 1992 produced the Rio Declaration on Environment and Development, the Statement of Forest Principles, and Agenda 21.
- The Earth Summit also led to the establishment of the Convention on Biological Diversity, and the United Nations Framework Convention on Climate Change (UNFCCC).

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- The Convention on Biological Diversity is a binding treaty requiring nations to take inventories of their plants and wild animals and protect their endangered species.
- The United Nations Framework Convention on Climate Change (UNFCCC), or Global Warming Convention, is a binding treaty that requires nations to reduce their emission of carbon dioxide, methane, and other "greenhouse" gases thought to be responsible for global warming.

Source: The UNFCCC

Q.18) "Global Environment Outlook" is published by which of the following Institution?

- a) WEF
- b) UNEP
- c) Global Environment Facility
- d) UNDP

ANS: B

Explanation: The Global Environment Outlook (GEO) is often referred to as UN Environment's flagship environmental assessment.

- The first publication was in 1997 and was originally requested by Member States.
- It is a flagship report because it fulfills the core functions of the organization, which date back to the UN General Assembly resolution that established the UN Environment Programme in 1972.
- The Global Environment Outlook (GEO) is a consultative and participatory process to prepare an independent assessment of the state of the environment, the effectiveness of the policy response to address these environmental challenges and the possible pathways to be achieve various internationally agreed environmental goals.

Source: UNEP

Q.19) Consider the following statements regarding "Global Tiger Forum (GTF)":

- 1. It is the only inter-governmental international body to protect the tiger.
- 2. It has a General Assembly meeting of every 3 years.

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 Global Tiger Forum (GTF) is the only inter- governmental international body established with members from willing countries to embark on a global campaign to protect the Tiger.

- The GTF was formed in 1993 on recommendations from an international symposium on Tiger Conservation at New Delhi, India.
- The first meeting of the Tiger Range countries to setup the forum was held in 1994, in which India was elected to the Chair and was asked to form an interim secretariat.
- In 1997, the GTF became an independent organization.
- The GTF has a General Assembly meeting every 3 years and Standing committee meetings at least once a year.
- A Chairperson, usually a Minister from one of the Tiger Range countries heads GTF for a fixed tenure of 3 Years. The Secretariat of GTF is headed by a Secretary General and is located in New Delhi, India.

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Source: The Hindu

Q.20) "Montreal Protocol" and "London Conference" is related to which of the following?

- a) Solid Waste Management
- b) Persistent Organic Pollutants
- c) CFCs
- d) Methane control

ANS: C

Explanation: Ozne constitutes only less than 0.002 percent of the volume of the atmosphere. However, it's role is very critical as far as lives on the earth is concerned.

- It strongly absorbs ultraviolet radiation from the sun. Ultraviolet radiation is biologically destructive in many ways.
- It causes skin cancer and cataracts, suppresses the human immune system, diminshes the yield of many crops, disrupts the acquatic food chain by killing micro-organisms on the ocean surface and many other negative effects which is still undiscovered.
- This is happening due to certain recent human activities which have injected certain chemicals in the stratosphere which consume ozone and reduce its concentration.
- Depletion is mainly caused by chlorofluorocarbons (CFCs), halons, methyl chloroform and carbon tetrachlorides.
- These chemical substances are mainly either chlorine or bromine which can reach the stratosphere and catalytically break down ozone into oxygen. CFCs are odourless, non-flamable, non-corosive and nontoxic.
- For this reason, scientist originally believed CFCs could not possibly have any effect on the environment.
- That is why it is widely used in refrigeration and air conditioning, in foam and plastic manufacturing and in aerosol sprays.
- It needs certain actions both at individual as well as governmental level. Since the last two decades, certain actions have been initiated at global level.
- Among these **Montreal Protocol of 1987** and **London Conference of 1992** are important.
- In both these conferences it was decided that the developed countries would totally ban CFC production by 2000 and the developing countries by 2010AD.

Source: The Hindu

Q.21) Consider the following statements regarding the Centre for Science and Environment (CSE):

- 1. It is an autonomous body under Ministry of Environment, Forest and Climate Change.
- 2. The India Environment Portal is initiated and managed by the Centre for Science and Environment (CSE).

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 Centre for Science and Environment (CSE) is an independent, public interest organization (not-for-profit), which uses knowledge for activism.

- The Centre was started in 1980, by India's top environmentalist, Anil Agarwal and continues to work to push, prod and argue for environmental management in the country. It believes it can and must make a difference.
- The India Environment Portal is initiated and managed by the Centre for Science and Environment (CSE) promoted by the National Knowledge Commission (NKC), Government of India.

Source: CSE

Q.22) Which of the following **Act mandates to create** Local level Biodiversity **Man**agement Committees (BMC's)?

- a) Indian Forests Act, 1927
- b) Environment Protection Act, 1986
- c) Biodiversity Act, 2002
- d) Forest Rights Act, 2006

ANS: C

Explanation: The Bruhat Bengaluru Mahanagara Palike (BBMP) has formed a Biodiversity Management Committee (BMC) as per the Bio Diversity Act of 2002, which mandates the establishment of BMCs at the local body level across the country.

- The committee will work towards conservation and promotion of biological diversity.
- The primary responsibility of the committee includes documentation of biological diversity, preservation of natural habitats, conservation of landrace, local and regional breeds of animals and plants.
- One of the important functions of the committee would be to prepare or help prepare People's Biodiversity Register (PBR), which will contain comprehensive information on local flora and fauna, traditional and scientific knowledge, and information associated with species.

Source: The Hindu

Q.23) Consider the following statements regarding the Centre for Biodiversity Policy and Law (CEBPOL):

- 1. It is established by Government of India in collaboration with the Norwegian Government.
- 2. It is a policy advocacy unit of the National Biodiversity Authority (NBA).

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: Government of India in collaboration with the Norwegian Government has established a "Centre for Biodiversity Policy and Law (CEBPOL)" in the National Biodiversity Authority (NBA), Chennai, to develop professional expertise in biodiversity policies and laws and develop capacity building.

- The Centre for Biodiversity Policy and Law (CEBPOL), a **policy advocacy unit of the National Biodiversity Authority**, came out with recommendations to increase India's agro-biodiversity in 2019.
- These include a comprehensive policy on 'ecological agriculture' to enhance native pest and pollinator population providing ecosystem services for the agricultural landscape.

- It suggested promotion of the bio-village concept of the M.S. Swaminathan Research Foundation (MSSRF) for ecologically sensitive farming;
- conserving crop wild relatives of cereals, millets, oilseeds, fibres, forages, fruits and nuts, vegetables, spices etc. for crop genetic diversity healthier food;
- Providing incentives for farmers cultivating native landrace varieties and those conserving indigenous breeds of livestock and poultry varieties.

Source: National Biodiversity Authority

Q.24) Which of the following is/are sites of Globally Important Agricultural Heritage Systems (GIAHS) in India?

- 1. Kashmir (saffron)
- 2. Koraput (traditional agriculture)
- 3. Kuttanad (below sea-level farming)

Select the correct answer using the codes given below:

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

ANS: A

Explanation: The Global Agricultural Heritage Systems (GIAHS) was started by Food and Agricultural Organization (FAO) for the purpose of creating public awareness and safeguarding the World agricultural heritage sites. There are three regions of India, which has been recognised as the Global Agricultural Heritage Systems (GIAHS) cities in India: Koraput, Odisha State; Kashmir Valley, Pampore region; and Kuttanad.

Source: UPSC Previous year papers

Q.25) The **Prerana MyTree**, an eco-initiative by students is started in which of the following state?

- a) Kerala
- b) Karnataka
- c) West Bengal
- d) Odisha

ANS: B

Explanation: In the wake of 16-year-old Greta Thunberg's call for standing up for climate action, students all over the world are heeding her clarion call.

- On Children's Day, students in Bengaluru and Karnataka are doing their bit for the environment by planting trees.
- Prerana MyTree, an eco-initiative by students from 48,000 government schools across Karnataka will plant about 2.5 lakh trees across the state.
- Prerana MyTree is supported by the state government, the NGO Sikshana Foundation, Dell and Bengaluru-based startup, Eyeris Media.

Source: The Hindu

Q.26) The Climate Change Performance Index (CCPI) ranks individual countries based on four categories. Which of the following are the **categories of CCPI**?

- 1. Green House Gas (GHG) Emissions
- 2. Renewable Energy
- 3. Climate Policy
- 4. Energy Use

Select the correct answer using the codes 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: D

Explanation: The CCPI (released by Germanwatch) is an independent monitoring tool of countries' climate protection performance.

- It aims to enhance transparency in international climate politics and enables the comparability of climate protection efforts and progress made by individual countries.
- The ranking results are defined by a country's aggregated performance in 14 indicators within the four categories "GHG Emissions", "Renewable Energy" and "Energy Use", as well as on "Climate Policy", in a globally unique policy section of the index.

Source: The Hindu

Q.27) Consider the following statements regarding the drought forecasting tool box:

- 1. It was unveiled at 14th Conference of Parties (COP14) of the UN Convention to Combat Desertification (UNCCD).
- 2. It aims to track, assess and deliver relevant information concerning climatic, hydrologic and water supply trends.

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: 'Drought-forecasting toolbox' was unveiled at UNCCD COP14 event. The 14th Conference of Parties (COP14) of the UN Convention to Combat Desertification (UNCCD) was held in Greater Noida, Uttar Pradesh.

- It aims to track, assess and deliver relevant information concerning climatic, hydrologic and water supply trends.
- It is developed through the close partnership among, UNCCD, World Meteorological Organization (WMO), Food and Agriculture Organization (FAO) and global bodies.

Source: Indian Express

Q.28) The "4 per 1000" initiative, sometimes seen in news is related to which of the following?

- a) Renewable energy
- b) Electric vehicles
- c) Carbon stock
- d) Biodiversity conservation

ANS: C

Explanation: The international initiative "4 per 1000", launched by France on 1 December 2015 at the COP 21, consists of federating all voluntary stakeholders of the public and private sectors (national governments, local and regional governments, companies, trade

organizations, NGOs, research facilities, etc.) under the framework of the Lima-Paris Action Plan (LPAP).

- The aim of the initiative is to demonstrate that agriculture, and in particular agricultural soils can play a crucial role where food security and climate change are concerned.
- An annual growth rate of 0.4% in the soil carbon stocks, or 4‰ per year, in the first 30-40 cm of soil, would significantly reduce the CO2 concentration in the atmosphere related to human activities.
- This growth rate is not a normative target for each country, but is intended to show that even a small increase in the **soil carbon stock** (agricultural soils, notably grasslands and pastures, and forest soils) is crucial to improve soil fertility and agricultural production and to contribute to achieving the long-term objective of limiting the temperature increase to the +2°C threshold, beyond which the IPCC (Intergovernmental Panel on Climate Change) indicates that the effects of climate change are significant.
- The "4 per 1000" initiative is intended to complement those necessary efforts to reduce greenhouse gas emissions, globally and generally in the economy as a whole. It is voluntary; it is up to each member to define how they want to contribute to the goals.

Source: The Hindu

Q.29) Consider the following statements regarding the 1995 Basel Ban Amendment:

- 1. It is a global waste dumping prohibition.
- 2. It was ratified by India.
- 3. It prohibits all hazardous exports from 29 wealthiest countries of the Organization of Economic Cooperation and Development (OECD) to non-OECD countries.

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: The 1995 Basel Ban Amendment, a **global waste dumping prohibition**, has become an international law after Croatia ratified it on September 6, 2019.

- Croatia became the 97th country to ratify the ban, which was adopted by the parties to the Basel Convention in 1995, to protect human health and the environment against the adverse effects of hazardous wastes, according to Basel Action Network (BAN).
- The Ban Amendment prohibits all export of hazardous wastes, including electronic wastes and obsolete ships from 29 wealthiest countries of the Organization of Economic Cooperation and Development (OECD) to non-OECD countries.
- However, countries like the US, Canada, Japan, Australia, New Zealand, South Korea, Russia, India, Brazil, and Mexico are yet to ratify the ban.

Source: The Hindu

- **Q.30)** Consider the following statements regarding the **Nilgiri langur (s)**:
- 1. It is one of the New World Monkey.
- 2. It is endemic to Western Ghats in South India.
- 3. They are arboreal and diurnal in nature.

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: The Nilgiri langur, also known as the hooded leaf monkey, black leaf monkey, Indian hooded leaf monkey, John's langur, Nilgiri black langur, and the Nilgiri leaf monkey, is a **species of Old World monkey endemic to South India**.

- It is found in the Western Ghats, particularly in the Nilgiri Hills from which it derives its name, but also in other hilly areas in that region.
- They prefer to live between 980 and 6,500 ft (300–2,000 m) above sea level, and typically settle in at around 4,600 ft (1,400 m).
- Since they are an **arboreal species**, they seek out habitat with trees, and are known to inhabit secondary moist deciduous forests and evergreen forests. Other considerations include proximity to water and distance from humans.
- This is a **diurnal species**, meaning they are active during the day. While active, they spend approximately half of their time eating and the other half resting.

Source: Envis

Q.31) Consider the following statements regarding "Tiger Reserves":

- 1. At present in India 50 tiger reserves in India.
- 2. The tiger reserves are constituted on core/buffer areas which don't have any legal status.
- 3. The buffer areas consist of forest land only.

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

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

ANS: C

Explanation: The Government of India has launched the 'Project Tiger' in 1973.

- From 9 tiger reserves since its formative years, the Project Tiger coverage has increased to 50 at present, spread out in 18 of our tiger range states.
- The tiger reserves are constituted on a core/buffer strategy. The core areas have the legal status of a national park or a sanctuary.
- The buffer or peripheral areas are a mix of forest and non-forest land, managed as a multiple use area.
- The Project Tiger aims to foster an exclusive tiger agenda in the core areas of tiger reserves, with an inclusive people oriented agenda in the buffer.

Source: Envis

Q.32) Consider the following statements regarding "Keystone Species":

- 1. Keystone species is an organism that helps hold the system together.
- 2. Predators, ecosystem engineers and mutualists are three types of keystone Species.

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

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ANS: C

Explanation: In any arrangement or community, the "keystone" is considered one of the most vital parts. In a marine ecosystem, or any type of ecosystem, a keystone species is an organism that helps hold the system together.

There are three types of keystone species cited by many scientists: predators, ecosystem engineers, and mutualists.

- Predators help control the populations of prey species, which in turn affects the quantity of plants and animals further along the food web.
- An ecosystem engineer is an organism that creates, changes, or destroys a habitat.
- When two or more species in an ecosystem interact for each other's benefit, they are called mutualists.

Source: NCERT

Q.33) "Lawalong Wildlife Sanctuary" is located in which of the following state?

- a) Kerala
- b) Arunachal Pradesh
- c) Jharkhand
- d) Chhattisgarh

ANS: C

Explanation: Lawalong Wildlife Sanctuary was set up in 1978 to the southwest of Hazaribagh in the Chhotanagpur plateau area.

- It covers an area of about 211 sq. kms. The terrain is undulating and dissected by rivers and streams.
- Located in the south-west part of Chatra district, Lawalong sanctuary has a rich wildlife, including tiger and bison.
- Different spices of birds and serpents are also found here.
- A variety of wildlife including Tiger, Panther, Hyena, Spotted Deer, Wild Boar, Nilgai are available in this sanctuary.

Source: The Hindu

Q.34) Which of the following is/are consists of "River valleys" of Arunachal Pradesh?

- 1. The Siang Valley
- 2. The Kameng Valley
- 3. The Tirap Valley

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: All three valleys are located in Arunachal Pradesh.

- Rivers constitute an important part of the topography of the state. Arunachal Pradesh is divided into five major river valleys: 1. The Siang Valley 2. The Kameng Valley 3. The Subansiri Valley 4. The Lohit Valley 5. The Tirap Valley.
- These valleys are named after the important rivers of the state.
- The major rivers and their tributaries traversing the state are Siang, Kameng, Subansiri, Subansiri, Lohit, Tirap etc.
- All these and other countless rivers and rivulets are fed by snow from the Himalayas. Therefore, mostly these small rivulets are perennial in nature.

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Source: Shodhganga

Q.35) Consider the following statements regarding "The World Commission on Environmental Law (WCEL)":

- 1. It advances environmental law around the globe by providing specialized knowledge and assistance to strengthen the legal foundations of the conservation of nature and sustainable development.
- 2. WCEL functions as an integral part of the International Court of Justice (ICJ).

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 World Commission on Environmental Law (WCEL) advances environmental law around the globe by providing specialized knowledge and assistance to strengthen the legal foundations of the conservation of nature and sustainable development through the conceptual advancement of environmental principles, norms, and laws, and by building the capacity of communities to benefit from the environmental rule of law.

WCEL functions as an integral part of the IUCN Environmental Law Programme (ELP) that includes close collaboration with the Environmental Law Centre (ELC).

Source: UNFCCC

Q.36) Which of the following is/are characteristics of "Persistent organic pollutants (POPs)"?

- 1. Highly toxic to humans and wildlife.
- 2. Last for many years in the environment.
- 3. Long-range transport.

Which of the following codes below given is/are correct?

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

ANS: D

Explanation: Persistent organic pollutants (POPs) are a group of chemicals possessing the following characteristics:

- They are highly toxic to humans and wildlife (harmfulness);
- They can last for many years in the environment before degrading into less dangerous forms (persistence);
- They bio-accumulate in the food chain (bio-accumulation);
- They are transported over large distances through air and water and can be found worldwide (long-range transport).

Source: Rotterdam Convention

Q.37) "Nitrogen fixation" on earth is/are accomplished by which of the following ways?

- 1. Organic matter decomposition.
- 2. Thunder and lightning.
- 3. The Haber-Bosch process.

Select the correct answer using the code given below:

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

ANS: A

Explanation: Nitrogen is a critical limiting element for plant growth and production.

- It is a major component of chlorophyll, the most important pigment needed for photosynthesis, as well as amino acids, the key building blocks of proteins.
- It is also found in other important bio-molecules, such as ATP and nucleic acids.
- Even though it is one of the most abundant elements (predominately in the form of nitrogen gas (N2) in the Earth's atmosphere), plants can only utilize reduced forms of this element.

Plants acquire these forms of "combined" nitrogen by:

- the addition of ammonia and/or nitrate fertilizer (from the Haber-Bosch process) or manure to soil.
- the release of these compounds during organic matter decomposition,
- the conversion of atmospheric nitrogen into the compounds by natural processes, such as lightning, and
- Biological nitrogen fixation.

Source: NCERT

Q.38) "Askot Wildlife Sanctuary" is located in which of the following state?

- a) Himachal Pradesh
- b) Gujarat
- c) Chhattisgarh
- d) Uttarakhand

ANS: D

Explanation: Himalayan tailless bush blue, Arhopala ganesa ganesa, is a butterfly that is usually present in the elevation between 1200 meters and 2400 meters in the states of Jammu & Kashmir and Uttarakhand.

- It later recorded an altitude 3577 meters in Askot Wildlife Sanctuary in Uttarakhand.
- Researchers believe that these butterflies have migrated in search of a suitable climate where the climates in several Himalayan mountain ranges have already noticed significant changes.

Source: The Hindu

Q.39) Consider the following bio-geo-chemical cycles:

- 1. Phosphorous cycle
- 2. Nitrogen cycle
- 3. Sulphur cycle

Which of the above comes under Sedimentary bio-geo-chemical cycle?

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

ANS: C

Explanation: Biogeochemical cycles can be classed as gaseous, in which the reservoir is the air or the oceans (via evaporation), and **sedimentary**, in which the reservoir is the **Earth's crust**.

Gaseous cycles include those of **nitrogen**, **oxygen**, **carbon**, **and water**; sedimentary cycles include those of **iron**, **calcium**, **phosphorus**, **sulphur** and other more earthbound elements.

Source: NCERT

Q.40) Consider the following protected areas:

- 1. Kanha
- 2. Panna
- 3. Satpuda
- 4. Sanjay

Which of the above is/are Tiger reserves located in Madhya Pradesh?

- 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: D

Explanation: Madhya Pradesh is also known as the 'Tiger State' as it harbors nearly 20% of India's Wild Tiger Population and nearly 10% of the world's tiger population as per the current estimates. The six Tiger Reserves in MP are:

- Kanha Tiger Reserve
- Pench Tiger Reserve
- Panna Tiger Reserve
- Bandhavgarh Tiger Reserve
- Satpuda Tiger Reserve
- Sanjay Tiger Reserve

Source: Envis

Q.41) The "Cotigao Wildlife Sanctuary" is sometimes seen in news is located in which of the following state?

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

ANS: D

Explanation: If one wants to see multi-storeyed forests with tall trees and rare plants, where hardly any light reaches the ground, Cotigao Sanctuary is the place to go to.

- It touches the border of Karnataka state and in the lean season, several gaurs are known to come into Cotigao from its neighbourhood.
- The vegetation is mostly moist-deciduous type, interspersed with semi-evergreen and evergreen patches.
- The Cotigao Wildlife Sanctuary was established in 1969 to protect a remote and vulnerable area of forest lining the Goa- Karnataka border.
- Encompassing 86-sq-kms of mixed deciduous woodland, the reserve is certain to inspire tree lovers, but less likely to yield many wildlife sightings: its tigers and

leopards were hunted out long ago, while the Gazelles, Sloth Bears, Porcupines, Panthers and Hyenas that allegedly lurk in the woods rarely appear.

Source: The Hindu

Q.42) Recently a **new species of dung beetle**, which is relatively large size, distinct blue colour and distinguishing characteristic of the strong sexual dimorphism, is discovered in which of the following state?

- a) Sikkim
- b) Arunachal Pradesh
- c) Tamil Nadu
- d) Maharashtra

ANS: B

Explanation: A new species of dung beetle has been discovered in Tawang district of Arunachal Pradesh.

- The species, Enoplotrupes tawangensis, is shining dark blue in colour and, measuring up to 27 mm, is relatively bigger than most of the dung beetles.
- Dung beetles belong to the super family scarabaeoidea, having clubbed antennae and pro-tibiae (pro-legs) modified for burrowing dung inside the soil.
- These groups of insects are considered beneficial to the environment as they help in nutrient cycling of the soil. Often referred to as little recyclers, these scavenger beetles require mammalian dung to survive.
- "Insects comprise almost 65% of all animal species on the planet. From India, approximately 65,000 species of insects are known, of them, more than 22,000 species are beetles.
- Dung beetles are the one of the fascinating group of insects because of their ability to bury dung deep in the soil and are indicators of the ecological health of an ecosystem".
- Other than the relatively large size and distinct blue colour, another important distinguishing characteristic of this species is the strong sexual dimorphism, with the fronto-clypeal horn shorter in females than males.

Source: The Hindu

Q.43) The "Chakrashila wildlife sanctuary" is sometimes seen in news is located in which of the following state?

- a) Tamil Nadu
- b) Maharashtra
- c) Assam
- d) Mizoram

ANS: C

Explanation: Chakrashila Wildlife Sanctuary is famous for being the second protected habitat of the Golden Langur.

- Charkashila was previously a reserve forest, but in the year 1994, it was declared as a wildlife sanctuary.
- It covers a total area of 45.50 sq km and its jurisdiction falls under two districts namely of Dhubri and Kokrajhar district of Assam.
- In the Chakrashila Wildlife Sanctuary, tourists can see as many as 273 species of birds apart from 14 different species of reptiles, 60 kinds of fish and 11 species of amphibians.

- There are two lakes in the wildlife sanctuary which add to the beauty of the place. They are called Dheer Beel and Diplai Beel, and they are located on the two sides of the sanctuary.
- Chakrashila, India's first wildlife sanctuary with golden langur as the primary species.
- Chakrashila has about 600 golden langurs whose population is scattered across western Assam and the foothills of Bhutan.

Source: Indian Express

Q.44) Which of the following **transport industry** releases highest CO2 emitted per km travelled by a passenger?

- a) Rail transport
- b) Air transport
- c) Road transport
- d) Sea transport

ANS: B

Explanation: In recent months, climate activists have stepped up efforts to convince travellers to boycott **air travel**, with Swedish schoolgirl and campaigner Greta Thunberg spearheading the trains-over-planes movement and making "**flygskam**", or flight shame, a buzzword in the Scandinavian country.

- The industry has been under fire over its carbon emissions, which at 285 g of CO2 emitted per km travelled by a passenger far exceed all other modes of transport. Road transportation follows at 158 and rail travel is at 14, according to European Environment Agency figures.
- The International Civil Aviation Organization estimates that air transport is responsible for 2% of global CO2 emissions.
- But aircraft also emit particles such as nitrogen oxides, which can trap heat at high altitude, meaning the industry is responsible for 5% of warming, according to the Climate Action Network.
- The industry has committed to improving fuel efficiency by 1.5% per year from 2009 to 2020 and stabilising its CO2 emissions in preparation for a 50% reduction by 2050 compared to 2005.

Source: Indian Express

- **Q.45)** Recently, Indian scientists from the Zoological Society of London (ZSL), an international conservation charity, and University College London (UCL) have discovered **six colour morphs of the golden cat** (cinnamon, golden, gray, melanistic, ocelot and tightly rosetted) in one place in which of the following state?
- a) Arunachal Pradesh
- b) West Bengal
- c) Andhra Pradesh
- d) Tamil Nadu

ANS: A

Explanation: Golden is no longer the only colour the elusive Asiatic golden cat can be associated with.

- Its coat comes in five other shades in Arunachal Pradesh, scientists have discovered.
- The Asiatic golden cat (Catopuma temminckii) is listed as near threatened on the International Union for Conservation of Nature's Red List of threatened species.

- It is found across eastern Nepal through north-eastern India to Indonesia.
- Indian scientists from the Zoological Society of London (ZSL), an international conservation charity, and University College London (UCL) have discovered six colour morphs of the golden cat in Dibang Valley of Arunachal Pradesh.
- Scientists have found that its coat comes in six types: cinnamon, golden, gray, melanistic, ocelot and tightly rosetted.

Source: The Hindu

Q.46) Which of the following acts consent are required for the River valley and River interlinking projects?

- 1. The Environment (Protection) Act, 1986.
- 2. The Water (Prevention and Control of Pollution) Act, 1974.
- 3. The Air (Prevention and Control of Pollution) Act, 1981.

Select the correct answer using the code given below:

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

ANS: A

Explanation: The National Green Tribunal has issued an order restraining Andhra Pradesh from proceeding further with the Godavari-Krishna-Penna river-linking project till the requisite environmental clearances and other permissions are taken under the Environment (Protection) Act, 1986.

- The river valley projects require environmental clearance and also consent under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981.
- The project could not be allowed till the requisite environmental requirements were met.

Source: The Hindu

Q.47) Which Global sportswear giant aims to **eliminate the use of virgin plastics** in its products by 2024?

- a) Sparx
- b) Adidas
- c) Sketchers
- d) Bata

ANS: B

Explanation: Global sportswear giant Adidas aims at eliminating the use of virgin plastics in its products by 2024 — with a little help from a Maharashtra-based firm — the only one of its kind in the country to produce yarn out of discarded PET bottles.

- At its first factory set up in Nashik five years ago, Polygenta Technology Limited deploys a unique technology to break down used PET (short for Polyethylene Terephthalate) bottles and convert them into polyester filament yarn.
- The firm, with a capacity to convert 30 tonnes of PET bottles into yarn a day, plans to scale up capacity to around 100 tonnes a day in the next two years to meet demand from the likes of Adidas one of its first clients.

NOTE: According to the United Nations, around 300 million tonnes of plastic are produced every year — roughly the weight of the entire human population. Of this, eight million

tonnes of plastic waste ends up in the oceans; PET bottles are the main contributors to plastic waste globally and in India.

Source: The Hindu

Q.48) Consider the following statements regarding the ecologically sensitive zones (ESZs) notification 2019:

- 1. It notifies that area within 10 km of protected areas comes under ESZs.
- 2. They are issued under the Environment (Protection) Act, 1986 and Environment (Protection) Rules 1986.

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: Over 30% of India's protected area has been covered under the final ecologically sensitive zone (ESZ) notification, the Environment Ministry informed the Lok Sabha.

- As on June 25, 2019, final ESZ notifications covering 316 protected areas (PAs) and draft ESZ notification covering 199 protected areas have been published by the ministry.
- According to the ministry, out of the 651 Protected Areas (PAs) in India, 316
 have been covered under the final ESZ notification which provides for
 prohibition of mining, stone quarrying and crushing units located within one
 k.m. of such protected areas.
- In the absence of the notification, an area of 10 k.m. around the PAs is considered 'default ESZ' according to the directions of the Supreme Court.
- Out of the 316 areas covered in ESZ final notification, 100 PAs are in Andaman and Nicobar Islands followed by 29 in Maharashtra and 23 protected areas in Madhya Pradesh and Tamil Nadu.
- The ESZ notifications are issued under the Environment (Protection) Act, 1986 and Environment (Protection) Rules 1986.

Source: The Hindu

Q.49) Consider the following statements regarding the "Zero Tillage":

- 1. It is the process where the crop seed will be sown through drillers without prior land preparation.
- 2. Residual moisture can be effectively utilized in Zero Tillage.

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: Zero tillage is the process where the crop seed will be sown through drillers without prior land preparation and disturbing the soil where previous crop stubbles are present.

- Zero tillage not only reduce the cost of cultivation it also reduces the soil erosion, crop duration and irrigation requirement and weed effect which is better than tillage.
- Zero Tillage (ZT) also called No Tillage or Nil Tillage.

Advantages of Zero Tillage: Reduction in the crop duration and thereby early cropping can be obtained to get higher yields.

- Reduction in the cost of inputs for land preparation and therefore a saving of around 80%
- Residual moisture can be effectively utilized and number of irrigations can be reduced.
- Dry matter and organic matter get added to the soil.
- Environmentally safe Greenhouse effect will get reduced due to carbon sequestration.
- No tillage reduces the compaction of the soil and reduces the water loss by runoff and prevents soil erosion.
- As the soil is intact and no disturbance is done, No Till lands have more useful flora and fauna.

Source: The Hindu

Q.50) Which of the following protocol/agreement is NOT related to Ozone layer?

- a) Kigali Agreement
- b) Vienna Convention
- c) Kyoto Protocol
- d) Montreal Protocol

ANS: C

Explanation: The ozone layer is a natural layer of gas in the upper atmosphere that protects humans and other living things from harmful ultraviolet (UV) radiation from the sun.

- Although ozone is present in small concentrations throughout the atmosphere, most (around 90%) exists in the stratosphere, a layer 10 to 50 kilometres above the Earth's surface.
- The ozone layer filters out most of the sun's harmful UV radiation and is therefore crucial to life on Earth.

Ozone depletion: Scientists discovered in the 1970s that the ozone layer was being depleted.

- Atmospheric concentrations of ozone vary naturally depending on temperature, weather, latitude and altitude, while substances ejected by natural events such as volcanic eruptions can also affect ozone levels.
- However, these natural phenomena could not explain the levels of depletion observed and scientific evidence revealed that certain man-made chemicals were the cause.
- These ozone-depleting substances were mostly introduced in the 1970s in a wide range of industrial and consumer applications, mainly refrigerators, air conditioners and fire extinguishers.
- Vienna Convention (1985), Montreal Protocol (1987) and Kigali Agreement (2016) all three deal with the protection of ozone layer.

Source: NCERT

Reports

Q.1) "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.

Source: Spectrum

Q.2) Consider the following statements regarding the NOT 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: D

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.

Source: RBI

Q.3) 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.

Source: Indian Express

- Q.4) 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 definedd; and that a time frame is laid down for decisions on the anti-defection cases.

Source: Shodhganga

Q.5) "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.

Source: The Hindu

Q.6) Which of the following is/are major "sub-group of Chief Ministers" constituted by NITI aayog?

- 1. Sub-group on Rationalization of Centrally Sponsored Schemes
- 2. Sub-group on Skill Development
- 3. Sub-group on Renewable energy

Select the correct answer using the codes given below:

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

ANS: B

Explanation: The first meeting of the Governing Council of the NITI Aayog was held on 8th February, 2015 where the Hon'ble Prime Minister urged all Chief Ministers to work with the Centre to forge a model of cooperative federalism, whereby the Centre and the States – Team India – can come together to resolve differences, and chart a common course to progress and prosperity. In the spirit of cooperative federalism, therefore, the **Governing Council had decided that the NITI Aayog would constitute three major Sub-Groups of Chief Ministers**:

- RATIONALISATION OF CENTRALLY SPONSORED SCHEMES
- SKILL DEVELOPMENT
- SWACHH BHARAT ABHIYAN

In addition, it was also decided that the States will set up two Task Forces under the leadership of the NITI Aayog:

- Agriculture Development
- Poverty Elimination

Source: The Hindu

Q.7) The "Tarkunde Committee" is related to which of the following?

- a) Agriculture
- b) Primary Health
- c) Financial Inclusion
- d) Electoral reforms

ANS: D

Explanation: Jayprakash Narayan on behalf of the Citizens for Democracy had appointed a committee to study and report on scheme for **electoral reforms** in 1974. The members of the committee were V.M. Tarkunde, M.R. Masai, etc. and it is known as J.P. Committee or Tarkunde committee. The important recommendations of the **Tarkunde Committee** are as follows:

- The election commission should be a three member body.
- The minimum age of voting should be 18 years.
- The TV and radio should be placed under the control of autonomous statutory corporation.
- A voter's council should be formed in as many constituencies as possible which can help in free and fair election.

Source: Laxmikanth

Q.8) The "World Wildlife Crime Report" is published by which of the following?

- a) United Nations Environmental Programme (UNEP)
- b) United Nations Office on Drugs and Crime (UNODC)
- c) International Union for Conservation of Nature (IUCN)
- d) Convention on International Trade in Endangered Species (CITES)

ANS: B

Explanation: The trafficking of wildlife is increasingly recognized as both a specialized area of organized crime and a significant threat to many plant and animal species.

- The World Wildlife Crime Report (UNODC) takes stock of the present wildlife crime situation with a focus on illicit trafficking of specific protected species of wild fauna and flora, and provides a broad assessment of the nature and extent of the problem at the global level.
- It includes a quantitative market assessment and a series of in-depth illicit trade case studies.

Source: The Hindu

Q.9) Which of the following is **NOT** a fundamental duty?

- a) To uphold and protect the sovereignty, unity and integrity of India.
- b) To promote harmony and the spirit of common brotherhood.
- c) To promote the welfare of the people by securing a social order.
- d) To safeguard public property and to abjure violence.

ANS: C

Explanation: According to Article 51 A, it shall be the duty of every citizen of India:

- to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- to cherish and follow the noble ideals that inspired the national struggle for freedom;
- to uphold and protect the sovereignty, unity and integrity of India;
- to **promote harmony and the spirit of common brotherhood** amongst all the people of India transcending religious, linguistic and regional or sectional diversities and to renounce practices derogatory to the dignity of women;
- to value and preserve the rich heritage of the country's composite culture;
- to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures;
- to develop scientific temper, humanism and the spirit of inquiry and reform;
- to safeguard public property and to abjure violence;

To promote the welfare of the people by securing a social order permeated by justice—social, economic and political—and to minimize inequalities in income, status, facilities and opportunities is a **Directive Principles of State Policy**.

Source: Laxmikanth

Q.10) Which of the following Act/Acts has/have been "passed by Parliament on the request of the states"?

- 1. The Prize Competition Act, 1955.
- 2. The Wild Life (Protection) Act, 1972.
- 3. The Air (Prevention and Control of Pollution) Act, 1981.

Select the correct answer using the codes given below:

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

ANS: B

Explanation: When the legislatures of two or more states pass resolutions requesting the Parliament to enact laws on a matter in the State List, then the Parliament can make laws for regulating that matter.

- A law so enacted applies only to those states which have passed the resolutions.
- However, any other state may adopt it afterwards by passing a resolution to that effect in its legislature.
- Such a law can be amended or repealed only by the Parliament and not by the legislatures of the concerned states.
- Some examples of laws passed under the above provision are Prize Competition Act, 1955; Wild Life (Protection) Act, 1972; Water (Prevention and Control of Pollution) Act, 1974; Urban Land (Ceiling and Regulation) Act, 1976; and Transplantation of Human Organs Act, 1994.

Source: Laxmikanth

- **Q.11)** Which of the following are the **founder members** of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)?
- 1. Bangladesh
- 2. India
- 3. Sri Lanka
- 4. Myanmar
- 5. Bhutan
- 6. Nepal

7. Thailand

Select the correct answer using the code given below:

- a) 1, 2, 3, 4 and 7 only
- b) 1, 2, 5, 6 and 7 only
- c) 1, 2, 3 and 7 only
- d) 1, 2 and 3 only

ANS: C

Explanation: The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional organization comprising seven Member States lying in the littoral and adjacent areas of the Bay of Bengal constituting a contiguous regional unity.

- This sub-regional organization came into being on 6 June 1997 through the Bangkok Declaration.
- It constitutes seven Member States: five deriving from South Asia, including Bangladesh, Bhutan, India, Nepal, Sri Lanka, and two from Southeast Asia, including Myanmar and Thailand.
- Initially, the economic bloc was formed with four Member States with the acronym 'BIST-EC' (Bangladesh, India, Sri Lanka and Thailand Economic Cooperation).
- Following the inclusion of Myanmar on 22 December 1997 during a special Ministerial Meeting in Bangkok, the Group was renamed 'BIMST-EC' (Bangladesh, India, Myanmar, Sri Lanka and Thailand Economic Cooperation).
- With the admission of Nepal and Bhutan at the 6th Ministerial Meeting (February 2004, Thailand), the name of the grouping was changed to 'Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation' (BIMSTEC).

Source: BIMSTEC

Q.12) Which of the following country is recently **re-joined** the Commonwealth group?

- a) Sri Lanka
- b) Syria
- c) Omen
- d) Maldives

ANS: D

Explanation: The **Maldives re-joined the Commonwealth**, more than three years after the Indian Ocean island nation quit the association amid mounting criticism of its human rights record then.

- In 2016, the Maldives pulled out of the Commonwealth terming "unjust" the grouping's decision to penalise the country over former President Mohamed Nasheed's controversial ouster in 2012.
- It followed the Commonwealth Ministerial Action Group (CMAG)'s warning to Maldives of suspension from the bloc, voicing "deep disappointment" over the country's lack of progress in resolving the political crisis during former President Abdulla Yameen's presidency, whose authoritarian slant sparked concern domestically and internationally.

Source: Indian Express

Q.13) Consider the following statements regarding the **G-20**:

- 1. It is an inter-governmental treaty between 19 member countries and European Union.
- 2. It was created after the collapse of Soviet Russia to promote economic growth among developing and developed countries.

3. It has members from every continent.

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: C

Explanation: The Group of Twenty, or the G20, is the **premier forum for international** economic cooperation.

- The G20 brings together the leaders of both developed and developing countries from every continent.
- Collectively, G20 members represent around 80% of the world's economic output, two-thirds of global population and three-quarters of international trade.
- Throughout the year, representatives from G20 countries gather to discuss financial and socioeconomic issues.
- **Originated in 1999** at the level of Finance Ministers and Central Bank Governors, the G20 gathered for high-level discussions on macro-financial issues.
- In the wake of the 2008 global financial crisis, the G20 was elevated to include the leaders of member countries.
- The first G20 Leaders' Summit took place in Washington D.C. in November 2008.
- Consequently, the G20 agenda expanded beyond macro-financial issues, to include socio-economic and development issues.

Source: The Hindu

- **Q.14)** The term **Principle of Non-Refoulement** often seen in news is related to which of the following?
- a) Economic offender
- b) Refugees
- c) Right to property
- d) Polluter pay principle

ANS: B

Explanation: Non-refoulement is a fundamental principle of international law.

- It prohibits states from forcibly returning **refugees** to conditions that caused them to flee their homes in the first place, where they would be likely in danger of persecution based on race, religion, nationality, membership of a particular social group or political opinion.
- It is also in charge of the exchequer control and internal audits.

Source: The Hindu

Q.15) Which of the following pair (s) is/are **NOT** correctly matched?

Organization : Founder

Dharma Sabha
 Raja Radhakant Deb
 Tattvabodhini Sabha
 Rabindranath Tagore
 Brahmo Samaj of India
 Rammohan Roy
 Select the correct answer using the codes given below:

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

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ANS: C

Explanation: Dharma Sabha: The orthodox Hindu led by **Raja Radhakant Deb** organised the 'Dharma Sabha' with the object of countering the propaganda of BrahmoSamaj.

Tatvabodhini Sabha: **Debendranath Tagore**, father of Rabindranath Tagore founded the Tatvabodhini Sabha in 1839 to propagate Rammohun Roy's ideas. The Tatvabodhini Sabha and its organ the Tatvabodhini Patrika promoted a systematic study of India's past in Bengali language and helped spread rational outlook.

Brahmo Samaj of India: **Keshubsen** and his followers broke away from Brahmo samaj in 1866 and established what was called the 'Brahmo Samaj of India'.

Source: e-gyankosh

Q.16) Consider the following statements regarding the Directorate General of Foreign Trade (DGFT) organization:

- 1. Its mandate is to formulating and implementing the Foreign Trade Policy with the main objective of promoting India's exports.
- 2. It is an attached office of the Ministry of Commerce and Industry.

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: Directorate General of Foreign Trade (DGFT) **organization is an attached office of the Ministry of Commerce and Industry** and is headed by Director General of Foreign Trade.

- Right from its inception till 1991, when liberalization in the economic policies of the Government took place, this organization has been essentially involved in the regulation and promotion of foreign trade through regulation.
- Keeping in line with liberalization and globalization and the overall objective of increasing of exports, DGFT has since been assigned the role of "facilitator".
- The shift was from prohibition and control of imports/exports to promotion and facilitation of exports/imports, keeping in view the interests of the country.
- This Directorate, with headquarters at New Delhi, is responsible for formulating and implementing the Foreign Trade Policy with the main objective of promoting India's exports.
- The DGFT also issues scrips/authorization to exporters and monitors their corresponding obligations through a network of 38 regional offices and an extension counter at Indore.

Source: DGFT

Q.17) Which of the following is/are correctly matched?

Committee/Panel : Significance

Ranga Rajan Committee : Balance of Payments
 Vijay Kelkar Committee : Goods & Service Tax
 Tarapore Committee : Currency Convertibility

Select the correct answer using the codes given below:

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

ANS: A

Explanation: Besides, economic reforms in various sectors, various Committees were set up from time to time (by the Government of India and by RBI) to discuss policy issues related to international trade and balance of payments.

Some of the important Committees were -

- Committee on Export Import Policies & Procedures (Alexander Committee, 1978),
- Committee on Trade policy (Abid Hussain Committee, 1984),
- High level Committee on Balance of Payments (Rangarajan Committee 1993), and
- Committee on Capital Account Convertibility (Tarapore Committee I 1997 & Tarapore Committee II 2006).

In 2003, the Vajpayee government forms a task force under Vijay Kelkar to recommend tax reforms. In 2004, Vijay Kelkar, then advisor to the Finance Ministry, recommends GST to replace the existing tax regime.

Source: Ramesh Singh

Q.18) The "Global Social Mobility Index" is released by which of the following International Institution?

- a) UNESCO
- b) United Nations Development Programme (UNDP)
- c) World Economic Forum (WEF)
- d) UNICEF

ANS: C

Explanation: 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.

The report, released ahead of the 50th Annual Meeting of the WEF, also lists India among the five countries that stand to gain the most from a better social mobility score that seeks to measure parameters necessary for creating societies where every person has the same opportunity to fulfill his potential in life irrespective of socioeconomic background.

Source: The Hindu

Q.19) Consider the following statements regarding the World Population Prospects 2019 report:

- 1. It is published and released by United Nations (UN).
- 2. According to the report, India is projected to overtake China as the world's most populous country by 2050.

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 key message from the **UN's World Population Prospects 2019 report** is that national leaders must redouble their efforts to raise education, health and living standards for people everywhere.

- India is projected to become the most populous country by 2027 surpassing China, and host 1.64 billion people by 2050;
- The world as a whole could be home to 8.5 billion people in just over a decade from now, and the number could go up to 9.7 billion by mid-century.

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- The largest increases in population between 2019 and 2050 will take place in: India, Nigeria, Pakistan, the Democratic Republic of the Congo, Ethiopia, the United Republic of Tanzania, Indonesia, Egypt and the United States of America (In descending order of the expected increase).
- The UN report shows migration to countries with a falling ratio of working-age people to those above 65 will be steady, as those economies open up to workers to sustain economic production.
- Japan has the lowest such ratio, followed by Europe and the Caribbean; in over three decades, North America, Eastern and Southeastern Asia will join this group.
- India meanwhile will have a vast number of young people and insufficient natural resources left for exploitation. Preparing for the changes and opportunities migration offers will depend on a skills revolution.

Source: The Hindu

Q.20) According to the International Labour Organization (ILO) report, working on a warmer planet: The impact of heat stress on labour productivity and decent work, which of the following **sector** is the most affected?

- a) Agriculture sector
- b) Manufacturing sector
- c) Construction business
- d) Service sector

ANS: A

Explanation: According to the International Labour Organization (ILO) report, Working on a warmer planet: The impact of heat stress on labour productivity and decent work, **Globally** two sectors projected to be hit worst are agriculture and construction, with agriculture worse affected.

- The ILO says 940 million people around the world work in the agricultural sector, which is projected to account for 60% of working hours lost due to heat stress by 2030.
- In construction, an estimated 19% of global working hours are likely to be lost.

Source: The Hindu

