

ForumIAS

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Prelims Marathon

September, 2022

HISTORY
ECONOMICS
POLITY
SCIENCE AND TECHNOLOGY
GEOGRAPHY AND ENVIRONMENT

FORUMIAS



Environment

Q.1) Consider the following statements about Effects of Snow on plants:

1. Snow protects seedlings from excessive cold and frost.
2. Snow influences the distribution of deodar, fir and spruce.

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: Effects of Snow on plants:

- Snow influences the distribution of deodar, fir and spruce.
- Snow acts as blanket, prevents further drop in temperature and protects seedlings from excessive cold and frost.
- It results in mechanical bending of tree stem.
- Shortens the period of vegetative growth also uproots the trees.

Source: ShankarIAS

Q.2) “These plant growing on the host plant but not nourished by the host plant. They do not draw food from the host plant. They only take the help of the host plant in getting access to light.”

Which of the following is mentioned in the above statement?

- a) Herbs
- b) Climbers
- c) Shrubs
- d) Epiphytes

ANS: D

Explanation: Plant Classification:

- Herb is defined as a plant whose stem is always green and tender with height of not more than 1 meter.
- Shrub is defined as a woody perennial plant differing from a perennial herb in its persistent and woody stem. It differs from a tree in its low stature and its habit of branching from the base. Not more than 6 meters in height.
- Tree is defined as a large woody perennial plant having a single well defined stem with more or less definite crown.
- Parasites - An organism that draws a part or whole of its nourishment from another living organism. These plants do not draw moisture and mineral nutrients from the soil. They grow on some living plant called host and penetrate their sucking roots, called haustoria, into the host plants.
 - Total parasite - draws whole of its nourishment
 - Partial parasite - draws a part of its nourishment

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- Epiphytes - plant growing on the host plant but not nourished by the host plant. They do not draw food from the host plant. They only take the help of the host plant in getting access to light. Their roots perform two functions. While climbing roots establish the plant on the branches of the host plant, aerial roots draw moisture from the air. Eg. Vanda
- Climbers - herbaceous or woody plant that climbs up trees or other support by twining round them or by holding on to them by tendrils, hooks, aerial roots or other attachments.

Source: ShankarIAS

Q.3) Which one of the following is an endangered species of the Indian medicinal plants?

- a) Garlic
- b) Ocimum
- c) Nependenthes
- d) Podophyllum

ANS: D

Explanation:

- Podophyllum hexandrum is an endangered high-elevation plant species in Himalaya region.
- Podophyllotoxin is a derivative of Podophyllum hexandrum, is used in the treatment of many cancers.
- The root and underground stem (rhizome) are used to make medicine.
- Podophyllum is poisonous when taken by mouth. Despite this, some people take it orally for yellowed skin (jaundice), liver ailments, fever, syphilis, hearing loss, and cancer.
- Podophyllum is also used to empty the bowels, kill parasitic worms in the intestine, and counteract snakebites. Some women take it to cause an abortion.
- Podophyllum has been used as a laxative. But it has been removed from the market due to safety concerns. Podophyllum is applied directly to the skin for removal of warts, including plantar warts and genital warts. It is also used topically for white patches on the tongue in people with weakened immune systems (hairy leukoplakia) and for corns.
- Podophyllum can stop cell duplication and new growth. It can also have laxative effects.

Source: <https://www.webmd.com/vitamins/ai/ingredientmono-806/podophyllum>

Q.4) Which kind of forest is found in Silent Valley of Kerala?

- a) Mangrove Forest
- b) Deciduous Forest
- c) Tropical Rain Forest
- d) Littoral and Swamp Forest

ANS: C

Explanation:

- Silent valley is a National Park in Nilgiri Hills in Kerala's Palakkad District. It consists of tropical rain forests & moist deciduous forests.

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- Along with Karimpuzha & Mukurthi National Park, it forms the part of Nilgiri International Biosphere Reserve.

Source: <http://www.silentvalley.gov.in/>

Q.5) Which of the following is considered as the “forest of world heritage”?

- a) Nandankanan in Orissa
- b) Kaziranga in Assam
- c) Sundarban in West Bengal
- d) Indian botanic garden Shibpur in West Bengal

ANS: C

Explanation: UNESCO World Heritage Forests:

- Forests are some of the most biodiversity-rich habitats on Earth.
- These forests play a crucial role in climate regulation by absorbing carbon dioxide (CO₂) and are considered as one of the most cost-effective forms of climate action.
- As of today, more than 200 World Heritage sites harbor unique forest ecosystems.
- Ranging in size from 18 hectares (Vallée de Mai, Seychelles), to more than 5 million hectares (Central Amazon Conservation Complex, Brazil), World Heritage forest sites now have a total surface area of over 69 million hectares (roughly twice the size of Germany).
- Sundarbans lie in Ganga Brahmaputra delta. They are one of the largest mangrove forests in the world. It was designated as World Heritage Site by UNESCO in 1987.

Source: <https://www.sunderbannationalpark.in/>

Q.6) Sacred groves are useful for which one of the following?

- a) Preventing soil erosion
- b) generating environmental awareness
- c) conservation rare and threatened species
- d) year-round flow of water in rivers

ANS: C

Explanation:

- India has a long tradition of prudent use and wise conservation of all resources that are useful to people.
- Forests have been the lifelines for forest-dwelling communities since ancient times. One method for conservation of this green resource was the creation of sacred groves, usually dedicated to a local deity.
- A traditional means of biodiversity conservation, these groves can be considered the ancient equivalent of natural sanctuaries where all forms of living creatures are given protection by a deity.
- No one is permitted to cut any tree or plant, kill animals and birds, or harm any form of life in this area. Ancient Indian texts have many references to sacred groves, for example, Kalidaasa’s Vikramorvashyam.
- Sacred groves vary in size from a few trees to dense forests covering vast tracts of land. These groves are important today as they are banks of genetic and plant diversity that have to be preserved and sustained.

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- These areas often contain species that have disappeared from the regions outside the grove. The extant groves are proof that the forests exist not only because there are regulations but also because there are traditions.

Source: <https://sacredland.org/sacred-groves-of-india-india/>

Q.7) Which one of the following is not a site for the in-situ method of conservation of Flora?

- a) Botanical Garden
- b) Wildlife Sanctuary
- c) National Park
- d) Biosphere Reserve

ANS: A

Explanation:

- Ex-situ conservation is done by preserving the components of biological diversity outside their natural habitats.
- It is done by conserving genetic resources, as well as wild and cultivated or species. Examples include Gene banks, Microbial cultures, Botanical Garden, Zoo etc.
- In-situ conservation is done by conserving the species in their natural habitats. It is the best way of biodiversity conservation.
- Examples include Sacred groves, National parks, Biosphere Reserve, Wildlife Sanctuary etc.

Source: <http://www.oas.org/dsd/publications/unit/oea04e/ch04.htm>

Q.8) Which one of the following is correct explanation for the process of afforestation?

- a) Cleaning forests
- b) Plantation
- c) Cutting of forest
- d) Collecting forest resources

ANS: B

Explanation: Afforestation

- Afforestation is a process where new forests are planted across land without trees. As a forest grows, it naturally removes CO₂ from the atmosphere and stores it in its trees.
- The technique has been described as one of the most “natural” and technologically simple of the “negative emissions technologies” (NETs) – a term describing a group of methods that aim to remove CO₂ from the atmosphere.
- However, others have raised concerns that afforestation could be costly, difficult to manage and could take up large amounts of land.
- Some point out that many regions are still grappling with deforestation and may not be able to protect new forests from destruction.

Source: <https://www.carbonbrief.org/mapped-where-afforestation-is-taking-place-around-the-world/#:~:text=Afforestation%20is%20a%20process%20where,stores%20it%20in%20its%20trees.>

Q.9) Heri Tiera Fomes (sundari tree) is a type of which of the following plants?

- a) Tidal Forest
- b) Thorn Forest
- c) Mountain Forest
- d) Taiga Forest

ANS: A

Explanation: Heritiera Fomes (Sundari tree) is a type of mangrove tree mostly found in the Sundarban delta of Ganga Brahmaputra rivers. It constitutes over 70% of forest in this area.

Source: <https://www.indianetzone.com/48/sundri.htm>

Q.10) Which one of the following state produces largest number of orchids in India?

- a) Assam
- b) Arunachal Pradesh
- c) Meghalaya
- d) Sikkim

ANS: B

Explanation:

- The highest number of orchid species is recorded from Arunachal Pradesh with 612 species, followed by Sikkim 560 species and West Bengal; Darjeeling Himalayas have also high species concentration, with 479 species.
- While north-east India rank at the top in species concentration, the Western Ghats have high endemism of orchids.
- There are 388 species of orchids, which are endemic to India of which about one-third (128) endemic species are found in Western Ghats. The publication point out that Kerala has 111 of these endemic species while Tamil Nadu has 92 of them.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/india-is-home-to-1256-species-of-orchid-says-first-comprehensive-survey/article28429797.ece>

History

Q.1) Which of the following statement about Ajivika is/are correct?

1. Nanda Vaccha is considered as the founder of the Ajivika Sect.
2. The Cholas are known to have levied a tax on the Ajivikas.

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: Ajivika Sect

- The Ajivikas are believed to have evolved from one of the many ascetic groups of the times. According to Buddhist records, Nanda Vaccha was considered the founder of the Ajivika sect. He was succeeded by Kisa Samkicca, followed by Makkhali Gosala, who was the third and the greatest of the Ajivikas.
- Gosala met Mahavira for the first time in Nalanda and their friendship lasted for six years. They separated due to doctrinal differences. Gosala then went to Sravasti, where he was patronised by a rich potter woman called Halahala.
- He believed in the doctrine of reanimation, and criticised and ridiculed the severe austerities of the Vedic ascetics. Being rival sects, both the Buddhist and Jaina accounts portray Gosala as a person of vicious character.
- Sravasti was the headquarters of the Ajivika sect. The Ajivikas were naked ascetics. The basic principle of the Ajivikas was niyati or fate: they believed that nothing in this world could be changed as everything was predetermined.
- Everyone has to pass through a series of transmigrations to put an end to pain. According to Ajivikas, there were six inevitable factors in life, viz. gain and loss, joy and sorrow, and life and death.
- Two other preachers, Purana Kassapa and Pakudha Kaccchayana, joined the Ajivikas after the death of Gosala and infused new life to it.
- **Ajivikas in Tamil Land**
 - Manimekalai, Nilakesi and Sivagnanasiddhiyar have references to Ajivika doctrine. Nilakesi's quest for truth takes her to Buddha and Puranan. Puranan was the leader of the Ajivika sect.
 - The Cholas are known to have levied a tax on the Ajivikas.

Source: Tamil Nadu State Board Class 11

Q.2) Which one of the following is termed as a formal philosophical system of Indian materialism?

- a) Buddhism
- b) Ajivika
- c) Carvaka
- d) Jainism

ANS: C

Explanation: Carvaka or Lokayata

The term "lokeyata" signifies materialist thought. Indian materialism has also been named Carvaka after one of the two founders of the school. Carvaka and Ajita Kesakambalin are said to have established

Indian materialism as a formal philosophical system. Carvakas developed the concept of scepticism and believed in the pursuit of knowledge through experience. They questioned the authority of Vedas.

Source: Tamil Nadu State Board Class 11

Q.3) Acharrangasutra, Suttrakritanga, and Kalpasutra are literary text related to which one of the following?

- a) Buddhism
- b) Jainism
- c) Hinduism
- d) None

ANS: B

Explanation:

- On the death of Bhadrabahu, Shulabhadra held a Great Council at Pataliputra, which compiled the Jaina canon.
- It consisted of 12 angas (limbs). Another council was held in Valabhi, Gujarat, in the 5th century CE. It added 12 upangas (minor sections). The Jaina monks not only wrote
- religious treatises but also promoted secular literature. Acharrangasutra, Suttrakritanga, and Kalpasutra are the earliest Jaina texts.
- Most of the early Jaina texts were written in Ardha-Magadhi, the language of the common people.

Source: Tamil Nadu State Board Class 11

Q.4) Which one of the following, describe the term 'Mahabhiraskramana'?

- a) The great going forth
- b) The wheel of the great law
- c) The Members of the Great Community
- d) Believers in the Teachings of the Elders

ANS: A

Explanation:

- Overcome by remorse at the misery of people, he left his palace in the dead of night in search of eternal truth. He rode in his chariot pulled by his favourite horse Kanthaka and driven by his charioteer Channa far away from the city.

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- He cut his hair and sent it along with his discarded garments and jewellery to his father. This is known as Mahabhiraskramana or the Great Going Forth.
- After 49 days of meditation, he attained enlightenment, at the age of 35. Thereafter, he came to be called Buddha or the Enlightened.
- He then delivered his first sermon in a deer park in Sarnath near Varanasi. This event is described as Dharmachakra-parivartana or 'wheel of the great law'. He spoke about the Four Noble Truths and the Middle Path.
- He established Sangha and spread his ideas far and wide. Buddha and his followers travelled for eight months of the year and stayed at a place for four months of the rainy season. At the age of 80, he passed away in Kusinagara.
- This is known as Parinirvana.

Source: Tamil Nadu State Board Class 11

Q.5) Which one of the following is not the astangika marga of the Buddhism?

- a) Right Love
- b) Right Speech
- c) Right Action
- d) Right Thought

ANS: A

Explanation: Buddha's Middle or Eightfold Path

1. Right Views;
 2. Right Resolve;
 3. Right Speech;
 4. Right Conduct;
 5. Right Livelihood;
 6. Right Effort;
 7. Right Recollection;
 8. Right Meditation.
- Hence Buddha did not mention or talk about God. He neither accepted nor denied the existence of God. Buddhism advocated equality.
 - It preached non-violence or ahimsa and love towards all. However, it was a moderate religion compared to Jainism's insistence on ahimsa.
 - It promoted trade and capitalism as it was against waste and advocated frugality. Jobs involving any form of killing were forbidden. Trade in weapons, living beings, meat, liquor and poison were not permitted.

Source: Tamil Nadu State Board Class 11

Q.6) Which one of the following pair is not correctly matched regarding Buddha life and Symbols?

- a) Birth : Lotus
- b) Great Renunciation : Horse
- c) First Sermon : White Elephant
- d) Enlightenment : Bodhi Tree

ANS: C

Explanation: The five forms that represent Buddha are:

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- Lotus and Bull – Birth.
- Horse – Renunciation.
- Bodhi Tree – Mahabodhi.
- Dhammachakra Pravartana – First sermon.
- Footprints – Nirvana.

Source: Tamil Nadu State Board Class 11

Q.7) Which one of the following literary text is not related to Buddhism?

- a) Manimekalai
- b) Kundalakesi
- c) Dipavamsa
- d) Neelakesi

ANS: D

Explanation: Buddhist Literature:

- The Buddhist texts were compiled in Pali.
- The Pali canons are called as the Tripitakas (Three Baskets). They are Vinaya Pitaka, Sutta Pitaka and Abhidhamma Pitaka.
- Vinaya Pitaka deals with monastic rules and moral disciplines. Sutta Pitaka dwells upon discourses and teachings of Buddha.
- Abhidhamma Pitaka expounds Buddhist philosophy. The Sutta Pitaka, which contains the teachings of Buddha, is divided into five groups or Nikayas. They contain popular works such as Theragatha and Therigatha (Hymns of the Elder Monks and Nuns) and Jataka tales (Buddha's deeds in previous births as Bodhisattva).
- Other important Buddhist works include Milinda Panha, a discussion between Greco-Bactrian king Menander and Buddhist monk Nagasena, and Ceylonese chronicles Dipavamsa (Island Chronicles), Mahavamsa (Great Chronicle) and Culavamsa (Lesser Chronicle).
- Manimekalai by Sattanar one of the twin epics of the post-Sangam age is a Buddhist literature. Similarly the now extinct Kundalakesi is a Buddhist epic.
- Kanchipuram in the early Christian era was a flourishing Buddhist centre. Dinnaga and Dhammapala who headed the famous Nalanda University were renowned Buddhist scholars from Kanchipuram.

Jaina: influence is strong in early Tamil literature.

- Naladiyar, Palamoli, Jivaka Chinthamani, Yapperunkalam Karikai, Neelakesi are some of the prominent Jaina works in Tamil

Source: Tamil Nadu State Board Class 11

Q.8) With reference to Indian History, who among the following is a future Buddha, yet to come to save the world?

- a) Avalokiteshvara
- b) Lokeshvara
- c) Maitreya
- d) Padmapani

ANS: C

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Explanation: Maitreya will be the successor of Gautama Buddha. Maitreya is a bodhisattva who will appear on Earth in the future and is regarded as a future Buddha of this world.

Source: ForumIAS

Q.9) Which of the following pairs are correctly matched?

1. First Buddhist Council : At Rajgir
2. Second Buddhist Council : At Patliputra
3. Third Buddhist Council : At Vaishali
4. Fourth Buddhist Council : At Kashmir

Select the correct answer using the codes given below:

- 1, 2 and 3 Only
- 1, 2 and 4 Only
- 1 and 4 Only
- 2 and 3 Only

ANS: C

Explanation: Buddhist Councils:

	Patronage	Presidency	Important Remarks
1 st council – Rajgriha, 400 BC	Ajatshatru	Mahakashyapa	The Buddhist Canon as it exist today was settled at this Council and preserved as an oral tradition.
2 nd council – Vaishali, 383 BC	Kalasoka	Sabakami	First schism occurs in which the Mahasanghika school parts ways with the Sthaviravadins and the Theravadins.
3 rd council – Patliputra, 250 BC	Ashoka	Moggaliputta Tissa	Abhidhamma Pitaka was established
4 th council – Kashmir, 72 AD	Kanishka	Vasumitra	Buddhism got divided into Mahayana & Hinayana

Source: Tamil Nadu State Board Class 11

Q.10) Who among the following was the chairman of Third Buddhist Council?

- Mhakasyapa
- Sabakami
- Vasumitra
- Moggaliputta Tissa

ANS: D

Explanation:

	Patronage	Presidency	Important Remarks
1 st council – Rajgriha, 400 BC	Ajatshatru	Mahakashyapa	The Buddhist Canon as it exist today was settled at this Council and preserved as an oral tradition.
2 nd council – Vaishali, 383 BC	Kalasoka	Sabakami	First schism occurs in which the Mahasanghika school parts ways with the Sthaviravadins and the Theravadins.
3 rd council – Patliputra, 250 BC	Ashoka	Moggaliputta Tissa	Abhidhamma Pitaka was established
4 th council – Kashmir, 72 AD	Kanishka	Vasumitra	Buddhism got divided into Mahayana & Hinayana

Source: Tamil Nadu State Board Class 11

International News

Q.1) “Living Lands Charter” which mandates member countries to safeguard global land resources and arrest land degradation has been adopted by which of the following?

- a) European Union
- b) Commonwealth Nations
- c) UN
- d) ASEAN

ANS: B

Explanation: Living Lands Charter

The Commonwealth leaders have adopted the Living Lands Charter at the 2022 Commonwealth Heads of Government meeting in Kigali, Rwanda. It is a non-binding agreement. The Charter mandates member countries to safeguard global land resources and arrest land degradation while acting against climate change, biodiversity loss and towards sustainable management. The commonwealth members have also agreed to voluntarily dedicate ‘living land’ in their respective countries to future generations, in line with the strategy set for the United Nations Decade on Ecosystem Restoration.

Source: EPIC July 2022

Q.2) World Cities Report is released by which among the following?

- a) World Bank
- b) EIU
- c) UN-Habitat
- d) UNESCO

ANS: C

Explanation: World Cities Report, 2022

The UN-Habitat has released the World Cities Report, 2022.

Key Findings of the Report

- **Global Urban Population:** The urban population is forecast to grow from 56% in 2021 to 68% by 2050. The growth will be driven by middle- and low-income countries.
- **India’s Urban Population:** By 2035, India’s urban population is expected to reach 43.2% (675 million). This will be the second-highest behind China’s 1 billion.

Source: EPIC July 2022

Q.3) Barents Sea recently seen in news is located in which of the following ocean?

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

ANS: B

Explanation: About the Barents Sea

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The Barents Sea is a marginal sea of the Arctic Ocean located off the northern coasts of Norway and Russia. It is divided between Norwegian and Russian territorial waters. The Barents Sea is bounded by the Svalbard archipelago in the northwest, Franz Josef Land islands in the northeast, the Novaya Zemlya archipelago in the east, the Norwegian Sea and the Greenland Sea in the west, and by the Kola Peninsula in the south.



Source: EPIC July 2022

Q.4) The Large Hadron Collider, sometimes seen in news is built by which among the following?

- a) European Organisation
- b) Institute for Nuclear Research of the Russian Academy of Sciences
- c) IAEA
- d) None of the above

ANS: A

Explanation: About the Large Hadron Collider

The Large Hadron Collider is a giant, complex machine built to study particles that are the smallest known building blocks of all things. It is a 27-km-long track-loop buried 100 meters underground on the Swiss-French border. It has been built by the European Organization for Nuclear Research (CERN) between 1998 and 2008 in collaboration with over 10,000 scientists from hundreds of universities and laboratories. It is the world's largest and most powerful particle accelerator.

Source: EPIC July 2022

Q.5) Which among the following country is a not partner in the Blue Pacific (PBP) Initiative?

- a) Japan
- b) South Korea
- c) Australia
- d) New Zealand

ANS: B

Explanation: About the Partners in the Blue Pacific (PBP) Initiative

It has been launched by the US, Australia, New Zealand, Japan and the United Kingdom. It is an 'informal mechanism' to support Pacific islands and to boost diplomatic, and economic ties in the pacific region.

The objectives include:

- To deliver results for the Pacific more effectively and efficiently;
- To expand cooperation between the Pacific and the rest of the world;
- To focus on bolstering 'Pacific regionalism'.

The areas where PBP aims to enhance cooperation with the Pacific islands include climate crisis, connectivity and transportation, maritime security and protection, health, prosperity, and education.

Source: EPIC July 2022

Q.6) Which among the following pair of countries is a part of I2U2?

- a) India and Iran
- b) USA and UK
- c) India and Iraq
- d) India and Israel

ANS: D

Explanation: About I2U2:

- I2U2 is the group formed by 4 nations: India, Israel, the UAE and the US.
- The 1st summit of I2U2 nations was held in a virtual mode in July 2022.
- Issues like food security and other areas of cooperation were discussed at the summit.
- The group members met for the first time under a new framework in October 2021.
- At that time, the grouping was called 'International Forum for Economic Cooperation'.
- The Ambassador of UAE to India had referred to the new grouping as the 'West Asian Quad'.

Source: EPIC July 2022

Q.7) Which among the following organization publishes Global Findex Report?

- a) World Bank
- b) IMF
- c) EIU
- d) Both (a) and (c)

ANS: A

Explanation: Global Findex Report by the World Bank

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About the Report: The report surveyed over 125,000 adults in 123 economies during COVID-19 to better understand how people use formal and informal financial services and digital payment.

Key Findings of the Report

- Increase in Bank account Ownership: Account ownership worldwide increased by 50% to reach 76% of the global adult population.
- Access to Formal Banking: Large shares of the global population without formal banking lives in India and China because of their size. India is among 7 countries home to half the world's 1.4 billion adults without access to formal banking.
- Gender Gap: Women are often excluded from formal banking services because they lack official forms of identification, do not own a mobile phone or other forms of technology and have the lower financial capability. 74 % of men had an account in developing countries while women account for 68%.
- COVID-19 and Digital Payments: COVID-19 pandemic catalyzed growth in the use of digital payments. In developing countries in 2021, 18% of adults paid utility bills directly from an account. About 33% of these paid bills online for the first time.
- Mobile Money: Mobile money has become an important enabler of financial inclusion — especially for women e.g., in Sub-Saharan Africa.

Source: EPIC July 2022

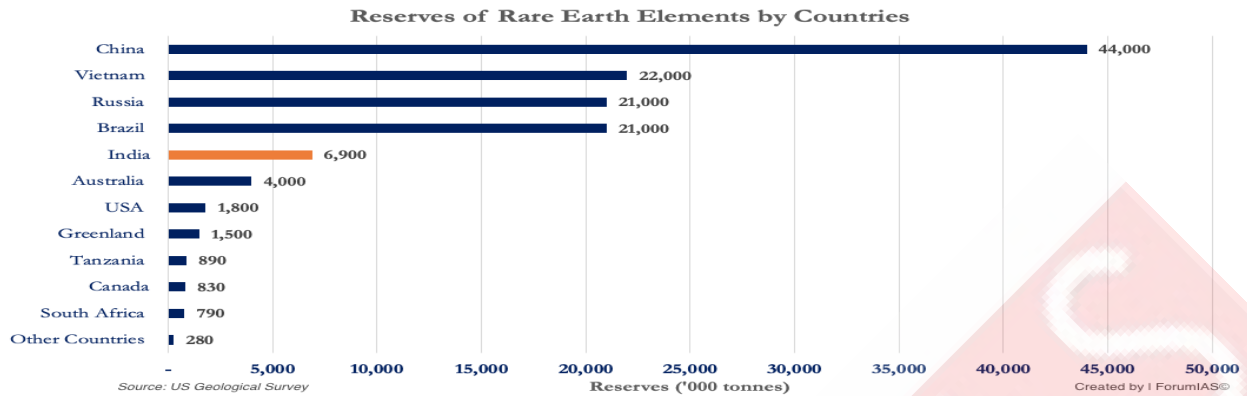
Q.8) Which of the following statement about current status of the reserves of Rare Earth Elements (REEs) is not correct?

- a) China holds the leading position among producers of rare earth oxides.
- b) India is ranked 5th in terms of reserves.
- c) China holds the leading position in global reserves followed by USA.
- d) None of the above

ANS: C

Explanation: What is the current status of the reserves of REEs?

- The total global reserves are estimated at 120 million tonnes of rare earth oxides equivalent content (REO);
- China alone accounts for 44 million tones followed by Vietnam and Russia;
- China holds the leading position among producers of rare earth oxides with 140 thousand tonnes. The other major producers are Myanmar, Australia, USA, Russia and Malaysia;
- India is ranked 5th in terms of reserves;
- Significant rare earth minerals found in India are ilmenite, sillimanite, garnet, zircon, monazite, and rutile, collectively called Beach Sand Minerals (BSM);
- Monazite is the principal source. Monazite is mainly found in Odisha, Andhra Pradesh, Tamil Nadu, Kerala, West Bengal, and Jharkhand. According to the India Minerals Yearbook (2019), India had 12.47 million tonnes of Monazite Resources;
- They are classified as atomic minerals and are therefore not at par with other minerals. The reason that they are classified as atomic minerals is because some of these elements occur in the earth's surface along with thorium and uranium which are radioactive minerals.



Q.9) The term “e-transmission Moratorium”, sometimes seen in news is related to which of the following?

- a) WTO
- b) WHO
- c) UNESCO
- d) BRICS

ANS: A

Explanation: About the e-transmission Moratorium

WTO members have agreed not to impose customs duty on electronic transmission since 1998 and the moratorium has been periodically extended at the successive Ministerial Conferences. The moratorium is on digitizable products like photographic films, cinematographic films, printed matter, music, media, software and video games. Many WTO members are seeking a temporary extension of the moratorium till the 13th ministerial conference. India and other countries like South Africa have repeatedly asked the WTO to revisit the issue and have highlighted the adverse impact of the moratorium on developing countries.

Source: EPIC June 2022

Q.10) Which of the following is not a train running between India and Bangladesh?

- a) Maitree Express
- b) Samjhauta Express
- c) Bandhan Express
- d) Mitali Express

ANS: B

Explanation: Rail Links between India and Bangladesh

- Bandhan Express: It was resumed by rebooting a long-forgotten rail link between Kolkata and the industrial hub of Khulna, the 3rd-largest city of Bangladesh. In 1965, this route was served by the Barisal Express which was stopped due to the India-Pakistan war.
- Maitree Express: It runs between Kolkata and Dhaka Cantonment.
- Mitali Express: It will connect New Jalpaiguri in North Bengal with Dhaka. This train was announced by PM during his visit to Dhaka in March 2021.

Source: EPIC June 2022

Science and Technology

Q.1) Consider the following statements about Rare Earth Elements:

1. Rare earth elements (REEs) are a group of 17 chemically similar metallic elements in the periodic table.
2. Rare earth elements do occur in a free state.

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: What are Rare Earth Elements?

- Rare earth elements (REEs) are a group of 17 chemically similar metallic elements in the periodic table;
- The REEs are actually not 'rare' in nature; they occur abundantly but are often not concentrated enough to undertake viable extraction;
- REEs are characterized by high density, high melting point, high conductivity, and high thermal conductance. REEs are classified into Heavy REE and Light REE;
- REEs do not occur in a free state. They are found in mineral oxide ores.

Source: EPIC July 2022

Q.2) Which of the following statement about Critical Information Infrastructure (CII) is/are correct?

1. IT resources of ICICI Bank, HDFC Bank and UPI managing entity NPCI as Critical Information Infrastructure.
2. National Critical Information Infrastructure Protection Centre (NCIIPC) was created in 2021 as the nodal agency to protect the nation's Critical Information Infrastructure (CII).

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: A

Explanation: The Union Ministry of Electronics and IT (MeitY) has declared the IT resources of ICICI Bank, HDFC Bank and UPI managing entity NPCI as Critical Information Infrastructure.

About Critical Information Infrastructure (CII)

- The Information Technology Act, 2000 defines CII as a computer resource, the incapacitation or destruction of which shall have a debilitating impact on national security, economy, public health or safety.
- Under the Act, the Government has the power to declare any database, IT network or communications infrastructure as CII to protect that digital asset.

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- Any person who secures access or attempts to secure access to a protected system in violation of the law can be punished with a jail term of up to 10 years.

Protection of CIIs in India

National Critical Information Infrastructure Protection Centre (NCIIPC) was created in 2014. It is the nodal agency for taking all measures to protect the nation's Critical Information Infrastructure (CII).

Source: EPIC July 2022

Q.3) Consider the following statements about Technology Information, Forecasting and Assessment Council (TIFAC):

1. It is an autonomous organization set up in 1988 under the Department of Science & Technology.
2. It look ahead in the technology domain, assess the technology trajectories and support innovation.

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: TIFAC

- Technology Information, Forecasting and Assessment Council is an autonomous organization set up in 1988 under the Department of Science & Technology to look ahead in the technology domain, assess the technology trajectories and support innovation.
- NITI Aayog and Technology Information, Forecasting and Assessment Council (TIFAC) have released a report titled 'Forecasting Penetration of Electric Two-Wheelers in India'.

Source: EPIC July 2022

Q.4) Consider the following statements:

1. Green hydrogen is hydrogen gas produced through the electrolysis of water using renewable power.
2. The Green Hydrogen Catapult, a United Nations initiative is aimed at bringing down the cost of green hydrogen.

Which of the following statement is/are correct?

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

ANS: C

Explanation: About Green Hydrogen

- Green hydrogen is hydrogen gas produced through the electrolysis of water using renewable power.
- Electrolysis is an energy intensive process for splitting water into hydrogen and oxygen. Green hydrogen featured in a number of emissions reduction pledges at the UN Climate Conference, COP26, as a means to de-carbonize heavy industry, long haul freight, shipping, and

aviation. Governments and industry have both acknowledged hydrogen as an important pillar of a net zero economy.

The Green Hydrogen Catapult, a United Nations initiative to bring down the cost of green hydrogen announced that it is almost doubling its goal for green electrolysers from 25 gigawatts set last year, to 45 gigawatts by 2027. The European Commission has adopted a set of legislative proposals to decarbonize the EU gas market by facilitating the uptake of renewable and low carbon gases, including hydrogen, and to ensure energy security for all citizens in Europe. The United Arab Emirates is also raising ambition, with the country's new hydrogen strategy aiming to hold a fourth of the global low-carbon hydrogen market by 2030 and Japan recently announced it will invest \$3.4 billion from its green innovation fund to accelerate research and development and promotion of hydrogen use over the next 10 years.

Source: EPIC July 2022

Q.5) Consider the following statements about Large Hadron Collider:

1. It is a 27-km-long track-loop buried 100 meters underground on the Swiss-French border.
2. It is the world's largest and most powerful particle accelerator.

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: About the Large Hadron Collider

- The Large Hadron Collider is a giant, complex machine built to study particles that are the smallest known building blocks of all things.
- It is a 27-km-long track-loop buried 100 meters underground on the Swiss-French border.
- It has been built by the European Organization for Nuclear Research (CERN) between 1998 and 2008 in collaboration with over 10,000 scientists from hundreds of universities and laboratories.
- It is the world's largest and most powerful particle accelerator.

Source: EPIC July 2022

Q.6) Consider the following statements about Quarks:

1. Quarks are elementary particles that come in 6 'flavours': up, down, charm, strange, top, and bottom.
2. They usually combine together in groups of twos and threes to form hadrons such as the protons and Neutrons.

Which of the statements given above is/are correct?

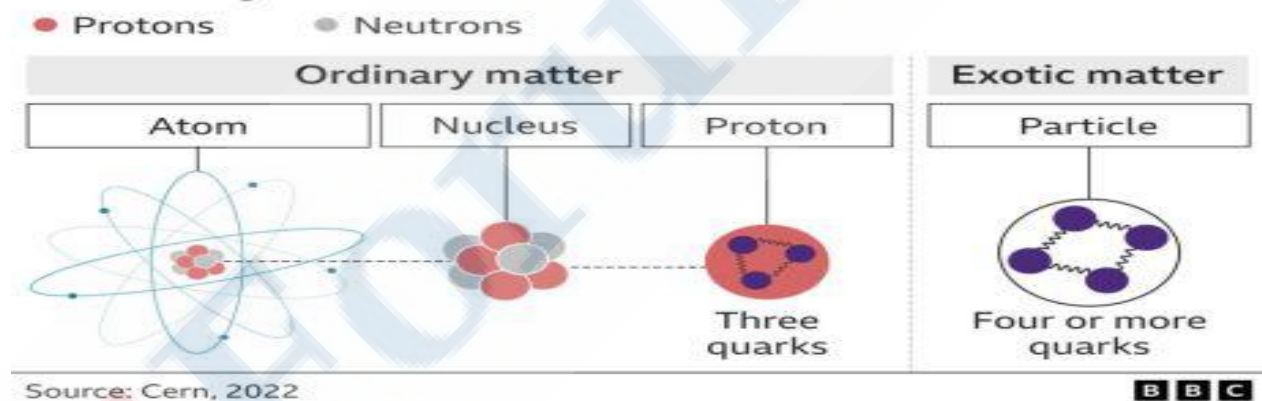
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

ANS: C

Explanation: About Quarks, Pentaquark and Tetraquark

- Quarks are elementary particles that come in 6 'flavours': up, down, charm, strange, top, and bottom.
- They usually combine together in groups of twos and threes to form hadrons such as the protons and neutrons that make up atomic nuclei.
- But they can also combine into four-quark and fivequark particles called tetraquarks and pentaquarks.
- These exotic hadrons were predicted by theorist about six decades ago — around the same time as conventional hadrons — but they have been observed by the Large Hadron Collider and other experiments only in the past 20 years.

Ordinary and exotic matter



Source: Cern, 2022

BBC

Source: EPIC July 2022

Q.7) Consider the following statements about Cervical Cancer:

1. It is a common sexually transmitted infection.
2. Human Papilloma Virus is responsible for more than 95% of cervical cancer cases.

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: About Cervical Cancer

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- Cervical cancer occurs in the cells of the cervix — the lower part of the uterus that connects to the vagina.
- It is a common sexually transmitted infection. HPV is responsible for more than 95% of cervical cancer cases, and it kills more than 60,000 women in India every year.
- Cervical cancer is preventable as long as it is detected early and managed effectively.
- Worldwide, cervical cancer is the second most common cancer type and the second most common cause of cancer death in women of reproductive age (15–44).
- India accounts for about a fifth of the global burden of Cervical Cancer.

Source: EPIC July 2022

Q.8) Consider the following statements about Web 5.0:

1. It is being built with an aim to return ownership of data and identity to individuals.
2. Web 5.0 is aimed at building an extra centralized web.

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: Web 5.0

Former Twitter CEO, Jack Dorsey, has announced his vision for a new decentralized web platform that is being called Web 5.0. It is being built with an aim to return ownership of data and identity to individuals. Web 5.0 is aimed at building an extra decentralized web that puts one in control of their data and identity.

Source: EPIC July 2022

Q.9) CAPSTONE, a microwave oven-sized CubeSat weighing just 25 kg has been launched to moon by which of the following organization?

- a) ISRO
- b) JAXA
- c) NASA
- d) ROSCOSMOS

ANS: C

Explanation: CAPSTONE

- NASA has launched CAPSTONE, a microwave oven-sized CubeSat weighing just 25 kg. It stands for Cislunar Autonomous Positioning System Technology Operations and Navigation Experiment (CAPSTONE).
- Its aim is to help reduce risk for future spacecraft by validating innovative navigation technologies and by verifying the dynamics of the halo-shaped orbit.
- At the Moon, CAPSTONE will enter NRHO, where it will fly within 1,600 km of the Moon's North Pole on its near pass and 70,000 km from the South Pole at its farthest.
- The spacecraft will repeat the cycle every six-and-a-half days and maintain this orbit for at least six months to study dynamics. The study will provide useful insights for Gateway mission.

Source: EPIC July 2022

Q.10) Fujian Aircraft Carrier, recently seen in news is constructed by which of the following countries?

- a) North Korea
- b) China
- c) Japan
- d) India

ANS: B

Explanation: Fujian Aircraft Carrier

- Fujian is China's first 'fully domestically developed and constructed' aircraft carrier.
- It has been named after China's eastern coastal province which lies across from Taiwan.
- It joins two other carriers currently operated by China: Shandong, commissioned in 2019 and the Liaoning, bought second-hand from Ukraine in 1998.
- The Fujian's displacement is 80,000 tonnes, much more than the existing Chinese carriers, and comparable to the U.S. Navy aircraft carriers.
- It also has the latest launch technology — the Electromagnetic Aircraft Launch System (EMALS), first developed by the U.S. Navy.

Source: EPIC July 2022

Economy

Q.1) With respect to Goods and Services Tax (GST), consider the following statements:

1. A cess is levied on the tax slab of 12% on luxury, sin and demerit goods.
2. The collection from the cess goes to a separate corpus called Compensation fund.

Which of the above given statement is/are correct?

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

ANS: B

Explanation: What is the GST and its key provisions?

- The Goods and Services Tax (GST) is an indirect tax on the manufacture, sale, and consumption of goods and services throughout India;
- It was launched in 2017. It replaced the existing indirect taxes with varying rates levied by the Union and State Governments. It is a single uniform tax applicable in the whole nation;
- It is a destination-based tax applied on goods and services at the place where final/actual consumption happens;
- GST is applied to all goods other than crude petroleum, motor spirit, diesel, aviation turbine fuel, natural gas and alcohol for human consumption;
- There are four slabs for taxes for both goods and services: 5%, 12%, 18%, and 28%. Different tax slabs were introduced because goods of daily necessities could not be subjected to the same rate as luxury items;
- A cess is levied on the highest tax slab of 28% on luxury, sin and demerit goods. The collection from the cess goes to a separate corpus called Compensation fund. It is used to make up for revenue loss suffered by the States due to roll out of the GST. States were promised a compensation for 5 years if their GST collection falls short of the 14 percent compounded revenue growth.

Source: EPIC July 2022

Q.2) “RAISE Framework”, sometimes seen in news is related to which among the following?

- a) Social Security for Gig or Platform Workers.
- b) Social Security for Defence Personnel.
- c) Skill Development for ST girls aged 18-21.
- d) Generating employment opportunities to De-notified Tribes.

ANS: A

Explanation:

RAISE Framework

NITI Aayog has proposed a five-pronged RAISE approach to ensure realisation of full access to social security for all gig and platform workers.

Recognise the varied nature of platform work to design equitable schemes.

Allow augmentation of social security through innovative financing mechanisms.

Ensure benefits are readily accessible to workers.

Incorporate, while designing schemes, the specific interests of platforms, factoring the impact on job creation, platform businesses and workers.

Support workers to subscribe to government schemes and welfare programmes through widespread awareness campaigns.

Source: NITI Aayog

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Source: EPIC July 2022

Q.3) Which of the following is not correct about draft 'Guidelines to Regulate Child Participation in the Entertainment Industry'?

- The producer needs to ensure the child's education under the RTE Act.
- The guidelines will cover TV programmes, content on OTT platforms and also content on social media.
- There is provision of mandatory registration with District Magistrates.
- 80% of the income earned by the child shall be directly deposited in a fixed deposit account which may be credited to the child on attaining the majority.

ANS: D

Explanation:

The National Commission for the Protection of Child Rights (NCPCR) has published draft 'Guidelines to Regulate Child Participation in the Entertainment Industry'. The guidelines also cover social media and OTT Platforms.

Salient Features: The aim of the guidelines is to ensure a healthy work environment for children in the Entertainment Industry with minimal physical and psychological stress.

Coverage: The guidelines will cover TV programmes including reality shows, serials, news, movies, content on OTT platforms, content on social media and any other kind of involvement of children in commercial entertainment activities.

Accountability: Parents have to be held accountable. At least one parent or legal guardian has to be present during a shoot, and for infants, a registered nurse needs to be present along with the parent or legal guardian.

Focus on child education: The producer also needs to ensure the child's education under the RTE Act, to ensure no discontinuity from school or lessons as well as adequate and nutritious food, and water for the children.

Mandatory registration: The guidelines mandate child artists and children participating in entertainment need to be registered with District Magistrates.

Inclusion of different Acts protecting children: Provisions under the Juvenile Justice Act, 2015, Child Labour Amendment Act, 2016, Protection of Children from Sexual Offences Act,

2012, Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, etc., have been included in the guidelines.

Prohibited activities: Children cannot be shown imbibing alcohol, smoking or using any other substance or shown to be indulging in any sort of antisocial activity. Further, no child can be engaged in any situation involving nudity.

Salary-related norms: At least 20% of the income earned by the child shall be directly deposited in a fixed deposit account which may be credited to the child on attaining the majority.

Penal provisions: The guidelines include stringent penal provisions for violating the guidelines, including imprisonment. These penalties cover different acts including the Child and Adolescent Labour Act, 1986, the Protection of Children from Sexual Offences Act, 2012, and the Juvenile Justice (Care and Protection of Children) Act, 2015.

Source: EPIC July 2022

Q.4) Consider the following statements about Performance Grading Index for Districts:

1. Highest achievable Grade is Akanshi.
2. The index is released by NITI Aayog.

Which of the statement given above is/are correct?

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

ANS: D

Explanation: The Department of School Education and Literacy, Ministry of Education has released the Performance Grading Index for Districts for 2018-19 and 2019-20.

About the Index

The aim of the Index is to assess the performance of the school education system at the District level by creating an index for comprehensive analysis.

The index comprises a total weightage of 600 points across 83 indicators which are grouped under 6 categories:

- Outcomes;
- Effective Classroom Transaction;
- Infrastructure Facilities & Student's Entitlements;
- School Safety and Child Protection;
- Digital Learning;
- Governance Process.

Categorisation of Districts: The index grades the districts into 10 grades: Highest achievable Grade is Daksh which is for Districts scoring more than 90% of the total points in that category or overall. The lowest grade called Akanshi-3 which is for scores upto 10% of the total points.

The index is expected to help the state education departments to identify gaps at the district level and improve their performance in a decentralized manner.

Source: EPIC July 2022

Q.5) Which among the following released the 'State Ranking Index for NFSA'?

- a) FSSAI
- b) NITI Aayog
- c) Ministry of Health and Family welfare
- d) Ministry of Consumer Affairs, Food and Public Distribution

ANS: D

Explanation: State Ranking Index for National Food Security Act:

The Union Minister of Consumer Affairs, Food and Public Distribution has released the 1st edition of 'State Ranking Index for NFSA'.

About the Index

The aim of the Index is to document the status and progress of implementation of NFSA and various reform initiatives across the country post consultation with States.

The States and UTs were ranked on the basis of three parameters:

- NFSA coverage, rightful targeting and implementation of all provisions under the Act;
- The delivery platform while considering the allocation of food grains, their movement and last-mile delivery to fair price shops;
- Nutrition initiatives of the department.

The index will help create an environment of competition, cooperation and learning among states and help address matters of food security and hunger. The Index denotes only the efficiency of Targeted Public Distribution System (TPDS) operations. It does not reflect the level of hunger, if any or malnutrition, or both, in a particular state or union territory.

Key Takeaways

General Category States: Odisha has been ranked as the top State followed by Uttar Pradesh and Andhra Pradesh.

Special Category States: (the North-eastern States, Himalayan States and the Island States): Tripura has obtained the first rank. Himachal Pradesh and Sikkim are in the second and third positions.

Source: EPIC July 2022

Q.6) Consider the following statements:

1. A fiscal deficit (FD) situation occurs when the government's income exceeds its expenditure.
2. It is the difference between the total expenditure of the government and its total revenue (excluding borrowings).

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: About Twin Deficit:

A twin deficit refers to a situation where an economy runs relatively large Current Account and Fiscal deficits. A higher twin deficit is inherently destabilizing and was the primary reason why India faced a currency crisis back in 1991.

About Fiscal Deficit

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A fiscal deficit (FD) situation occurs when the government's expenditure exceeds its income. It is the difference between the total expenditure of the government and its total revenue (excluding borrowings).

It indicates the extent by which government spending exceeds its income and the total borrowings needed by it to fill this gap.

Source: EPIC July 2022

Q.7) Consider the following statements about State Start-up Ranking:

1. Kerala and Maharashtra appeared as the Best Performers in the States category.
2. The ranking is undertaken by the Department for Promotion of Industry and Internal Trade (DPIIT) since 2018.

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: About State Start-up Ranking:

The ranking is undertaken by the Department for Promotion of Industry and Internal Trade (DPIIT) since 2018. Its aim is to support States and Union Territories in developing their start-up ecosystem and learn from the best practices of others.

The States are evaluated across 7 broad Reform Areas:

- Institutional Support;
- Fostering Innovation and Entrepreneurship;
- Access to Market;
- Incubation support;
- Funding Support;
- Mentorship Support;
- Capacity Building of Enablers.

The States and Union Territories are classified into 5 categories:

- Best Performers;
- Top Performers;
- Leaders;
- Aspiring Leaders;
- Emerging Start-up Ecosystems.

Rankings 2021

Best Performers: Gujarat and Karnataka appeared as the Best Performers in the States category. Meghalaya topped among UTs and North-eastern States category.

Top Performers: Kerala, Maharashtra, Orissa and Telangana won the Top Performers award among states category. Jammu and Kashmir appeared as the Top Performer among UTs and NE states category.

Source: EPIC July 2022

Q.8) Business Reforms Action Plan (BRAP) has been released by which of the following organization?

- a) Department for Promotion of Industry and Internal Trade (DPIIT)
- b) NITI Aayog
- c) WTO
- d) Both (a) and (c)

ANS: A

Explanation: About the Business Reforms Action Plan (BRAP):

- The Assessment has been released by the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry since 2014.
- The aim is to boost investor confidence, foster businessfriendly climate and augment the Ease of Doing Business.
- This is done by introducing an element of healthy competition through a system of assessing States based on their performance in the implementation of the Business Reforms Action Plan.

It includes 301 reform points that cover 15 business regulatory areas such as access to Information, single window system, labour, environment, sectoral reforms and other reforms spanning across the lifecycle of a typical business.

Sectoral reforms have been introduced for the first time in BRAP 2020 wherein 72 reforms were identified across 9 sectors namely: Trade license, Healthcare, Legal metrology, Cinema halls, Hospitality, Fire NOC, Telecom, Movie shooting and Tourism.

The report categorizes States into:

- Top achievers;
- Achievers;
- Aspires;
- Emerging business ecosystems as against the earlier practice of announcing ranks.

Source: EPIC July 2022

Q.9) Which of the following statement about National Industrial Corridor Development Programme (NICDP) is/are correct?

1. Government of India has signed a \$250 million loan to support the NICDP with World Bank.
2. National Industrial Corridor Development and Implementation Trust (NICDIT) is the implementing agency.

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: A

Explanation: National Industrial Corridor Development Programme (NICDP):

It is India's most ambitious infrastructure programme aiming to develop new industrial cities as 'Smart Cities' and converge next-generation technologies across infrastructure sectors.

Its objective is to

- (a) expand the industrial output;
- (b) increase employment opportunities;

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(c) provide better living and social facilities for the new and growing workforce.

NICDC is developing 11 Industrial corridors comprising 32 projects in 4 Phases. The Asian Development Bank (ADB) and the Government of India have signed a \$250 million loan to support the NICDP. National Industrial Corridor Development and Implementation Trust (NICDIT) is the implementing agency.

Source: EPIC July 2022

Q.10) Consider the following statements about Jan Samarth Portal:

1. It is a unique digital portal linking 13 credit-linked Government Schemes on a single platform.
2. The portal will help reduce turnaround time and facilitate faster sanction of loans to beneficiaries.

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: Jan Samarth Portal:

The Portal was launched by the Prime Minister. It is a unique digital portal linking 13 credit-linked Government Schemes on a single platform. The portal will be an 'end-to-end delivery platform' and more people will come forward to avail of loans because of the ease of compliance. The portal will help reduce turnaround time and facilitate faster sanction of loans to beneficiaries.

Source: EPIC June 2022

Polity

Q.1) The power of the Supreme Court of India to decide disputes between the Centre and the States falls under its

- a) Advisory jurisdiction
- b) Appellate jurisdiction
- c) Original jurisdiction
- d) Constitutional jurisdiction

ANS: C

Explanation: Original jurisdiction:

As a federal court, the Supreme Court decides the disputes between different units of the Indian Federation. More elaborately, any dispute between:

- a) the Centre and one or more states; or
- b) the Centre and any state or states on one side and one or more states on the other; or
- c) Between two or more states.

Source: UPSC PYQ

Q.2) The abolition of the I.A.S. and the I.P.S. has been recommended by the:

- a) Dhebar Commission
- b) Kalekar Commission
- c) Kher Commission
- d) Rajamannar Commission

ANS: D

Explanation: Rajmanner Commission was set up by the then DMK Government of Tamil Nadu in 1969 under the Chairmanship of Dr P.V. Rajamanar. It was appointed to look into the question regarding the relationship that should subsist between the Centre and the States in a federal set-up. It submitted its report in 1971. It demanded readjustment of the VII schedule and residuary power to the states. Its other important recommendations are given in the following:

- The setting of an Inter-State council immediately
- Finance commission to be made a permanent body
- Deletion of Articles 356, 357, and 365 which dealt with the President's rule
- Abolition of All-India Services (IAS, IPS, and IFS)
- Planning Commission to be replaced by a statutory body
- The Central government completely ignored its recommendations.

Source: UPSC PYQ

Q.3) The state which has the largest number of seats reserved for the Scheduled Tribes in the Lok Sabha is:

- a) Bihar
- b) Gujarat
- c) Uttar Pradesh
- d) Madhya Pradesh

ANS: D

Explanation: Seats Reserved for SCs and STs in the Lok Sabha:

States with maximum number of SC seats		States with maximum number of ST seats	
State	No. of SC seats	State	No. of ST seats
UP	17	Madhya Pradesh	6
West Bengal	10	Jharkhand	5
Andhra Pradesh	7	Odisha	5
Tamil Nadu	7	Chhattisgarh	4
Bihar	6	Maharashtra	4

Source: UPSC PYQ

Q.4) Which one of the following statements is correct?

- a) All the members of the Rajya Sabha are elected by State Legislative Assemblies.
- b) As the Vice-president is the ex-officio Chairman of the Rajya Sabha, only a member of the Rajya Sabha can contest for the office of the Vice-president.
- c) A point of difference between the Lok Sabha and the Rajya Sabha is that while a candidate to the Lok Sabha can contest from any State in India, a candidate to the Rajya Sabha should ordinarily be a resident of the State from where he is contesting.
- d) The Constitution of India explicitly prohibits the appointment of a nominated member of the Rajya Sabha to the post of a minister.

ANS: C

Explanation: Members of Parliament:

- A point of difference between the Lok Sabha and the Rajya Sabha is that while a candidate to the Lok Sabha can contest from any State in India, a candidate to the Rajya Sabha should ordinarily be a resident of the State from where he is contesting.
- Some elected members do not qualify to sit in the house. A Rajya Sabha member has to be 'ordinarily resident' of the state which returns him or her to the house. Keeping this

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in view, the Supreme Court should have thrown out the act nearly 10 years ago when it was first challenged. Instead, the court persisted with the mistake.

- Subsequently, the bench sought to spell out the qualification for election. In its wisdom it did away with the domicile qualification for the candidates contesting for the Rajya Sabha. The qualification says that a member has to be ordinarily living in the state from where he seeks election.
- The nub of the problem is that political parties wanted to do away with the domicile clause so that they could send their favourite to the Rajya Sabha even though he or she did not belong to the State or lived there.
- Unfortunately, Parliament substituted the word, India, in place of State. This made little sense because no person other than Indian could be elected. The Supreme Court should have restored the domicile clause but it went along with the interpretation that did away with the domicile requirement.

Source: UPSC PYQ

Q.5) Prohibition of discrimination on grounds of religion etc. (Article 15 of the Constitution of India) is a Fundamental Right classifiable under:

- a) The Right to Freedom of Religion
- b) The Right against Exploitation
- c) The Cultural and Educational Rights
- d) The Right to Equality

ANS: D

Explanation:

CONSTITUTION OF INDIA PART III: FUNDAMENTAL RIGHTS	
Right to Equality <ul style="list-style-type: none">• Equality before law<ul style="list-style-type: none">- equal protection of laws• Prohibition of discrimination on grounds of religion, race, caste, sex or place of birth<ul style="list-style-type: none">- equal access to shops, hotels, wells, tanks, bathing ghats, roads etc.• Equality of opportunity in public employment• Abolition of Untouchability• Abolition of titles	Right against Exploitation <ul style="list-style-type: none">• Prohibition of traffic in human beings and forced labour• Prohibition of employment of children in hazardous jobs
Right to Freedom <ul style="list-style-type: none">• Protection of Right to freedom of speech and expression:<ul style="list-style-type: none">- assemble peacefully:- form associations/unions:- move freely throughout the territory of India:- reside and settle in any part of India:- practise any profession, or to carry on any occupation, trade or business.• Protection in respect of conviction for offences• Right to life and personal liberty• Right to education• Protection against arrest and detention in certain cases	Right to Freedom of Religion <ul style="list-style-type: none">• Freedom of conscience and free profession, practice and propagation of religion• Freedom to manage religious affairs• Freedom to pay taxes for promotion of any particular religion• Freedom to attend religious instruction or worship in certain educational institutions Cultural and Educational Rights <ul style="list-style-type: none">• Protection of language, culture of minorities• Right of minorities to establish educational institutions Right to Constitutional Remedies <ul style="list-style-type: none">• Right to move the courts to issue directions/orders/writs for enforcement of rights

Source: UPSC PYQ

Q.6) Which one of the following is NOT a principle of “Panchsheel”?

- a) Non-alignment
- b) Peaceful Co-existence
- c) Mutual respect for each other’s territorial integrity and sovereignty
- d) Mutual non-interference in each other’s internal affairs

ANS: A

Explanation: Panchsheel:

Panchsheel implies the five principles of conduct in international relations. It was embodied in the Preamble of the Indo-China Treaty on Tibet, signed in 1954 by Jawaharlal Nehru and Chou-En-Lai, the Chinese Premier. The five principles were:

1. mutual respect for each other’s territorial integrity and sovereignty;
2. non-aggression;
3. non-interference in each other’s internal affairs;
4. equality and mutual benefit; and
5. peaceful co-existence

Source: UPSC PYQ

Q.7) The concept of Public Interest Litigation originated in:

- a) United Kingdom
- b) Australia
- c) The United States
- d) Canada

ANS: C

Explanation: Public Interest Litigation:

- The concept of Public Interest Litigation (PIL) originated and developed in the USA in the 1960s.
- In the USA, it was designed to provide legal representation to previously unrepresented groups and interests.
- It was undertaken in recognition of the fact that the ordinary marketplace for legal services fails to provide such services to significant segments of the population and to significant interests.
- Such groups and interests include the poor, environmentalists, consumers, racial and ethnic minorities, and others.
- In India, the PIL is a product of the judicial activism role of the Supreme Court.
- It was introduced in the early 1980s. Justice V.R. Krishna Iyer and Justice P.N. Bhagwati were the pioneers of the concept of PIL.

Source: UPSC PYQ

Q.8) Economic Survey in India is published officially, every year by the:

- a) Reserve Bank of India
- b) Planning Commission of India
- c) Ministry of Finance, Govt. of India
- d) Ministry of Industries, Govt. of India

ANS: C

Explanation: The Department of Economic Affairs, Finance Ministry of India presents the Economic Survey in the parliament every year, just before the Union Budget. It is prepared under the guidance of the Chief Economic Adviser, Finance Ministry. It is the ministry's view on the annual economic development of the country.

Source: UPSC PYQ

Q.9) A British citizen staying in India cannot claim Right to:

- a) Freedom of trade and profession
- b) Equality before the law
- c) Protection of life and personal liberty
- d) Freedom of religion

ANS: A

Explanation:

Fundamental rights available to both citizens and foreigners except enemy aliens	Fundamental Rights Available Only to Citizens of India
Article 14 – Equality before the law and equal protection of laws.	Article 15 – Prohibition of discrimination on grounds of religion, race, caste, sex or place of birth.
Article 20 – Protection in respect of conviction for offences.	Article 16 – Equality of opportunity in matters of public employment.
Article 21 – Protection of life and personal liberty.	Article 19 – Protection of six rights related to freedom – (a) of speech and expression; (b) to assemble peaceably and without arms; (c) to form associations or unions; (d) to move freely throughout the territory of India; (e) to reside and settle in any part of the territory of India; and (f) to practice any profession, or to carry on any occupation, trade or business.
Article 21A – Right to elementary education.	Article 29 – Protection of language, script and culture of minorities.
Article 22 – Protection against arrest and detention in certain cases.	Article 30 – Right of minorities to establish and administer educational institutions.
Article 23 – Prohibition of traffic in human beings and forced labour.	
Article 24 – Prohibition of employment of children in factories etc.	
Article 25 – Freedom of conscience and free profession, practice and propagation of religion.	
Article 26 – Freedom to manage religious affairs.	
Article 27 – Freedom from payment of taxes for promotion of any religion.	
Article 28 – Freedom from attending religious instruction or worship in certain educational institutions.	

Source: UPSC PYQ

Q.10) The Speaker can ask a member of the House to stop speaking and let another member speak. This phenomenon is known as

- a) Decorum
- b) Crossing the floor
- c) Interpellation
- d) Yielding the floor

ANS: D

Explanation: The speaker of the Lok Sabha can ask a member of the house to stop speaking and let another member speak. It is known as **yielding the floor**.

Crossing the floor: Passing between the member addressing the House and the Chair which is considered breach of Parliamentary etiquette.

Point of Order: A Member of Parliament may raise a point of order if he feels that the proceedings of the House do not follow the normal rules. The presiding officer decides whether the point of order raised by the member should be allowed.

Calling Attention Motion: With the prior permission of the Speaker, any member of the Parliament may call the attention of a Minister to a matter of urgent public importance. The Minister may make a brief statement about the matter or he may ask for time to make a statement later.

Source: UPSC PYQ

Geography

Q.1) Who among the following is associated with the continental drift theory?

- a) Alfred Wegner
- b) Aortelius
- c) Hall and Danna
- d) Abraham Ortelius

ANS: A

Explanation: Continental Drift Theory:

- Continental drift describes one of the earliest ways geologists thought continents moved over time.
- Today, the theory of continental drift has been replaced by the science of plate tectonics. The theory of continental drift is most associated with the scientist Alfred Wegener.
- In the early 20th century, Wegener published a paper explaining his theory that the continental landmasses were “drifting” across the Earth, sometimes plowing through oceans and into each other. He called this movement continental drift.

Source: <https://education.nationalgeographic.org/resource/continental-drift>

Q.2) Consider the following plates:

- 1. Nazca
- 2. Arabia
- 3. Antarctica

Which one of the following is/are minor plate?

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

ANS: A

Explanation: The major plates are as follows :

Major and minor plates of the world I Antarctica and the surrounding oceanic plate II North American (with western Atlantic floor separated from the South American plate along the Caribbean islands) plate III South American (with western Atlantic floor separated from the North American plate along the Caribbean islands) plate IV Pacific plate V India-Australia-New Zealand plate VI Africa with the eastern Atlantic floor plate VII Eurasia and the adjacent oceanic plate.

Some important minor plates are listed below:

- Cocos plate: Between Central America and Pacific plate
- Nazca plate: Between South America and Pacific plate
- Arabian plate: Mostly the Saudi Arabian landmass
- Philippine plate: Between the Asiatic and Pacific plate
- Caroline plate: Between the Philippine and Indian plate (North of New Guinea)
- Fuji plate: North-east of Australia.

Source: NCERT Class 11

Q.3) Which one of the following terms is related to Polar fleeing force?

- a) Revolution of the Earth
- b) Gravitation
- c) Rotation of the Earth
- d) Tides

ANS: C

Explanation: Force for Drifting:

- Wegener suggested that the movement responsible for the drifting of the continents was caused by pole-fleeing force and tidal force.
- The polar-fleeing force relates to the rotation of the earth. You are aware of the fact that the earth is not a perfect sphere; it has a bulge at the equator.
- This bulge is due to the rotation of the earth. The second force that was suggested by Wegener — the tidal force — is due to the attraction of the moon and the sun that develops tides in oceanic waters.
- Wegener believed that these forces would become effective when applied over many million years.
- However, most of scholars considered these forces to be totally inadequate.

Source: NCERT Class 11

Q.4) What is a tectonic plate that lies between the Asiatic and Pacific Plate?

- a) Cocos Plate
- b) Nazca Plate
- c) Arabian Plate
- d) Philippine Plate

ANS: D

Explanation: Some important minor plates are listed below:

- Cocos plate: Between Central America and Pacific plate
- Nazca plate: Between South America and Pacific plate
- Arabian plate: Mostly the Saudi Arabian landmass
- Philippine plate: Between the Asiatic and Pacific plate
- Caroline plate: Between the Philippine and Indian plate (North of New Guinea)
- Fuji plate: North-east of Australia.

Source: NCERT Class 11

Q.5) By which method has facilitated correlating the rock formation from different continents across oceans?

- a) The radiometric dating methods
- b) Carbon 14 method
- c) Radioactive methods
- d) Fling method

ANS: A

Explanation: Rocks of Same Age Across the Oceans:

- The radiometric dating methods developed in the recent period have facilitated correlating the rock formation from different continents across the vast ocean.

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- The belt of ancient rocks of 2,000 million years from Brazil coast matches with those from western Africa.
- The earliest marine deposits along the coastline of South America and Africa are of the Jurassic age.
- This suggests that the ocean did not exist prior to that time.

Source: NCERT Class 11

Q.6) Which one of the following is the type of plate boundary of the Indian plate along the Himalayan Mountains?

- a) Ocean- Continents convergence
- b) Divergent boundary
- c) Transform boundary
- d) Continent convergence

ANS: D

Explanation: Movement Of The Indian Plate:

- The Indian plate includes Peninsular India and the Australian continental portions. The subduction zone along the Himalayas forms the northern plate boundary in the form of continent— continent convergence.
- In the east, it extends through Rakinomya Mountains of Myanmar towards the island arc along the Java Trench. The eastern margin is a spreading site lying to the east of Australia in the form of an oceanic ridge in SW Pacific.
- The Western margin follows Kirthar Mountain of Pakistan. It further extends along the Makrana coast and joins the spreading site from the Red Sea rift southeastward along the Chagos Archipelago.
- The boundary between India and the Antarctic plate is also marked by oceanic ridge (divergent boundary) running in roughly W-E direction and merging into the spreading site, a little south of New Zealand.

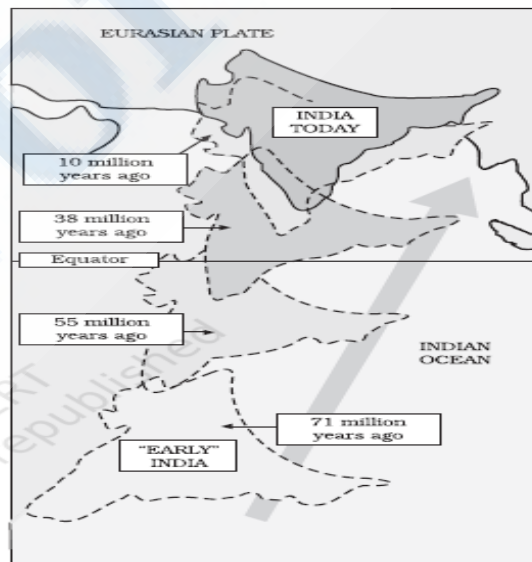


Figure 4.6: Movement of the Indian plate

Source: NCERT Class 11

Q.7) Tillite is formed due to:

- a) deposits on mountains
- b) deposits of volcanoes
- c) deposits of glaciers
- d) deposits of gold

ANS: C

Explanation: Tillite:

- It is the sedimentary rock formed out of deposits of glaciers.
- The Gondawana system of sediments from India is known to have its counterparts in six different landmasses of the Southern Hemisphere.
- At the base, the system has thick tillite indicating extensive and prolonged glaciation. Counterparts of this succession are found in Africa, Falkland Island, Madagascar, Antarctica and Australia.
- Overall resemblance of the Gondawana-type sediments clearly demonstrates that these landmasses had remarkably similar histories. The glacial tillite provides unambiguous evidence of palaeoclimates and also of drifting of continents.

Source: NCERT Class 11

Q.8) The second group of deep sea basin lying between the continental margins and mid-ocean ridges is known as

- a) Continental margin
- b) Abyssal plains
- c) Gondwanaland
- d) Mid-ocean ridges

ANS: B

Explanation: Ocean Floor Configuration:

- In this section we shall note a few things related to the ocean floor configuration that help us in the understanding of the distribution of continents and oceans.
- The ocean floor may be segmented into three major divisions based on the depth as well as the forms of relief. These divisions are continental margins, deep-sea basins and mid-ocean ridges.

Abyssal Plains: These are extensive plains that lie between the continental margins and mid-oceanic ridges.

- The abyssal plains are the areas where the continental sediments that move beyond the margins get deposited.

Source: NCERT Class 11

Q.9) Rich placer deposits of gold occur in:

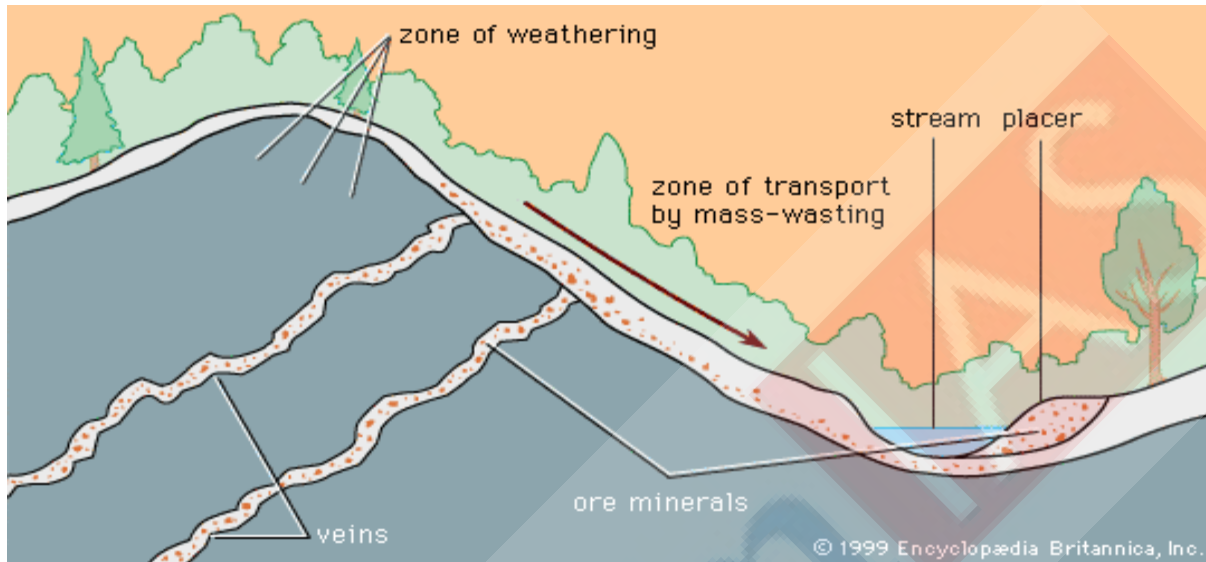
- a) Australia
- b) America
- c) Madagascar
- d) Ghana coast

ANS: D

Explanation: Placer Deposits:

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- The occurrence of rich placer deposits of gold in the Ghana coast and the absolute absence of source rock in the region is an amazing fact.
- The gold bearing veins are in Brazil and it is obvious that the gold deposits of the Ghana are derived from the Brazil plateau when the two continents lay side by side.



Source: NCERT Class 11

Q.10) Consider the following statements:

1. Pacific plate is largely an oceanic plate whereas the Eurasian plate may be called a continental plate.
2. Plates move horizontally over the asthenosphere as rigid units.

Which of the above given statements is/are correct?

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

ANS: C

Explanation:

- A tectonic plate (also called lithospheric plate) is a massive, irregularly-shaped slab of solid rock, generally composed of both continental and oceanic lithosphere.
- Plates move horizontally over the asthenosphere as rigid units. The lithosphere includes the crust and top mantle with its thickness range varying between 5 and 100 km in oceanic parts and about 200 km in the continental areas.
- A plate may be referred to as the continental plate or oceanic plate depending on which of the two occupy a larger portion of the plate. Pacific plate is largely an oceanic plate whereas the Eurasian plate may be called a continental plate.
- The theory of plate tectonics proposes that the earth's lithosphere is divided into seven major and some minor plates. Young Fold Mountain ridges, trenches, and/or faults surround these major plates.

Source: NCERT Class 11

Environment

Q.1) Clouded Leopard National Park is located in which of the following state/UT?

- a) Jammu & Kashmir
- b) Uttarakhand
- c) Sikkim
- d) Tripura

ANS: D

Explanation: Clouded Leopard National Park is located in the West Tripura district of the state of Tripura.

The terrain is green throughout the year and the weather is temperate except for the two humid summer months of March and April. It is woodland with an artificial lake.

Total area of the park is 5.08 Km². Clouded Leopard National Park was established in the year of 2007. The park is an ideal place for all those who want to enjoy the beauties of the Mother Nature at its best. The place offers various sightseeing sights like Botanical garden, lake, zoo etc. National park is an area which is strictly reserved for the betterment of the wildlife & biodiversity, and where activities like developmental, forestry, poaching, hunting and grazing on cultivation are not permitted. Their boundaries are well marked and circumscribed.

Source: <https://forest.tripura.gov.in/forest-wild-life?id=Q2xvdWRlZCBMZW9wYXJkIE5hdGlvbmFsIFBhcms=>

Q.2) In case of which of the following, no alteration of boundaries can be made without recommendation of National Board for Wild Life?

- 1. Biosphere Reserves
- 2. Wildlife sanctuaries
- 3. Tiger Reserves
- 4. National Parks

Select the correct option from the codes given below:

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

ANS: D

Explanation: Power of National Board of Wildlife related to Protected Areas:

The Board may recommend the alteration of the boundaries of a sanctuary / National Park to the State Government.

The Board may approve or disapprove of the construction of commercial tourist lodges, hotels, zoos, safari parks inside a sanctuary / National Park by the Chief Wild Life Warden.

No alteration of boundaries of a tiger reserve shall be made except on recommendation of the National Tiger Conservation Authority and the National Board for Wild Life.

No State Government shall de-notify a tiger reserve, except in public interest with the approval of the National Tiger Conservation Authority and the National Board for Wild Life.

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Source: <https://www.lawcolumn.in/national-board-for-wildlife-constitution-powers-and-functions/>

Q.3) In which of the following regions of India are you most likely to come across the 'Great Indian Hornbill' in its natural habitat?

- a) Sand deserts of northwest India
- b) Higher Himalayas of Jammu and Kashmir
- c) Salt marshes of western Gujarat
- d) Western Ghats

ANS: D

Explanation: Great Indian hornbills

- Great Indian hornbills are found in the forests of Nepal, India, Mainland Southeast Asia, and Sumatra.
- Great Indian hornbill is listed as Vulnerable on the IUCN Red List of Threatened Species.
- They are listed under Schedule I of the Wildlife Protection Act of India.
- Great Hornbills are found in three separate areas in South Asia;
 - The Western Ghats,
 - The Himalayan foothills in Uttaranchal to south Nepal
 - Bhutan and northeast India.
- They are also found in Myanmar, islands in the Mergui archipelago, southern China, Vietnam, Laos, Cambodia, Thailand, peninsular Malaysia, and in Sumatra, Indonesia.
- They are also found in primary evergreen and moist deciduous forests, mainly in lowland forests, but they can be found up to 2,000 meters in some areas.
- The Great Hornbill is the state bird of Kerala and Arunachal Pradesh.
- Hornbill Festival is also celebrated between 1st to 10th December every year in Nagaland.
- In Nagaland Hornbill is a respected bird that finds mention in the tribe's folklore.
- In 2018 the International Union for Conservation of Nature (IUCN) has listed the Great Indian Hornbill as vulnerable in the Red List of Threatened Species.

Source: <https://www.natureinfocus.in/animals/the-hornbills-of-india>

Q.4) *Scorpaenopsis neglecta*, a rare marine species, has been found in which of the following places?

- a) Gulf of Mannar
- b) Gulf of Kutch
- c) Andaman Sea
- d) Bay of Bengal

ANS: A

Explanation: Scientific name- *Scorpaenopsis neglecta*.

- It is well-known for its stinging venomous spines and the ability to change color.
- The fish is called 'scorpionfish' because its spines contain neurotoxic venom.
- Researchers have found a rare fish from the Sethukarai coast in the Gulf of Mannar. This was the first time that a particular species was found alive in Indian waters.



Source: The Hindu

Q.5) One horned rhinoceros is found in the following pairs of states?

- a) Arunachal Pradesh and Tripura
- b) West Bengal and Assam
- c) Arunachal Pradesh and Assam
- d) West Bengal and Tripura

ANS: B

Explanation: One horned Rhinoceros:

- They are found in the Indian subcontinent.
- The one-horned rhinoceros (Indian rhinoceros) are the largest of the rhino species.
- They are mainly found in Assam, West Bengal, and Uttar Pradesh.
- There are 2,640 rhinoceros in four protected areas in Assam.
- Pabitora Wildlife Reserve
- Rajiv Gandhi Orang National Park
- Kaziranga National Park
- Manas National Park.
- 90% are found in Kaziranga National Park.
- It is listed as Vulnerable on the IUCN Red List.
- The National Rhino Conservation Strategy was launched in the year 2019 for the conservation of big-horned rhinos.
- Indian Rhino Vision 2020 was launched in 2005, it is an ambitious effort to attain a wild population of at least 3,000 greater one-horned rhinos spread over seven protected areas in the Indian state of Assam by the year 2020.

Source: ENVIS

Q.6) Dachigam National Park is associated with which of the following species?

- a) Musk Deer
- b) Golden Oriole
- c) Yellow-throated Marton
- d) Hangul or Kashmir Stag

ANS: D

Explanation: Dachigam National Park

- Dachigam NP is located 22 KM from Srinagar.
- It means "10 villages".
- It has been established for the conservation of Hangul.
- Its population has been declining at an alarming rate.
- Hangul is the state animal of Jammu and is the only species of Red Deer surviving.
- The conservation status of Hangul is Critically Endangered.

Other National Parks in J&K-

- Dachigam National Park
- Kazinag National Park
- Kishtwar National Park
- Salim Ali (City Forest) National Park

Source: ShankarIAS

Q.7) Lion-tailed macaques are found in which part of India?

- a) Jammu and Kashmir
- b) Sikkim
- c) Aasam
- d) Western Ghats

ANS: D

Explanation: Lion-tailed macaque:

- They live in the Western Ghats hills and mountains of southwestern India, is a rainforest dwellers; it is diurnal, meaning it is active exclusively in daylight hours.
- It is a good climber and spends the majority of its life in the upper canopy of tropical moist evergreen forests.
- Unlike other macaques, it typically avoids humans when possible.
- In group behaviour, the lion-tailed macaque is much like other macaques, living in hierarchical groups of usually 10 to 20 members, which usually consist of a few males and many females.
- It is a territorial animal, defending its area first with loud cries towards the invading troops.

Source: ShankarIAS

Q.8) Consider the following statements:

1. There is no egg laying Mammals species.
2. Ganges river dolphin is a marine mammal 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

ANS: B

Explanation: MARINE MAMMALS:

Freshwater / river dolphin

Habitat / distribution - India, Bangladesh, Nepal and Pakistan which is split into two subspecies, the Ganges river dolphin and Indus river dolphin.

Ganges river dolphin

Habitat / distribution - Ganges and Brahmaputra Rivers and their tributaries in Bangladesh, India and Nepal.

The Ganges river dolphin has been recognized by the government of India as its National Aquatic Animal.

Indus river dolphin

Habitat / distribution - Indus River in Pakistan and its Beas and Sutlej tributaries.

Herbivorous Marine Mammals

include dugong and manatees and they inhabit swamps, rivers, estuaries, marine wetlands, and coastal marine waters.

Dugong

(Dugong dugon) also called as sea cow.

Status - vulnerable. Threat - hunting (meat and oil), habitat degradation, and fishing-related fatalities.

Manatees

Habitat / distribution - Caribbean Sea, Gulf of Mexico, the Amazon Basin, and West Africa

Threat - coastal development, red tide, hunting.

Egg Laying Mammals

The unique feature of monotremes, a sub division of mammal, is that monotremes lay eggs rather than giving birth to their young. There are only five living Monotreme/ egg laying Mammals species: they are - the duck-billed platypus and four species of spiny anteaters (also known as echidna). All of them are found only in Australia and New Guinea.

Source: ShankarIAS

Q.9) Which of the following bird species is not critically endangered in India?

- a) Forest owl
- b) Griffon Vulture
- c) Great Indian Bustard
- d) Bengal Florican

ANS: B

Explanation: The critically endangered bird species in India are:

- Great Siberian Crane,
- Indian Bustard,

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- White backed Vulture
- Red-headed Vulture,
- Forest Owlet,
- Spoon Billed Sandpiper,
- White Bellied Heron
- Bengal Florican
- Himalayan Quail
- Sociable Lapwing

Source: <http://eprienviis.nic.in/All%20PDF%20Files/5.Critically%20Endangered%20Species-Article.pdf>

Q.10) Which of the following disease does not impact wildlife?

1. Tuberculosis
2. Rabies
3. Tomato Flu

Select the correct answer using the codes given below:

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

ANS: C

Explanation:

Diseases	Casual organism	Animal susceptible
Tuberculosis	Mycobacterium spp	Deer, cat, primates, elephant
Anthrax	Bacillus anthrax	Gaur, chetal, wild pig, barking deer
Rabies	Rabies virus	Tiger, lion, bear, mongoose, squirrel
Foot and mouth disease	FMD virus	Gaur, nilgai, chetal, sambar, yak, mithun
Rinder pest	Microbilli virus	Deer, wild pig, wild buffalo
Trypanosomia	Trypanosomia virus	Tiger, elephant, sambar, macaque
Taxoplasmosis	Taxoplasma gondii	Rhesus macaque, civet cat

Source: ShankarIAS

History

Q.1) Which among the following Mahajanapadas was not on the river Ganga?

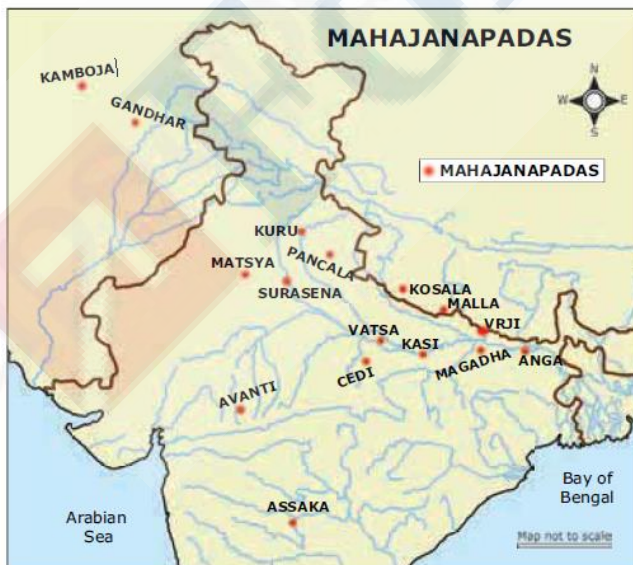
- a) Kamboja
- b) Anga
- c) Vatsa
- d) Shurasena

ANS: A

Explanation: Sixteen Mahajanapadas

According to Puranic, Buddhist and Jaina traditions, there were sixteen mahajanapadas.

- Gandhara
- Kamboja
- Assaka
- Vatsa
- Avanti
- Shurasena
- Chedi
- Malla
- Kuru
- Panchala
- Matsya
- Vajji (Vrijji)
- Anga
- Kasi
- Kosala
- Magadha



Source: Tamil Nadu Board Class 11

Q.2) Consider the following statements:

1. The Vrijjis were one of the best known of the oligarchies.
2. Bali was a tax imposed based on the area of cultivable land.

Which of the above given statements is/are correct?

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

ANS: C

Explanation: Gana-Sanghas:

- The proto-states of the Gangetic region were known as janapadas and comprised chiefdoms, republics and small kingdoms.
- Sixteen mahajanapadas find mention in the early texts. There were also ganasanghas or oligarchies, which were centred on clans.
- The Vrijjis were one of the best known of the gana-sanghas, and Vaishali was their capital in the Mithila region. These kingdoms did not come under the single decision-making authority of a king but decisions were taken on a collective basis by the heads of the different clans together.
- There were also smaller kingdoms such as Kosala and Kasi. It is interesting to note that the names of the clans, such as Ikshvaku and Vrishni, as well as these early kingdoms, are all mentioned in the two epics, Ramayana and Mahabharata.

Monarchies or Kingdoms

- The mahajanapadas on the Gangetic plains were all monarchies. Vedic orthodoxy was an established practice in these kingdoms.
- The priestly class enjoyed a preeminent status in the mahajanapadas unlike in the gana-sanghas. The kingdoms were governed by kings and the administration was centralised.
- The brahman priests provided legitimacy to the king through various rituals. The kingship was hereditary and the succession was in most cases based on the law of primogeniture.
- The king was assisted by councils called parishad and sabha. The councils were advisory in nature. The king appropriated the agricultural surplus through land revenue apart from a few other taxes.
- Bali was a tax imposed based on the area of cultivable land. Bhaga was obtained as a share of the produce. Kara and Shulka were some of the other taxes collected during this period.

Source: Tamil Nadu Board Class 11

Q.3) Consider the following pairs:

1. Junagarh Inscription Rudradaman
2. Mudrarakshas Mauryas
3. Devanampiya Piyadassi Deciphered by Sir John Marshall

Which of the above given pairs is/are not correctly matched?

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

ANS: B

Explanation: Sources of Information about Mauryas:

- The first is the rock inscription of Junagadh, near Girnar in Gujarat.
- This was carved during the reign of Rudradaman, the local ruler and dates back to 130–150 CE. It refers to Pushyagupta, the provincial governor (rashtriya) of Emperor Chandragupta.
- A second source is a literary work. The play Mudrarakshasa by Visakhadatta was written during the Gupta period, sometime after the 4th century CE.
- It narrates Chandragupta's accession to the throne of the Magadha Empire and the exploits of his chief advisor Chanakya or Kautilya by listing the strategies he used to counter an invasion against Chandragupta. This play is often cited as a corroborative source since it supports the information gathered from other contemporary sources about Chandragupta.
- The most widely known are the edicts of Ashoka, which have been discovered in many parts of the country.
- In fact, the reconstruction of the Mauryan period to a great extent became possible only after the Brahmi script of the inscriptions at Sanchi was deciphered by James Prinsep in 1837.
- Information about other edicts in other parts of the country also became available at that time.
- All the edicts began with a reference to a great king, "Thus spoke devanampiya (beloved of the gods) piyadassi (of pleasing looks)", and the geographical spread of the edicts make it clear that this was a king who had ruled over a vast empire.
- Puranic and Buddhist texts referred to a chakravartin named Ashoka. As more edicts were deciphered, the decisive identification that devananampiya piyadassi was Ashoka was made in 1915.
- One more edict when deciphered, which referred to him as devanampiya Ashoka, made reconstruction of Mauryan history possible.

Source: Tamil Nadu Board Class 11

Q.4) Which one of the following statements about the word 'Hindu' is/are not correct?

1. The word "Hindu" appears for the first time in an inscription of Darius I at Persepolis, Iran.
2. Darius lists "Hindu" as part of his empire.

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: D

Explanation:

- The word "Hindu" appears for the first time in an inscription of Darius I at Persepolis, Iran. Darius lists "Hindu" as part of his empire.
- The word "Sindhu", denoting a river in general and Indus in particular, became "Hindu" in Persian. The Greeks dropped the S and called it Indu, which eventually came to be called Hindu and later India.

Source: Tamil Nadu Board Class 11

Q.5) Takshashila, one of the greatest intellectual achievements of any ancient civilization is located in which of the following present day country?

- a) India
- b) Afghanistan
- c) Pakistan
- d) Iran

ANS: C

Explanation: Taxila:

- Takshashila or Taxila is situated in presentday Pakistan. Between the fifth century and fourth century BCE, it was part of the Achaemenid Empire of Persia.
- Because of its strategic location on the trade route between the East and the West, it emerged as an important centre of learning and culture.
- Students came from far and wide to Taxila in search of knowledge. The city was brought to light by the excavation carried out in the 1940s by Sir John Marshall. Taxila is considered "one of the greatest intellectual achievements of any ancient civilization".
- Panini seems to have compiled his wellknown work, Ashtadhyayi, here.

Source: Tamil Nadu Board Class 11

Q.6) With respect to impact of Persian Invasions on India, consider the following statements?

1. Development of the Kharosthi script in India, has its origin in Persian Empire.
2. Ashokan edicts have been inspired by the edicts of the Achaemenid king Darius.

Which of the above given statement is/are correct?

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

ANS: C

Explanation: Impact of Persian Contact:

- As the north-western part of India came under the control of the Persian Empire from about middle of the sixth century, the region became a centre of confluence of Persian and Indian culture.
- The Persian contact left its impact on art, architecture, economy and administration of ancient India. The cultural impact was felt most in the Gandhara region.
- The most significant impact was the development of the Kharosthi script, used in the north-western part of India.
- It was used by Ashoka in his inscriptions in the Gandhara region. The Kharosthi script was derived from Aramaic used widely in the Achaemenid Empire of Persia.
- Like Aramaic, Kharosthi was written from right to left. Persian sigloi (silver coin) is an imitation from the region.
- The earliest coins in India are traced to the period of the mahajanapadas. The Indian word for coin karsa is of Persian origin. The coins might have been inspired by the Persian coins.
- The existence of coins in that period suggests trade links between India and Persia. The Ashokan edicts might have been inspired by the edicts of the Achaemenid king Darius.
- The Ashokan edicts use the term lipi instead of the Iranian term dipi.

Source: Tamil Nadu Board Class 11

Q.7) Who among the following was the ruler of Magadha during the invasion of Alexander in India?

- a) Dhana Nanda
- b) Bindusara
- c) Bimbisara
- d) Mahapadma Nanda

ANS: A

Explanation: Invasion by Alexander

- During Dana Nanda's reign, Alexander invaded north-west India (327–325 BCE).
- In many ways, the invasion by Alexander is a watershed in Indian history.
- It marked the beginning of the interaction between India and the West, which spanned many centuries to follow.
- Greek historians began to write about India, and Greek governors and kings ruled in the north-western region of India, which introduced new styles of art and governance.

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- After his conquests in the Punjab region, Alexander expressed his desire to march further east to attack the Magadha Empire.
- However, his already tired troops had heard about the great emperor in the east (Nanda) and his formidable army and refused to be engaged in a war against such a powerful adversary.

Source: Tamil Nadu Board Class 11

Q.8) "Sandrakottus", was the name recorded by the Greek historians for who among the following?

- a) Mahapadma Nanda
- b) Chandragupta Maurya
- c) Ashoka
- d) Ajatshatru

ANS: B

Explanation:

- Contemporary accounts by Greek historians show that Chandragupta was a youth living in Taxila when Alexander invaded India.
- Greek historians have recorded his name as "Sandrakottus" or "Sandrakoptus", which are evidently modified forms of Chandragupta.
- Inspired by Alexander, Chandragupta led a revolt against the Nandas years later and overthrew them.
- Chandragupta achieved it either by inciting the people to rise against an unpopular monarch, or by soliciting their support in overthrowing an unpopular king.
- Chandragupta established the Mauryan Empire and became its first emperor in 321 BCE.

Source: Tamil Nadu Board Class 11

Q.9) The term "Samaharta" in Mauryan empire is used for who among the following?

- a) Priest
- b) Secretaries
- c) Collector General
- d) Military Commander

ANS: C

Explanation: Provincial Administration:

- At the head of the administration was the king. He was assisted by a council of ministers and a purohita or priest, who was a person of great importance, and secretaries known as mahamatryias. The capital region of Pataliputra was directly administered.
- The rest of the empire was divided into four provinces based at Suvarnagiri (near Kurnool in Andhra Pradesh), Ujjain (Avanti, Malwa), Taxila in the northwest, and Tosali in Odisha in the southeast.
- The provinces were administered by governors who were usually royal princes.
- In each region, the revenue and judicial administration and the bureaucracy of the Mauryan state was replicated to achieve a uniform system of governance.
- Revenue collection was the responsibility of a collector-general (samaharta) who was also in charge of exchequer that he was, in effect, like a minister of finance. He had to

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supervise all the provinces, fortified towns, mines, forests, trade routes and others, which were the sources of revenue.

- The treasurer was responsible for keeping a record of the tax revenues. The accounts of each department had to be presented jointly by the ministers to the king. Each department had a large staff of superintendents and subordinate officers linked to the central and local governments.

Source: Tamil Nadu Board Class 11

Q.10) In the Sarnath inscription, Emperor Ashoka's name appears as?

- a) Buddhashakya
- b) Debanampiya
- c) Dharmashoka
- d) Priyadassi

ANS: C

Explanation: Ashokan Pillar of Sarnath:

- It was carved out of a single block of polished sandstone.
- It bears one of the edicts of Ashoka, which reads, "No one shall cause division in the order of monks."
- The pillar also records the visit of Ashoka to Sarnath. The year of his visit is said to be around mid 3rd century BC.
- It consists of a canopy representing an inverted bell-shaped lotus flower.
- His name appears as Dharmashoka in the inscription.
- Currently, the pillar remains where it was originally sunk into the ground, but the capital is now on display at the Sarnath Museum.
- The top of the column - the capital - has three parts.
- First, a base of a lotus flower, the most ubiquitous symbol of Buddhism.
- Second, a drum on which chakra and four animals are carved representing the four cardinal directions: a horse (west), an ox (east), an elephant (south), and a lion (north).
- Third, four lions stand atop the drum, each facing in the four cardinal directions.

Source: UPSC PYQ

Revision

Q.1) Mercury is emitted as pollutant by which of the following?

- a) Coal based power plants
- b) Cold storage facilities
- c) Sugar, paper and jute mills
- d) Wineries

ANS: A

Explanation:

- When the energy sector releases mercury (Hg) as a pollutant, it creates environmental problems. Both humans and natural sources release mercury; burning coal specifically releases quite a bit of mercury.
- Human activity contribute anywhere from 50-90% of the mercury present in the environment.
- The estimates are not more precise because it is difficult to figure out how much re-emitted mercury was initially emitted by humans.
- Re-emission occurs when previously stored mercury is reintroduced into the environment by forest fires or other means, and requires complex modelling techniques to determine how much can be traced back to human emissions.

Source: ForumIAS

Q.2) Consider the following statements about Graded Response Action Plan (GRAP):

1. It has been approved by the Supreme Court.
2. It works only as an emergency measure.

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: C

Explanation:

- In pursuant to the Hon'ble Supreme Court's order dated December 02, 2016 in the matter of M. C. Mehta vs. Union of India regarding air quality in National Capital Region of Delhi, a Graded Response Action Plan has been prepared for implementation under different Air Quality Index (AQI) categories namely, Moderate & Poor, Very Poor, and Severe as per National Air Quality Index. A new category of "Severe+ or Emergency" has been added.
- Ministry of Environment, Forests & Climate Change has notified for implementation of Graded Response Action Plan through Environment Pollution (Prevention & Control) Authority.
- It works only as an emergency measure. As such, the plan does not include action by various state governments to be taken throughout the year to tackle industrial, vehicular and combustion emissions.

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- When the air quality shifts from poor to very poor, the measures listed have to be followed since the plan is incremental in nature.

Source: ForumIAS

Q.3) Consider the following statements with respect to Central Board of Film Certification (CBFC):

1. It is directly under the directive of the Ministry of Information and Broadcasting
2. CBFC certification is required for movies, television programmes and serials

Which of the following below given codes are correct?

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

ANS: A

Explanation:

- The government body that governs and directs censorship in India is called the Central Board of Film Certification (CBFC).
- It was set up in 1950 under the name Central Board of Film Censors, but the same was changed under the Act of 1952.
- It is directly under the directive of the Ministry of Information and Broadcasting. All films have to get a Censor Board certificate.
- Even the foreign films that are imported to India have to get a CBFC certification. All the films that are dubbed from one language to another have to get a fresh certificate to ensure that the language change is not offensive in any manner.
- The only exception to the CBFC certificate is films made especially for Doordarshan as they are the official broadcaster for the Government of India and they have their own set of rules for examining such films. CBFC certification is also not required for television programmes and serials.

Source: ForumIAS

Q.4) Consider the following statements with respect to Telugu Literature:

1. It reached its zenith during the Kakatiya period that is also known as the golden age of Telugu literature
2. Nannaya was a famous poet in Telugu

Which of the following below given codes are correct?

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

ANS: B

Explanation:

- Linguists have argued the Nannaya (11th century) was the first poet in Telugu.
- Several great works have been written in Telugu but it reached its zenith during the Vijayanagara period that is also known as the golden age of Telugu literature.

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- One of the most successful works in this period is titled Uttarharivamsam which was composed by Nachana Somanatha, a well-known court poet of King Bukka I.
- Not only were the court poets producing outstanding literature, even the kings like Krishnadevaraya (1509-1529) were composing exceptional poetry titled Amuktamalyada.

Source: ForumIAS

Q.5) Consider the following statements with respect to Local Area Banks (LABs):

1. LABs were created to bridge the gaps in credit availability and enhance the institutional credit framework in the rural and semi-urban areas
2. The minimum start-up capital of a LAB was fixed at Rs.50 crore

Which of the following codes given below is/are Not correct?

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

ANS: B

Explanation:

- In 1996 it was decided to allow the establishment of local banks in the private sector.
- These banks were expected to bridge the gaps in credit availability and enhance the institutional credit framework in the rural and semi-urban areas and provide efficient and competitive financial intermediation services in their area of operation.
- The minimum start-up capital of a LAB was fixed at Rs.5 crore. The promoters of these banks were required to bring in the entire minimum share capital up-front.
- It was also decided that a family among the promoter group could hold equity not exceeding 40% of the capital. The NRI contributions to the equity of the bank were not to exceed 40% of the paid-up capital.
- The entire initial capital subscribed by the promoters (including their friends and relatives/associates) would carry a lock in period of three years from the date of licensing of the bank. Further, the promoters' equity to the extent of 40% of the initial paid-up capital was to be locked in at least for two years beyond the aforesaid period of three years subject to review before expiry of five years from the date of licensing of the bank.
- The promoters of a LAB could be individuals, corporate entities and societies. The number of NRI promoters was not to exceed 20% of the total number of promoters.

Source: ForumIAS

Q.6) Consider the following statements with respect to The International Centre for Settlement of Investment Disputes (ICSID):

1. ICSID set up in 1966 is an investment dispute settlement body whose decisions are binding on the parties
2. India is founder member of ICSID

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

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

ANS: A

Explanation:

- The International Centre for Settlement of Investment Disputes (ICSID), set up in 1966 is an investment dispute settlement body whose decisions are binding on the parties.
- It was established under the 1966 Convention on the Settlement of Investment Disputes between States and Nationals of Other States.
- Though recourse to the centre is voluntary, but once the parties have agreed to arbitration, they cannot withdraw their consent unilaterally.
- It settles the investment disputes arising between the investing foreign companies and the host countries where the investments have been done. India is not its member (that is why the Enron issue was out of its preview).
- It is believed that being signatory to it encourages the foreign investment flows into an economy, but risks independent sovereign decisions, too.

Source: ForumIAS

Q.7) Consider the following statements with respect to features of Cabinet Committees:

1. Constitution of India provides clear provisions related to cabinet committees
2. They are set up by the President according to the exigencies of the time and requirements of the situation

Which of the following codes given below is/are NOT correct?

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

ANS: C

Explanation: The following are the features of Cabinet Committees:

- They are extra-constitutional in emergence. In other words, they are not mentioned in the Constitution. However, the Rules of Business provide for their establishment.
- They are of two types—standing and ad hoc. The former are of a permanent nature while the latter are of a temporary nature. The ad hoc committees are constituted from time to time to deal with special problems. They are disbanded after their task is completed.
- They are set up by the Prime Minister according to the exigencies of the time and requirements of the situation. Hence, their number, nomenclature, and composition vary from time to time.

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- Their membership varies from three to eight. They usually include only Cabinet Ministers. However, the non-cabinet Ministers are not debarred from their membership.
- They not only include the Ministers in charge of subjects covered by them but also include other senior Ministers.
- They are mostly headed by the Prime Minister. Sometimes other Cabinet Ministers, particularly the Home Minister or the Finance Minister, also acts as their Chairman. But, in case the Prime Minister is a member of a committee, he invariably presides over it.

Source: ForumIAS

Q.8) Consider the following statements with respect to President:

1. President is part of union executive
2. Nominated members of the parliament participate in President Election

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

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

ANS: A

Explanation:

The Union executive consists of the President, the Vice-President, the Prime Minister, the council of ministers and the attorney general of India.

The President is elected not directly by the people but by members of Electoral College consisting of:

- The elected members of both the Houses of Parliament;
- The elected members of the legislative assemblies of the states; and
- The elected members of the legislative assemblies of the Union Territories of Delhi and Puducherry.

Thus, the nominated members of both of Houses of Parliament, the nominated members of the state legislative assemblies, the members (both elected and nominated) of the state legislative councils (in case of the bicameral legislature) and the nominated members of the Legislative Assemblies of Delhi and Puducherry do not participate in the election of the President.

Source: ForumIAS

Q.9) Consider the following statements with respect to Bharatiya Nabhikiya Vidyut Nigam Limited (BHAVINI):

1. It is a private limited company with a major share holding of TATA industries
2. It is established with the objective of constructing and commissioning the first 500 MWe Fast Breeder Reactor (FBR) at Kalpakkam in Tamil Nadu

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

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

ANS: B

Explanation:

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Bharatiya Nabhikiya Vidyut Nigam Limited (BHAVINI) is a Government Company under the administrative control of the Department of Atomic Energy (DAE) incorporated on 22nd October 2003 as Public Limited Company under the Companies Act, 1956 with the objective of constructing and commissioning the first 500 MWe Fast Breeder Reactor (FBR) at Kalpakkam in Tamilnadu and to pursue construction, commissioning, operation and maintenance of subsequent Fast Breeder Reactors for generation of electricity in pursuance of the schemes and programmes of Government of India under the provisions of the Atomic Energy Act, 1962.

Source: ForumIAS

Q.10) Which of the following space agency launched “PICARD Mission” to monitor the solar diameter, the differential rotation, the solar constant, and to study the long-term nature of their interrelations?

- a) French Space Agency (CNES)
- b) NASA
- c) JAXA
- d) ROSCOSMOS

ANS: A

Explanation:

- Picard is a CNES solar-terrestrial microsatellite mission of the Myriade series with French multi-institutional and international cooperation.
- The overall objective is to monitor the solar diameter, the differential rotation, the solar constant (simultaneous measurement of the absolute total and spectral solar irradiance), and to study the long-term nature of their interrelations.
- The mission was named in honor of the 17th century French astronomer Jean Picard (1620-1682), who made the first long-term measurements of the solar diameter, observed sunspots, and determined the rotational velocity of the sun.
- Picard was also the first who accurately measured the length of a degree of a meridian (longitude line) and from that result estimated the size of the Earth.
- Beyond the determination of the Earth orbit eccentricity, the diameter measurements brought important information about the particular state of the sun during the so-called Maunder Minimum [named after E. W. Maunder (1851-1928), an English astronomer who studied solar records of the period 1645-1715], a period showing a quasi absence of sunspots as compared to the early 17th century.

Source: ForumIAS

Science & Technology

Science & Technology

Q.1 The “Advanced Technology Vessel (ATV) Project” is related to which of the following?

- a) INS Arihant
- b) Tejas aircraft
- c) Air-craft carrier
- d) Brahmos Missile project

ANS: A

Explanation:

- The plan for the Advanced Technology Vessel (ATV) until the late 1980s was to build an SSN - a fast-moving deep-diving nuclear-powered attack submarine, which would hunt surface ships.
- Around the time India leased a Charlie-I class nuclear-powered attack submarine from the Soviet Union, which happened in 1988, planning veered towards building a submarine carrying ballistic missiles.
- The hull design was lengthened and the SSN quietly transformed into an SSBN. The Project code named Advanced Technology Vessel (ATV) Project took 25 years for completion.
- It spawned a new era in the field of cooperation between DRDO, BARC, Navy, PSUs and private industry in which these organizations synergized their efforts to achieve a significant technological and strategic milestone.
- The Arihant class(nuclear-powered ballistic missile submarines)- INS Arihant (S73), INS Aridhaman (S74) are built for the Indian Navy by Navy Shipbuilding Centre, Visakhapatnam.
- The miniaturised naval version of the reactor was designed and built by the Bhabha Atomic Research Centre (BARC) at the Indira Gandhi Centre for Atomic Research (IGCAR) in Kalpakkam.

Source: The Hindu

Q.2) Which of the following pair (s) is/are correctly matched?

Missile /Defense system	:	Origin Country
1. Spike Missile	:	Israel
2. Tsirkon missile	:	Russia
3. Maareech torpedo defense system	:	India

Select the correct answer using the code given below:

- a) One pair only
- b) Two pairs only
- c) All three pairs
- d) None

ANS: C

Explanation:

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- Russian administration announced on Russian Navy would be equipped with hypersonic nuclear strike weapons and underwater nuclear drones.
- Tsirkon hypersonic cruise missile is designed to be carried on surface ships; it is under final phase of testing.

Spike Missile: Spike is an Israeli fire-and-forget anti-tank guided missile and anti-personnel missile.

- It was developed and designed by the Israeli company Rafael Advanced Defense Systems.
- Maarech torpedo defense system: It is an Advanced Torpedo Defence System (ATDS) that is capable of being fired from all frontline ships.
- It has been designed and developed indigenously by DRDO.
- It is capable of detecting, locating and neutralizing incoming torpedoes.

Source: Indian Express & ForumIAS

Q.3) The “C-17 Globemaster” is often seen in news is related to which of the following?

- a) Fighter aircraft
- b) Submarine
- c) Military transport aircraft
- d) Aircraft carrier

ANS: C

Explanation:

- The C-17 Globe-master military transport aircraft was originally built by Boeing and McDonnell Douglas together for the US Air Force.
- A high-wing, 4-engine, T-tailed military-transport aircraft, the multi-service C-17 can carry large equipment, supplies and troops directly to small airfields in harsh terrain anywhere in the world day or night.
- The Indian Air Force has a fleet of 11 C-17 Globe-master IIIs.

Source: ForumIAS factly

Q.4) The Spike missile is newly acquired from Israel by Indian government is related to which of the following?

- a) Inter Continental Ballistic Missile
- b) Torpedo
- c) Nuclear payload capable missile
- d) Anti-tank missile

ANS: D

Explanation:

- The Indian Army successfully tested two newly acquired Spike long-range (LR) anti-tank guided missiles at the Infantry School at Mhow, Madhya Pradesh.
- The Army has recently procured a small batch of 12 launchers and 250 missiles from Israel using its new financial powers to make emergency procurements sanctioned by the Defence Ministry.
- “Spike-LR is a fourth generation missile, which can engage a target with precision at ranges up to 4 km.
- In addition to the fire-and-forget capability, the missile has the ability to fire, observe and update, providing substantial flexibility to the firer to pinpoint the impact point, as also

the ability to switch to a different target mid-flight,” the manufacturer, Rafael Advanced Defense Systems, of Israel.

Source: ForumIAS factly

Q.5) Consider the following statements regarding Industrial Design (IPR):

1. “Industrial design” title granted by any official authority protects only the non-functional features of an industrial product.
2. The period of protection granted to Industrial Design is more than 25 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:

- An industrial design renders an object attractive or appealing, thus increasing its marketability and adding to its commercial value.
- The design may be three-dimensional based on the shape or surface of the object, or two-dimensional based on the object’s patterns, lines or colours.
- Novelty, originality and visual appeal are essential if an industrial design is to be patented, although these criteria can differ from one country to another.
- Its aesthetic features should not be imposed by the technical functions of the product.
- Legally, “industrial design” is the title granted by an official authority, generally the Patent Office, to protect the aesthetic or ornamental aspect of an object.
- This protects solely the non-functional features of an industrial product and does not protect any technical features of the object to which it is applied.
- Industrial design rights are granted to the creator of designs to reward them for their effort and investment in manufacturing the product. These rights enable the owner to make articles to which the design is applied or in which the design is embodied.
- The holder of this legal title has the exclusive right to make, import or sell any objects to which the design is applied.
- They can authorise others to exploit the design and bring a legal action against anyone using the design without authorisation.
- In general the period of protection granted is from 10 to 25 years. This is often divided into terms and an extension of the term requires renewal of the registration.

Source: The Hindu

Q.6) Consider the following statements regarding New India Space Limited (NISL):

1. It is a wholly owned Government of India undertaking.
2. It is under the administrative control of Department of Space

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 Union Government has set up New Space India Limited (NSIL), a wholly owned Government of India undertaking/ Central Public Sector Enterprise (CPSE), under the administrative control of Department of Space (DOS) on 06th March 2019 to commercially exploit the research and development work of Indian Space Research Organization (ISRO) Centre's and constituent units of DOS.

Source: Agraphari

Q.7) Which of the following is NOT a member of Australia Group?

- a) France
- b) Germany
- c) India
- d) South Africa

ANS: D

Explanation:

- The 42 states participating in the Australia Group are Argentina, Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, India, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom, and the United States. The European Union also participates.

Source: <https://www.armscontrol.org/factsheets/australiagroup>

Q.8.) "RAISE 2020" 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.9) In which of the following city, South Asia's first “proton therapy centre” was launched?

- a) Amravati
- b) Chennai
- c) Bangalore
- d) Cochin

ANS: B

Explanation:

- South Asia's first proton therapy centre was launched in Chennai. Apollo Proton Cancer Centre, equipped with the path-breaking pencil beam technology, offers hope to cancer patients from India and abroad.
- It is a type of radiation therapy which uses protons rather than x-rays to treat cancer.
- It is considered as one of the most advanced forms of external beam radiation therapy for cancer treatment in the world.
- It is also known as Proton Beam Therapy and offers high levels of precision as compared to other treatment options.

Source: The Hindu

Q.10) “Harpoon Capture” is recently in news, is related to which of the following?

- a) Space debris
- b) Deep-Sea fishing
- c) Fossil finding technique
- d) Horticulture

ANS: A

Explanation:

- A harpoon designed to capture orbital junk has been successfully tested in space for the first time as part of the active debris-removal demonstration mission called Remove Debris.
- The pen-size titanium harpoon developed by Airbus engineers in the U.K. was fired into an aluminum target, which extended from the spacecraft attached to a carbonfiber boom.
- During the test, it successfully snagged the target out of orbit and reeled it back to the main spacecraft.

Source: ForumIAS factly

Economy

Q.1) Consider the following statements about Universal Basic Income (UBI):

1. A UBI plan was first suggested in the Economic Survey of 2020-21.
2. UBI will have specific criterion for selection of beneficiaries.

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:

What is Universal Basic Income?

- It is a guaranteed regular cash transfer by the Government to all citizens irrespective of their income or financial condition. As a universal safety net, UBI will be applied to all individuals, irrespective of income and age.
- The Economic Survey (2016-17) had noted that the UBI has 3 components:
 - Universality: UBI will cover all citizens,
 - Unconditionality: UBI has no criteria to select the beneficiaries
 - Agency: Providing support in the form of cash transfers to respect, not dictate, recipients' choices.
- UBI is supposed to be easily accessible, periodic, in the form of funds (and not vouchers/coupons) and is paid to individuals instead of households.

Since governments commit to a legally stipulated and equal financial grant, it is also considered to be a form of social welfare, especially for those who are unemployed, sick and at the end of their working life.

Source: EPIC June 2022

Q.2) Which among the following countries is not a member of Arab Monetary Fund?

- a) Iran
- b) Egypt
- c) Sudan
- d) Qatar

ANS: A

Explanation:

Arab Monetary Fund (AMF) is a regional Arab organisation, founded in 1976, and has started operations in 1977. Member Countries (22) are: Jordan, United Arab Emirates, Bahrain, Tunisia, Algeria, Djibouti, Saudi Arabia, Sudan, Syria, Somalia, Iraq, Oman, Palestine, Qatar, Comoros, Kuwait, Lebanon, Libya, Egypt, Morocco, Mauritania, Yemen.

Objectives

- The AMF aims at contributing to the achievement of the following objectives:
- Correcting disequilibria in the balance of payments of member states.
- Striving for the removal of restrictions on current payments between member states.

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- Establishing policies and modes of Arab monetary co-operation.
- Rendering advice, whenever called upon to do so, with regard to policies related to the investment of the financial resources of member states in foreign markets.
- Promoting the development of Arab financial markets.
- Paving the way towards the creation of a unified Arab currency.
- Settling current payments across member states to promote intra-trade.

Source: <https://www.amf.org.ae/en/about-us>

Q.3) Consider the following statements:

1. Urban agriculture can be described as the growing of plants primarily for food and other domestic use within a city or a town and its environment.
2. Urban agriculture consists of a number of production systems within the city peripherals.

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:

What is Urban Agriculture?

- Urban agriculture can be described as the growing of plants primarily for food and other domestic use within a city or a town and its environs;
- It involves activities such as the production, processing, marketing, and delivery of farming products;
- Urban agriculture consists of a number of production systems within the city peripherals. They vary from domestic production and household level processing to large scale agriculture;
- The term also includes activities like animal husbandry, aquaculture, bee-keeping and horticulture.

What are the benefits of Urban Agriculture?

The Food and Agricultural Organisation (FAO) recognizes Urban Agriculture as a significant contributor to:

- Food security;
- Livelihood generation, especially for women;
- Poverty alleviation;
- Urban resilience and sustainability. Urban areas already house at least 55% of the world's population and consume 80% of the food produced globally. Urban Agriculture can address this challenge along with other benefits:

Economic Benefits:

- Income Generation for the practitioners;
- Revenues to Local Government through various activities;

Environmental Benefits:

- Reduces stormwater run-off;
- Reduction of local carbon footprint;
- Lower use of pesticides, crop preservation and new crop development;
- Lowers local temp and contributes to cooler urban micro-climate;

Social Benefits:

- Community Participation;
- Urban Employment opportunities, raises living standards;

Health Benefits:

- Availability of fresh foods;
- Enhances food security.

Source: EPIC June 2022

Q.4) With respect to SC's Judgment on GST Council's Recommendations, which of the following given statement is/are correct?

1. GST Council decisions are persuasive and binding.
2. The Constitution has not specifically mentioned that all GST Council decisions will become law.

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:

What is the SC's Judgment on GST Council's Recommendations?

In addition to dismissing the appeal of the Union Government, the Court pointed out that:

- Article 246A gives the power to make laws relating to GST to both the Parliament and the State legislatures ;
- The Constitution has not specifically mentioned that all GST Council decisions will become law. If that was the intention, Article 279A would have included clarifications to this effect;
- The recommendations of the GST Council are the product of a collaborative dialogue involving the Union and States. They are recommendatory in nature. To regard them as binding would disrupt fiscal federalism where both the Union and the States are conferred equal power to legislate on GST;
- It concluded that the GST Council decisions are only 'persuasive' and not binding.

Source: EPIC June 2022

Q.5) Consider the following statements about Open Network for Digital Commerce (ONDC):

1. ONDC has been incorporated as a public sector, non-profit company to democratize e-commerce in India.
2. It was incubated by the Department for Promotion of Industry and Internal Trade (DPIIT) at the Quality Council of India.

Which of the statements given above is/are correct?

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

ANS: B

Explanation:

What is the background to ONDC?

- The fast-expanding digital economy has been one of the major supporting pillars of India's growth in recent times. India has the world's highest fintech adoption rate of 87%, as compared with the global average of 64%;
- 3 of the largest public digital platforms in the world are from India: Aadhaar (largest digital identity platform), Unified Payments Interface (UPI, largest digital payments ecosystem), and Co-Win (largest vaccination platform);
- Realizing the potential of digital space, the Government of India has launched the Open Network For Digital Commerce (ONDC) as a prospective alternative to dominant global giants (like Amazon and Walmart) in its fast-growing e-commerce market;
- The idea of ONDC was conceived during COVID when ensuring essential supplies across containment zones was found to be a challenge. Therefore a need was felt to alter the current digital commerce approach of 'scaling what works' to a new approach of 'what works at scale';
- On December 31, 2021, ONDC was incorporated as a private sector, non-profit (Section-8) company to democratize e-commerce in India and offer alternatives to proprietary e-commerce sites. It was incubated by the Department for Promotion of Industry and Internal Trade (DPIIT) at the Quality Council of India.

Source: EPIC June 2022

Q.6) With respect to 5G Network, consider the following statements:

1. 5G services will provide up to One GBPS (Gigabit Per Second) of download speed.
2. 5G services will have ultra-high latency.

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:

What is 5G-Network?

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- 5G or 5th-Generation is the latest upgrade so far in the long-term evolution (LTE) mobile broadband networks. The 5G technology mainly works in 3 bands, (low, mid and high-frequency spectrum);
- The important features of 5G include:
 - **Data Speed:** 5G services will provide up to One GBPS (Gigabit Per Second) of download speed. It is 100 times higher than the existing network speed;
 - **Efficiency and Stability:** The energy efficiency of devices and stability of network connections will improve further with the 5G technology;
 - **Reduce Network congestion:** 5G services work across the low, medium and high-frequency spectrums. This will avoid any network congestions;
 - **Low Latency:** 5G services will have ultra-low latency (time taken by a network to respond). Latency for is predicted to be below 10 milliseconds, and in best cases around 1 millisecond.

A government panel report expects the peak 5G data speeds are to be in the range of 2-20 Gbps.
Source: EPIC June 2022

Q.7) “LERMS” is related to which of the following?

- a) Banking sector
- b) Industries sector
- c) Exchange rate
- d) Infrastructure sector

ANS: C

Explanation:

- Liberalized Exchange Rate Management System (LERMS) was a new system of exchange rate management.
- According to this system, forty percent of the proceeds of exports and inward remittances were purchased at the official exchange rate by the (RBI) Reserve Bank of India for official use.
- Receipts and Payments on capital account continued to be subject to controls.

Source: TMH Ramesh Singh

Q.8) Which of the following suggested the government to create All India Development Banks (AIDBs)?

- a) Manmohan Singh
- b) Sukhamoy Chakraborty
- c) Montek Singh Ahluwalia
- d) Narasimhan

ANS: D

Explanation:

- The era of economic reforms had given the same option to the PSUs to tap new capital.
- As the AIFIs had more or less fixed rate of interest as compared to the banks which could mobilize cheaper deposits to lend cheaper—the AIFIs seemed to become irrelevant.
- The AIFIs witnessed a sharp decline in recent years. At this juncture the government decided to convert them into Development Banks (suggested by the Narasimhan Committee-I) to be known as the All India Development Banks (AIDBs).

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- In 2000, the government allowed ICICI to go for a reverse merger (when an elder enterprise is merged with a younger one) with the ICICI Bank—the first AIDB emerged with no obligation of project financing—such entities in coming times will be known as the universal banks.

Source: TMH Ramesh Singh

Q.9) The Reserve Bank of India was set up P J Nayak Committee to review Governance of Boards of Banks in India and to establish which of the following?

- a) Banks Board Bureau
- b) Indian Banks Association
- c) Bad Banks
- d) Differentiated Banks

ANS: A

Explanation:

- The Banks Board Bureau owes its genesis to the recommendations in the Report of The Committee set up by the Reserve Bank of India to Review Governance of Boards of Banks in India (Chair: Dr P J Nayak; May 2014), which envisaged the Bureau as a precursor to a Company which would eventually hold the Government's investments in PSBs.

Source: Sriram's Economy

Q.10) Which of the following statement about National Biofuel Policy, 2018 is/are correct?

1. The Policy is aimed at reducing the dependence on oil imports by encouraging fuel blending.
2. The National Biofuel Coordination Committee (NBCC) is the agency to coordinate this blending programme.

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:

What are the salient features of National Biofuel Policy, 2018?

- The Policy is aimed at reducing the dependence on oil imports by encouraging fuel blending;
- The Policy categorizes biofuels as –
 - 'Basic Biofuels' viz. 1st Generation (1G) bioethanol & biodiesel and
 - 'Advanced Biofuels': 2nd Generation (2G) ethanol, Municipal Solid Waste (MSW) to drop-in fuels, 3rd Generation (3G) biofuels, bio-CNG etc.;
- The Policy expands the scope of raw material for by allowing use of:
 - Sugarcane Juice, Sugar containing materials like Sugar Beet, Sweet Sorghum;
 - Starch containing materials like Corn, Cassava;
- Damaged food grains like wheat, broken rice, rotten potatoes etc. that are unfit for human consumption;

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- The Policy indicates a viability gap funding scheme for 2G ethanol Bio refineries of INR 5,000 crore in 6 years. The Policy encourages setting up of supply chain mechanisms for biodiesel production;
- The National Biofuel Coordination Committee (NBCC), with the Union Minister for Petroleum and Natural Gas as its head, is the agency to coordinate this blending programme.

Source: EPIC June 2022

Polity

Q.1) S.P Gupta vs Union of India recently seen in news, is related to which of the following?

- a) Parliamentary privileges
- b) Judicial accountability
- c) Uniform Civil code
- d) None

ANS: B

Explanation:

Judgements Related to Judicial Accountability

- **S.P. Gupta v. Union of India:** The Supreme Court agreed that **Judiciary is accountable to the public** to answer queries related to the decisions they take for the interest of the public. This has been granted to the public by Article 19(1) (a) of the Constitution.
- **C. Ravichandran Iyer vs Justice A.M. Bhattacharjee:** The Supreme Court held that an **in-house “peer review” procedure** could be laid down for **correcting deviant behaviour**. Where the allegations do not warrant removal, the in-house mechanism could impose “minor measures”.
- **K. Veeraswami v. Union of India:** The SC held that no Judge of superior court could be subjected to a criminal investigation **without the written permission of the Chief Justice of India**. Justice Veeraswami had assets vastly disproportionate to his income. Due to this judgment, it has been very rare that a judge has been subjected to investigation.

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Source: EPIC June 2022

Q.2) Which of the following given statement is/are correct?

1. The legal framework in India does have a law on the grant of compensation to those maliciously prosecuted.
2. CrPC (1973) provides for a compensation of INR 10000 to a person wrongfully arrested.

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: D

Explanation:

What remedies are available to a person against wrongful incarceration/conviction?

- The legal framework in India does not have a law on the grant of compensation to those maliciously prosecuted;
- Section 358 of the CrPC (1973) provides for a compensation of INR 100 to a person wrongfully arrested. The compensation is to be recovered from a person on whose complaint the victim was wrongly arrested. Award of this compensation is subject to the discretion of the Magistrate;
- The Protection of Human Rights Act, 1993, empowers the National Human Rights Commission to inquire into instances of illegal detentions, wrongful convictions, incarcerations, and other human rights violations. After conducting an inquiry, NHRC can recommend that the State pay compensation and initiate proceedings against erring officials;
- The Law Commission in its 277th Report (2018), noted that ‘the currently available remedies only create an ex-gratia obligation, and not a statutory obligation on the State to compensate’. Thus, at present, the provision of compensation is subject to the discretion of the Judiciary (or NHRC), rather than a legal obligation of the Executive.

What are the global standards regarding Right to Compensation?

- The Right to Compensation (for wrongful prosecution, incarceration, and convictions) has been recognized by various international covenants. It has been enforced by various enactments, statutes, and acts in jurisdictions all over the globe;
- The International Covenant on Civil and Political Rights (1966) lays down the basic commitments that State parties need to adhere to protect the civil and political liberties of the individual. The Right to Compensation for Wrongful Convictions is laid down in Article 14(6) of the Covenant;
- Article 5(5) of the European Convention for the Protection of Human Rights and Fundamental Freedoms talks about Compensation for wrongful arrest.

Source: EPIC June 2022

Q.3) With respect to powers of Parliament, consider the following statements:

1. Parliament has the power to legislate on international treaties.
2. Parliament cannot enact a law on State subjects in order to implement international treaties.

Which of 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 Government of India recently signed trade deals with Australia and the UAE. However, there is no scrutiny of these trade treaties by the Parliament. This gives rise to the argument of democratic deficit in the treaty making process.

What is the Constitutional Arrangement?

- According to Article 246, Parliament has the legislative competence on all matters given in the Union list. Entry 14 of the Union list notes 'Entering into treaties and agreements with foreign countries and implementing of treaties, agreements and conventions with foreign countries'. Thus, Parliament has the power to legislate on international treaties;
- This power includes:
 - Deciding how India will ratify treaties and thus assume international law obligations;
 - Parliament's competence to give effect to treaties within the domestic legal regime by enacting laws;
- Article 253 provides the power to the Parliament to enact a law on State subjects in order to implement international treaties.

Source: EPIC June 2022

Q.4) Consider the following provisions:

1. Directive Principles of State Policy
2. Election of the President and its manner
3. Salaries and allowances of the members of Parliament

Which of the provisions given above is/are amended by a special majority of Parliament?

Select the correct answer using the codes given below:

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

ANS: B

Explanation:

- The majority of the provisions in the Constitution need to be amended by a special majority of the Parliament, that is, a majority (that is, more than 50 per cent) of the total membership of each House and a majority of two-thirds of the members of each House present and voting.
- The expression 'total membership' means the total number of members comprising the House irrespective of fact whether there are vacancies or absentees.

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- 'Strictly speaking, the special majority is required only for voting at the third reading stage of the bill but by way of abundant caution the requirement for special majority has been provided for in the rules of the Houses in respect of all the effective stages of the bill'.

The provisions which can be amended by this way include:

- Fundamental Rights;
- Directive Principles of State Policy; and
- All other provisions which are not covered by the first and third categories.

Source: Indian Polity by Laxmikanth

Q.5) Consider the following statements regarding procedure for the amendment of the Constitution:

1. An amendment of the Constitution can be initiated in either House of Parliament or the state legislature.
2. The bill cannot be introduced by a private member.

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:

Article 368 in Part XX of the Constitution deals with the powers of Parliament to amend the Constitution and its procedure.

An amendment of the Constitution can be initiated only by the introduction of a bill for the purpose in either House of Parliament and not in the state legislatures.

- The bill can be introduced either by a minister or by a private member and does not require prior permission of the president.
- The bill must be passed in each House by a special majority, that is, a majority (that is, more than 50 per cent) of the total membership of the House and a majority of two-thirds of the members of the House present and voting.
- Each House must pass the bill separately. In case of a disagreement between the two Houses, there is no provision for holding a joint sitting of the two Houses for the purpose of deliberation and passage of the bill.
- If the bill seeks to amend the federal provisions of the Constitution, it must also be ratified by the legislatures of half of the states by a simple majority, that is, a majority of the members of the House present and voting.
- After duly passed by both the Houses of Parliament and ratified by the state legislatures, where necessary, the bill is presented to the president for assent.
- The president must give his assent to the bill. He can neither withhold his assent to the bill nor return the bill for reconsideration of the Parliament.
- After the president's assent, the bill becomes an Act (i.e., a constitutional amendment act) and the Constitution stands amended in accordance with the terms of the Act.

Source: Indian Polity by Laxmikanth

Q.6) Consider the following statement about President's Rule in India:

1. Article 356 and Article 365 mentions the grounds of proclamation of President's Rule in India.
2. The presidential proclamation imposing President's Rule is not subjected to judicial review.

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 355 imposes a duty on the Centre to ensure that the government of every state is carried on in accordance with the provisions of the Constitution.

- It is this duty in the performance of which the Centre takes over the government of a state under Article 356 in case of failure of constitutional machinery in state.
- This is popularly known as 'President's Rule'. It is also known as 'State Emergency' or 'Constitutional Emergency'.
- The President's Rule can be proclaimed under Article 356 on two grounds —one mentioned in Article 356 itself and another in Article 365.
- The 38th Amendment Act of 1975 made the satisfaction of the President in invoking Article 356 final and conclusive which could not be challenged in any court on any ground.
- But, this provision was subsequently deleted by the 44th Amendment Act of 1978 implying that the satisfaction of the President is not beyond judicial review.
- In Bommai case (1994), the Supreme Court said that imposition of President's Rule in a state under Article 356 is subject to judicial review.

Source: Indian Polity by Laxmikanth

Q.7) Consider the following statements:

1. The expression 'sex worker' has been defined in Immoral Traffic (Prevention) Act, 1956.
2. Supreme Court has recognized sex work as a profession.

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 Supreme Court has recognized sex work as a profession. The SC held that the practitioners of sex work are entitled to dignity and equal protection under the law.

What is the background to the SC Directions?

- In 2011, the SC had rejected the appeal of the convict in Budhadev Karmaskar vs State Of West Bengal case. The accused had murdered a sex worker for refusing to have sexual intercourse with him;
- The SC appointed a panel asking it to study and make suitable suggestions on 'prevention of trafficking, rehabilitation of sex workers who wish to leave sex work'.

What were the findings of the Panel?

In its final report submitted on September 14, 2016, the panel noted that:

- Sex workers found it difficult to acquire proofs of identity such as ration cards or voter cards because they lacked a proof of residence;
- District authorities did not recognise the identities of sex workers and their children, and sex workers did not have access to schemes meant for their rehabilitation;
- They also had no access to credit offered by States, because the lack of documents prevented them from opening bank accounts. The Committee recommended that amendments should be made to The Immoral Traffic (Prevention) Act, 1956.

The Supreme Court's Directions Regarding Sex Workers

The Supreme Court has directed the implementation of some of the Recommendations of the Panel it had appointed in 2011.

1. Provision for **immediate medical assistance** for any sex worker who is a victim of sexual assault.
2. Direction to States to do a **survey of all Immoral Trafficking (Prevention) Act Protective Homes** so that cases of adult women who are detained against their will can be reviewed and processed for release in a time-bound manner.
3. **Sensitising police** and other law enforcement agencies to the **rights of sex workers** and to ensure that police treat them with dignity and do not abuse them verbally or physically or coerce them into any sexual activity.
4. Ask The **Press Council of India to issue appropriate guidelines** for the media to take utmost care **not to reveal the identities of sex workers** while reporting.
5. Direction that measures that sex workers employ for their health and safety must neither be construed as offences nor seen as evidence of commission of an offence.
6. Ensure that the legal service authorities of the Union and State governments **educate sex workers about their rights** vis-à-vis the legality of sex work.

Source: EPIC June 2022

Q.8) The Self Help Group (SHG) Bank Linkage Project was launched by which of the following?

- a) Indian Banks Bureau
- b) Regional Rural Banks
- c) National Bank for Agriculture and Rural Development
- d) Micro Finance Institutions

ANS: C

Explanation:

- The SHG Bank Linkage Project launched by NABARD in 1992 has blossomed into the world's largest microfinance project.
- NABARD along with RBI permitted SHGs to have a savings account in banks from the year of 1993. This action gave a considerable boost to the SHG movement and paved the way for the SHG-Bank linkage program.

Source: Governance in India by Laxmikanth

Q.9) Which of the following is/are functional items of “Eleventh Schedule”?

1. Animal husbandry, dairying and poultry.
2. Food processing industries.
3. Cattle ponds, prevention of cruelty to animals.

Select the correct answer using the codes given below:

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

ANS: B

Explanation:

Eleventh Schedule It contains the following 29 functional items placed within the purview of panchayats: Agriculture, including agricultural extension Land improvement, implementation of land reforms, land consolidation and soil conservation Minor irrigation, water management and watershed development Animal husbandry, dairying and poultry Fisheries Social forestry and farm forestry Minor forest produce Small-scale industries, including food processing industries Khadi, village and cottage industries Rural housing Drinking water Fuel and fodder Roads, culverts, bridges, ferries, waterways and other means of communication Rural electrification, including distribution of electricity.

Source: Laxmikanth

Q.10) Who among the following is the ex - office chairman of the National Disaster Management Authority?

- a) Prime Minister
- b) Finance Minister
- c) Home Minister
- d) Niti Aayog Vice Chairman

ANS: A

Explanation: The NDMA consists of a chairperson and other members, not exceeding nine.

- The Prime Minister is the ex-officio chairperson of the NDMA. The other members are nominated by the chairperson of the NDMA.
- The chairperson of the NDMA designates one of the members as the vice-chairperson of the NDMA.
- The vice-chairperson has the status of a Cabinet Minister while the other members have the status of a Minister of State.

Source: Laxmikanth

Geography

Q.1) “Magnesium, Iron and silica are major elements of it. It is used in jewellery. It is usually a greenish crystal, often found in basaltic rocks.”

Which of the following mineral is described in the above statement?

- a) Olivine
- b) Mica
- c) Pyroxene
- d) Feldspar

ANS: A

Explanation: Olivine:

- Olivine is the name of a group of rock-forming minerals that are typically found in mafic and ultramafic igneous rocks such as basalt, gabbro, dunite, diabase, and peridotite.
- They are usually green in color and have compositions that typically range between Mg_2SiO_4 and Fe_2SiO_4 . Many people are familiar with olivine because it is the mineral of a very popular green gemstone known as peridot.
- Most olivine found at Earth's surface is in dark-colored igneous rocks. It usually crystallizes in the presence of plagioclase and pyroxene to form gabbro or basalt.
- These types of rocks are most common at divergent plate boundaries and at hot spots within the centers of tectonic plates.

Source: NCERT Class 11

Q.2) Consider the following statements about thermal metamorphism:

1. In regional metamorphism the rocks come in contact with hot intruding magma and lava and the rock materials recrystallise under high temperatures.
2. In contact metamorphism, rocks undergo recrystallisation due to deformation caused by tectonic shearing together with high temperature or pressure or both.

Which of the above given statement is/are correct?

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

ANS: D

Explanation:

- There are two types of thermal metamorphism — contact meta-morphism and regional metamorphism.
- In contact metamorphism the rocks come in contact with hot intruding magma and lava and the rock materials recrystallise under high temperatures. Quite often new materials form out of magma or lava are added to the rocks.
- In regional metamorphism, rocks undergo recrystallisation due to deformation caused by tectonic shearing together with high temperature or pressure or both.

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- In the process of metamorphism in some rocks grains or minerals get arranged in layers or lines. Such an arrangement of minerals or grains in metamorphic rocks is called foliation or lineation.

Source: NCERT Class 11

Q.3) Which of the following term is used for the 'Science of Rocks'?

- a) Pedology
- b) Cartology
- c) Petrology
- d) Mineralogy

ANS: C

Explanation:

- Petrology is science of rocks. A petrologist studies rocks in all their aspects viz., mineral composition, texture, structure, origin, occurrence, alteration and relationship with other rocks.
- The earth's crust is composed of rocks. A rock is an aggregate of one or more minerals.
- Rock may be hard or soft and in varied colours.
- For example, granite is hard, soapstone is soft. Gabbro is black and quartzite can be milky white.
- Rocks do not have definite composition of mineral constituents.
- Feldspar and quartz are the most common minerals found in rocks.

Source: NCERT Class 11

Q.4) With reference to the bauxite ore, which of the following statements is/are correct?

1. It is used in manufacturing of copper.
2. It is found only in the coastal areas.

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: D

Explanation:

- Bauxite is the ore, which is used in manufacturing of aluminium.
- Bauxite is found mainly in tertiary deposits and is associated with laterite rocks occurring extensively either on the plateau or hill ranges of peninsular India and also in the coastal tracts of the country.

Source: NCERT – XII

Q.5) Which of the following statements is/are correct about “coal reserves” in India?

1. Anthracite coal has highest calorific value.
2. Lignite coal gives high moisture content.
3. Talcher coalfield is located in Karnataka and Andhra Pradesh.

Select the correct answer using the code given below:

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

ANS: B

Explanation:

- Anthracite is the best quality of coal which carries 80 to 95 per cent carbon content. It ignites slowly with a blue flame. It has the highest calorific value. It is found in small quantity in Jammu and Kashmir.
- Lignite is often brown in colour. It carries 40 to 55 per cent carbon content. It is an intermediate stage which happens during the alteration of woody matter into coal.
- It has high moisture content so it gives smoke when burnt. It is found in Rajasthan, Lakhimpur (Assam), and Tamil Nadu.
- Odisha has the second largest coal reserves in the country and it carries more than 24 per cent of the total coal reserves. It produces about 15 per cent of the total coal production of India.
- Most of the coal deposits of the state are found in Sambalpur, Dhenkanal, and Sundargarh districts.
- Talchar coalfield of Odisha stretch over Dhenkanal and Sambalpur districts covers an area of about 500 sq km.

Source: NCERT – XII

Q.6) “Bhatin, Narwapahar and Turamdih” are famous for which of the following?

- a) Bauxite mines
- b) Limestone mines
- c) Mica mines
- d) Uranium mines

ANS: D

Explanation:

- Jaduguda in Singhbhum Thrust Belt (in the state of Jharkhand, formerly part of Bihar) is the first uranium deposit to be discovered in the country in 1951.
- The discovery of uranium at Jaduguda in this belt paved the way for intensive exploration work and soon a few more deposits were brought to light in this area.
- Some of these deposits like Bhatin, Narwapahar and Turamdih are well known uranium mines of the country.

Source: NCERT – XII

Q.7) Which of the following state has largest resource of Bauxite in India?

- a) Gujarat
- b) Chattisgarh
- c) Odisha
- d) Maharashtra

ANS: C

Explanation:

- By States, Odisha alone accounts for 51% of country's resources of bauxite followed by Andhra Pradesh (16%), Gujarat (9%), Jharkhand (6%), Maharashtra (5%) and Madhya Pradesh & Chhattisgarh (4% each).
- Major bauxite resources are concentrated in the East Coast bauxite deposits in Odisha and Andhra Pradesh.

Source: NCERT – XII

Q.8) Which of the following is a non-metallic mineral?

- a) Silver
- b) Zinc
- c) Lead
- d) Coal

ANS: D

Explanation: Metallic Minerals:

These minerals contain metal content and can be sub-divided into three types:

- **Precious metals:** gold, silver, platinum etc.
- **Ferrous metals:** iron and other metals often mixed with iron to form various kinds of steel.
- **Non-ferrous metals:** include metals like copper, lead, zinc, tin, aluminium etc.

Source: NCERT Class 11

Q.9) Which mineral group is found most abundantly in the earth's Crust?

- a) Mica Group
- b) Feldspar Group
- c) Silicate Group
- d) Oxide Group

ANS: B

Explanation: Feldspar:

- Silicon and oxygen are common elements in all types of feldspar and sodium, potassium, calcium, aluminum etc. are found in specific feldspar variety.
- Half of the earth's crust is composed of feldspar.
- It has light cream to salmon pink colour.
- It is used in ceramics and glass making.

Source: NCERT Class 11

Q.10) Which one of the following is component of sand and granite?

- a) Pyroxene
- b) Amphibole
- c) Quartz
- d) Mica

ANS: C

Explanation: Quartz:

- It is one of the important components of sand and granite. It consists of silica.
- It is a hard mineral virtually insoluble in water.
- It is white or colourless and used in radio and radar.
- It is one of the most important components of granite.

Source: NCERT Class 11

Environment

Q.1) Which of the following greenhouse gas is majorly released from the rice fields?

- a) Ozone
- b) Methane
- c) Nitrous oxide
- d) Ammonia

ANS: B

Explanation:

- Growing rice produces methane, a greenhouse gas more than 30 times as potent as carbon dioxide.
- Methane from rice fields contributes around 1.5 percent of total global greenhouse gas emissions and could grow substantially.
- Flooded rice fields emit methane (CH₄), which is second in importance to CO₂ as a greenhouse gas.
- A greenhouse gas is a gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect.
- The primary greenhouse gases in the earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone.

Source: Shankar

Q.2) Which of the following is/are possible causes for methane emissions which amount to global warming?

1. Extensive rice cultivation
2. Raising of livestock
3. Wetlands

Select the correct answer using the codes 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:

- Methane is emitted by natural sources such as wetlands, as well as human activities such as leakage from natural gas systems, the raising of livestock, and extensive rice agriculture.
- Natural processes in soil and chemical reactions in the atmosphere help remove methane from the atmosphere.
- Irrigated rice fields are the major source of methane from rice fields.
- Methane from rice contributes around 1.5 percent of total global greenhouse gas emissions
- Livestock generates methane in two main ways: through their digestion and through their waste.
- Methane (CH₄) is a hydrocarbon that is a primary component of natural gas.

Source: ForumIAS

Q.3) Which of the following is not a Greenhouse gas?

- a) CO₂
- b) Ozone
- c) N₂O
- d) SO₂

ANS: D

Explanation: Greenhouse Effect:

- The solar energy trapped by the earth atmosphere and radiate it slowly so to cover our earth with a warm blanket.
- This is the natural process of the greenhouse effect on earth to maintain its temperature and makes the earth perfect for life.
- Greenhouse gases are carbon dioxide, other greenhouse gases are methane, water vapour, nitrous oxide, CFCs and ozone.
- Values of radiation absorbed by the greenhouse gases are as follow:

Gas	Value of absorption in percentage
Ozone	10.2 %
Methane	16.3 %
Carbon Dioxide	56.4 %
Nitro Oxide	5.4 %

Global warming:

- If the amount of greenhouse gases crosses by delicate proportion, the natural greenhouse balance may get disturbed and there is a continuous rise in temperature of the earth by trapping the solar heat continuously.
- This creates the overall effect of Global warming.

Source: Shankar

Q.4) Which of the following gas has the highest contribution to global warming?

- a) Carbon-dioxide
- b) Chlorofluorocarbon
- c) Nitrous oxide
- d) Methane

ANS: A

Explanation:

- Carbon-di-oxide has the highest contribution to global warming.
- Global warming is a gradual increase in the earth's temperature.
- In the greenhouse, effect heat is trapped close to the surface of the Earth by "greenhouse gases."

Greenhouse gases:

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF₆).

Causes of Global Warming: Man-made causes of global warming are :

- Deforestation
- Use of Vehicles

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- Chlorofluorocarbon
- Industrial Development
- Agriculture
- Overpopulation

Natural causes of global warming are:

- Volcanoes
- Water Vapour
- Melting Permafrost
- Forest Blazes

Source: Shankar

Q.5) Which of the following is/are the effects of aerosols on climate?

1. They directly reflect sunlight back to space.
2. They indirectly make clouds brighter reflectors.
3. Aerosols have a net cooling effect on climate systems.
4. Human generated aerosols offset the impact of global warming to some extent.

Select the correct answer using the codes given below:

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

ANS: D

Explanation: The effects of aerosols on climate are

- They directly reflect sunlight back to space.
- They indirectly make clouds brighter reflectors. c. Aerosols have a net cooling effect on climate systems.
- Human-generated aerosols offset the impact of global warming to some extent.

Aerosol

- An aerosol is a suspension of fine solid particles or liquid droplets in air or another gas.
- Aerosols can be natural or anthropogenic. Examples of natural aerosols are fog, mist, dust, forest exudates, and geyser steam.

Source: WMO

Q.6) Consider the following statements regarding “Climate Investment Funds (CIFs)”:

1. World Bank is the trustee of CIFs.
2. They were designed by developed Countries only.

Which of the statements given above is/are correct?

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

ANS: A

Explanation:

The Climate Investment Funds (CIFs) are implemented by the Multilateral Development Banks (MDBs) to bridge the financing and learning gap between international climate change agreements.

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- They were designed by developed and developing countries. The World Bank is the Trustee of the CIFs.
- It includes a “sunset clause” to ensure that the Fund’s activities do not prejudice the outcome on the UNFCCC negotiations.

CIFs are two distinct funds

- Clean Technology Fund
- Strategic Climate Fund.

The CTF promotes scaled-up financing for demonstration, deployment and transfer of low carbon technologies with a significant potential for long-term greenhouse gas emissions savings.

Source: World Bank

Q.7) “Emission Trading and Clean Development Mechanism” are often seen in news is related to which of the following?

- a) UNCCD
- b) Kyoto Protocol
- c) UNDP
- d) GEF

ANS: B

Explanation:

The Kyoto Protocol is made up of essential architecture that has been built and shaped over almost two decades of experience, hard work and political will. The beating heart of KP is made up of:

- Reporting and verification procedures;
- Flexible market-based mechanisms, which in turn have their own governance procedures; and
- A compliance system.

The Kyoto Flexible Market Protocol mechanisms:

- Joint Implementation (JI)
- The Clean Development Mechanism (CDM)
- Emission Trading

Source: Shankar

Q.8) Consider the following statements regarding “fluorinated gases”:

1. They have low global warming potentials (GWPs) relative to other greenhouse gases.
2. They are the most potent and longest lasting type of greenhouse gases emitted by human activities.

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:

Fluorinated gases are emitted through a variety of industrial processes such as aluminum and semiconductor manufacturing & Substitution for Ozone-Depleting Substances.

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- Many fluorinated gases have very high global warming potentials (GWPs) relative to other greenhouse gases. Fluorinated gases are well-mixed in the atmosphere, spreading around the world after they're emitted.
- Fluorinated gases are removed from the atmosphere only when they are destroyed by sunlight in the far upper atmosphere. In general, fluorinated gases are the most potent and longest lasting type of greenhouse gases emitted by human activities.

Source: Shankar

Q.9) Which of the following statement is NOT correct about black carbon?

- a) It warms the Earth by absorbing heat in the atmosphere and by reducing albedo.
- b) It disrupts cloudiness and monsoon rainfall and accelerates melting of mountain glaciers such as the Hindu Kush-Himalayan glaciers.
- c) Black carbon stays in the atmosphere for years.
- d) It is a form of particulate air pollutant, produced from incomplete combustion.

ANS: C

Explanation:

Black carbon (BC) is a solid particle or aerosol, (though not a gas) contributes to warming of the atmosphere.

- Black carbon, commonly known as soot, is a form of particulate air pollutant, produced from incomplete combustion.
- It consists of pure carbon in several linked forms. Black carbon stays in the atmosphere for only several days to weeks.
- Thus the effects of BC on the atmospheric warming and glacier retreat disappear within months of reducing emissions.

Source: Shankar

Q.10) Chloro-flouro-carbons (CFCs) is/are used in which of the following?

1. Refrigerators
2. Fire extinguishing
3. Cleaning metallic components

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:

- CFCs molecules are made up of chlorine, fluorine and carbon. They are used as refrigerants, propellants in aerosol sprays, foaming agents in plastic manufacturing, fire extinguishing agents, solvents for cleaning electronic and metallic components, for freezing foods etc.
- Two-thirds of CFC is used as refrigerants while one-third is used as blowing agents in foam insulation products.

Source: Shankar

History

Q.1) Who among the following is author of Gaha Sattasai?

- a) Gautamiputra Satkarni
- b) Hala
- c) Nahapana
- d) Kautilya

ANS: B

Explanation:

- King Hala is credited with the writing of Gatha Sattasai, a collection of 700 love poems.
- Written in Maharshtri Prakrit dialect, it has themes similar to those found in the Tamil Sangam poetry.

Source: Tamil Nadu State Board Class 11

Q.2) Ashokan Rock Edict II, doesn't mentions which of the following as the neighbor state of Mauryan Empire?

- a) Cholas
- b) Satvahanas
- c) Keralaputras
- d) Pandyas

ANS: B

Explanation:

- The Asokan edicts (c. 270-30 BCE) present for the first time a picture of the political condition in south India.
- Rock Edict II lists the Tamil ruling houses Cholas, Pandyas, Keralaputras and Satiyaputra as neighbor rulers, lying beyond his domain.
- Where he is said to have made provision for two types of medical treatment: medical treatment for both humans and animals.
- The Mauryan empire at that time included northern parts of Karnataka and Andhra, while the Tamil kingdoms were treated as independent neighbours.

Source: Tamil Nadu State Board Class 11

Q.3) Who among the following is known to have performed the prestigious vedic asvamedha sacrifice?

- a) Nahapana
- b) King Hala
- c) Gautamiputra Satkarni
- d) Ashoka

ANS: C

Explanation:

Gautamiputra Satakarni was the greatest of the Satavahana kings. He defeated the Shaka ruler Nahapana and reissued the coins of Nahapana with his own royal insignia. The inscription of his mother Gautami Balashri at Nashik mentions him as the conqueror of the

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Shakas, Pahlavas, and Yavanas. He is also said to have performed the prestigious Vedic *asvamedha* sacrifice.

Source: Tamil Nadu State Board Class 11

Q.4) Which of the following is/are a part of Muvendar?

1. Cholas
2. Pandyas
3. Ashoka
4. Chera

Select the correct answer using the codes given below:

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

ANS: C

Explanation: The Muvendar:

Though the three Tamil ruling families were known to Asoka in the third century BCE itself, some individual names are known only from the Sangam poems of the first century and later. Known as muvendar, 'the three crowned kings', the Cheras, Cholas and Pandyas controlled major agrarian territories, trade routes and towns. But the Satiyaputra (same as Athiyaman) found in the Asokan inscription along with the above three houses is a Velir chief in the Sangam poems.

Source: Tamil Nadu State Board Class 11

Q.5) The term Neythal, used for eco-region during Sangam age is related to which of the following?

- a) Riverine Tract
- b) Parched land
- c) Coastal land
- d) Hilly region

ANS: C

Explanation:

Sangam poems help us understand the social formation of the time. According to the thinai concept, Tamilagam was divided into five landscapes or eco-regions namely Kurinji, Marutam, Mullai, Neytal and Palai. Each region had distinct characteristics –a presiding deity, people and cultural life according to the environmental conditions, as follows:

- **Kurinji:** hilly region: hunting and gathering
- **Marutham:** riverine tract: agriculture using plough and irrigation.
- **Mullai:** forested region: pastoralism combined with shifting cultivation
- **Neythal:** coastal land: fishing and salt making.
- **Palai:** parched land. Unsuitable for cultivation and hence people took to cattle lifting and robbery.

Source: Tamil Nadu State Board Class 11

Q.6) Itinerary or mobile merchants during sangam age were referred as:

- a) Umanar
- b) Chattu
- c) Velir
- d) Avaiyam

ANS: B

Explanation:

Traders from faraway regions were present in the Tamil country. Manimegalai refers to Magadha artisans, Maratha mechanics, Malva smiths and Yavana carpenters working in cooperation with Tamil craftsmen. Trade related terms such as vanikan, chattan and nigama appear in the Tamil-Brahmi inscriptions. Salt merchants called umanar, travelled in bullock carts along with their families for trade activities. Chattu referred to the itinerary or mobile merchants.

Source: Tamil Nadu State Board Class 11

Q.7) Consider the following:

- 1. Musiri
- 2. Tondi
- 3. Korkai
- 4. Kaviripattinam

Which of the above is/are the port of the Sangam period?

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

ANS: D

Explanation: The Cholas:

They controlled the central and northern parts of Tamil Nadu. Their core area of the rule was the Kaveri delta, later known as Cholamandalam. Their capital was Uraiyur (near Thiruchirapalli town) and Puhar or Kaviripattinam was an alternative royal residence and chief port town. Tiger was their emblem. Kaviripattinam attracted merchants from various regions of the Indian Ocean. Pattinappalai, composed by the poet Kattiyalur

The Cheras:

They controlled the central and northern parts of Kerala and the Kongu region of Tamil Nadu. Vanji was their capital and the ports of the west coast, Musiri and Tondi, were under their control. Vanji is identified with Karur, while some scholars identify it with Tiruvanchaikkalam in Kerala.

The Pandyas

They ruled from Madurai. Korkai was their main port, located near the confluence of Thampraparani with the Bay of Bengal. It was famous for pearl fishery and chank diving. Korkai is referred to in the Periplus as Kolkoi. Fish was the emblem of the Pandyas. Their coins have an elephant on one side and a stylised image of fish on the other. They invaded Southern Kerala and controlled the port of Nelkynda, near Kottayam. Therefore, Musiri, Tondi, Korkai, and Kaviripattinam were ports during Sangam Period.

Source: Tamil Nadu State Board Class 11

Q.8) In which of the following cities was the Sangam assemblies held?

- a) Nagapattinam
- b) Thiruvavur
- c) Thiruvallur
- d) Madurai

ANS: D

Explanation:

- The Sangam assemblies were held in Madura city.
- The period roughly between the 3rd century B.C. and 3rd century A.D. in South India (the area lying to the south of river Krishna and Tungabhadra) is known as Sangam Period.
- It has been named after the Sangam academies held during that period that flourished under the royal patronage of the Pandya kings of Madurai.
- At the Sangams, eminent scholars assembled and functioned as the board of censors and the choicest literature was rendered in the nature of anthologies.
- These literary works were the earliest specimens of Dravidian literature.
- According to the Tamil legends, there were three Sangams (Academy of Tamil poets) held in ancient South India popularly called Muchchangam.
- The First Sangam is believed to be held at Madurai, attended by gods and legendary sages.
- No literary work of this Sangam is available.
- The second Sangam was held at Kapadapuram, only Tolkappiyam survives from this.
- The Third Sangam was also held at Madurai.
- A few of these Tamil literary works have survived and are useful sources to reconstruct the history of the Sangam period.
- The Sangama dynasty was founded by Harihara and Bukka Raya, who founded the Vijayanagara Empire.
- It was named after their father Sangama.

Source: Tamil Nadu State Board Class 11

Q.9) In Tamil literature the glorious Epic 'Manimegalai' are related to:

- a) Jainism
- b) Buddhism
- c) Hinduism
- d) Christianity

ANS: B

Explanation: Silappadikaram and Manimekalai are Continuous epics. Manimekalai was written by Sattanar of Madurai. It is the story of Manimekalai, the daughter of Kovalan and Madhavi. She later became a Buddhist nun. It gives glimpses of the development of the fine arts in the Sangam Age. Silappadikaram is the greatest and earliest epic by Ilanko Adikal. It is a story of Kovalan of Puhar who falls in love with Madhavi a dancer. Kovalan's wife Kannagi takes revenge for his husband's death at the hands of a Pandyan king and becomes a goddess.

Jainism:

- Jainas believe in 24 Tirthankaras as great teachers or leaders of their religion.
- Rishabhdeva is believed to be the first Tirthankara by the Jainas. He was also known as Adinath.

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- The twenty-third Tirthankara, Parshvanath was the son of Ikshvaku king Ashvasena of Kasi.
- Rishabhdeva and Arishtanemi are mentioned in Rigveda.
- The twenty-fourth Tirthankara was Vardhamana Mahavira.

Buddhism:

- Buddhism, religion, and philosophy developed from the teachings of the Buddha (Sanskrit: “Awakened One”), a teacher who lived in northern India between the mid-6th and mid-4th centuries BC.
- Buddha was born in 563 BC in a Shakya Kshatriya family in Lumbini near Kapilavastu (Nepal).
- Buddha got Enlightenment at the age of 35 at Bodh Gaya under the pipal tree on the bank of river Nilanjana.
- Four important events in the life of Buddha were Mahabhimsikram, Nirvana, Chakra Pravarthan, and Mahaparinirvana.

Source: Tamil Nadu State Board Class 11

Q.10) The term “amaichar” best described as which among the following during the Sangam Period?

- a) Ministers
- b) Military commanders
- c) Envoys
- d) Spies

ANS: A

Explanation:

- Hereditary monarchy was the form of government during the Sangam period.
- The king had also taken the advice of his minister, court-poet and the imperial court or avai.
- The imperial court or avai was attended by a number of chiefs and officials.
- The king was assisted by a large body of officials who were divided into five councils.
- They were ministers (amaichar), priests (anthanar), military commanders (senapathi), envoys (thuthar) and spies (orarr).
- The military administration was also efficiently organized during the Sangam Age.

Source: Tamil Nadu State Board Class 11

Laws, Bills and Miscellaneous

Q.1) Which of the following state has Highest numbers of PVTGs?

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

ANS: B

Explanation:

- 75 tribal groups have been categorized by Ministry of Home Affairs as Particularly Vulnerable Tribal Groups (PVTG)'s.
- PVTGs reside in 18 States and UT of A&N Islands.
- The Ministry of Tribal Affairs implements the Scheme of "Development of Particularly Vulnerable Tribal Groups (PVTGs)" exclusively for them.
- PVTGs are more vulnerable among the tribal groups. Due to this factor, more developed and assertive tribal groups take a major chunk of the tribal development funds, because of which PVTGs need more funds directed for their development.
- In this context, in 1975, the Government of India initiated to identify the most vulnerable tribal groups as a separate category called PVTGs and declared 52 such groups, while in 1993 an additional 23 groups were added to the category, making it a total of 75 PVTGs out of 705 Scheduled Tribes, spread over 17 states and one Union Territory (UT), in the country (2011 census).

Source: MOTA

Q.2) "Global Drylands Initiative" is launched by which of the following?

- a) UNDP
- b) Global Environment Facility
- c) WEF
- d) IUCN

ANS: D

Explanation:

- Drylands are found in tropical and temperate latitudes and account for 41.3% of the global terrestrial area. They can be classified into four types - dry sub-humid, semi-arid, arid and hyper-arid lands - encompassing a variety of ecosystems.
- The goal of the Global Drylands Initiative is to restore, sustainably manage and protect dryland ecosystems for multiple environmental, economic and social benefits.
- The Initiative supports countries to adapt ecosystem management policy and practice to the unique conditions of the drylands and to the evolving challenges that the drylands face.
- Further, as the IUCN Focal Point to the United Nations Convention to Combat Desertification, the Global Drylands Initiative leads IUCN's efforts to influence the global discourse on Land Degradation and Sustainable Land Management.
- In this case, the Initiative supports countries to implement their commitments to the Convention by demonstrating good practices on the ground, influencing the science-policy interaction of the Convention itself and working with other stakeholders to achieve Land Degradation Neutrality.

Source: IUCN

Q.3) “It is essentially savings and loan associations that help members' savings grow at a higher interest rate”- is related to which of the following?

- a) Multiplier effect
- b) Liquidity trap
- c) Thrift
- d) Fiscal trap

ANS: C

Explanation:

- Thrifts, along with commercial banks and credit unions, qualify as depository institutions.
- Most people are familiar with commercial banks and credit unions, but the line becomes fuzzy when defining a thrift.
- Thrifts are essentially savings and loan associations that help members' savings grow at a higher interest rate. More importantly, they are savings banks that specialize in real estate.
- Originally, thrifts only offered savings accounts and time deposits, but over the past 20 years, the banks' scope of services has expanded to meet the needs of the average consumer.
- They now offer the same products as credit unions and commercial banks.

Source: Ramesh Singh

Q.4) Which of the following words are found in the Objectives Resolution of 1946?

- 1. Sovereign
- 2. Justice
- 3. Equality
- 4. Integrity
- 5. Fraternity

Select the correct answer using the code given below:

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

ANS: B

Explanation:

- On December 13, 1946, Jawaharlal Nehru moved the historic ‘Objectives Resolution’ in the Assembly. It laid down the fundamentals and philosophy of the constitutional structure. It read:
- “This Constituent Assembly declares its firm and solemn resolve to proclaim India as an Independent Sovereign Republic and to draw up for her future governance a Constitution”.
- Where in shall be guaranteed and secured to all the people of India justice, social, economic and political; equality of status of opportunity, and before the law; freedom of thought, expression, belief, faith, worship, vocation, association and action, subject to law and public morality; and
- Where by shall be maintained the integrity of the territory of the Republic and its sovereign rights on land, sea and air according to justice and the law of civilized nations.

Source: Laxmikanth

Q.5) Which of the following states in India follow the Inner Line Permit (ILP)?

1. Arunachal Pradesh
2. Mizoram
3. Tripura
4. Manipur

Select the correct answer using the code given below:

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

ANS: C

Explanation:

- Inner Line Permit is a concept drawn by colonial rulers; the Inner Line separated the tribal-populated hill areas in the Northeast from the plains.
- To enter and stay for any period in these areas, Indian citizens from other areas need an Inner Line Permit (ILP).
- The Inner Line protects Arunachal Pradesh, Nagaland and Mizoram, and Manipur was added lately.

Source: Indian Express

Q.6) “Trade and Development Report” is released by which of the following?

- a) WTO
- b) WEF
- c) UNCTAD
- d) IMF

ANS: C

Explanation:

- Trade and Development Report assesses trends and prospects for the global economy and the international trading system, with a particular focus on the issues of capital formation, structural change and international competitiveness.

Source: <https://unctad.org/webflyer/trade-and-development-report-2020>

Q.7) Poverty Reduction and Growth Trust is a concessional financial support is related to which of the following Institution?

- a) World Bank
- b) Global Environmental Facility
- c) International Monetary Fund
- d) World Economic Forum

ANS: C

Explanation:

- The IMF’s various lending instruments are tailored to different types of balance of payments need as well as the specific circumstances of its diverse membership (see table).

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- All IMF members are eligible to access the Fund's resources in the General Resources Account (GRA) on non-concessional terms, but the IMF also provides concessional financial support (currently at zero interest rates through June 2021) through the Poverty Reduction and Growth Trust (PRGT; see IMF Support for Low-Income Countries), which is better tailored to the diversity and needs of low-income countries.

Source: <https://www.imf.org/en/About/Factsheets/IMF-Lending>

Q.8) "People, Peace and Prosperity" call is related to which of the following?

- a) IMF
- b) WTO
- c) WEF
- d) World Bank

ANS: D

Explanation:

- By 2030, up to two-thirds of the world's extreme poor will live in fragile and conflict-affected situations, threatening to reverse development gains.
- The World Bank Group's strategy aims to enhance its effectiveness on the ground by scaling up financing, tailoring operations and deepening partnerships to invest in people, secure peace and promote prosperity.

Source: <https://www.worldbank.org/en/who-we-are/news/campaigns/2020/peoplepeaceprosperity>

Q9. Which of the following is headed by the Central Zoo Authority?

- a) President
- b) Prime Minister
- c) Environment Minister
- d) Animal Board of Wild life Chairman

ANS: C

Explanation:

- The CZA is a statutory body under the Ministry of Environment, Forest and Climate Change.
- It was constituted in 1992 under the Wildlife (Protection) Act, 1972.
- It is chaired by the Environment Minister and has 10 members and a member-secretary.
- The main objective of the authority is to complement and strengthen the national effort in conservation of rich biodiversity.

Source: <http://www.cza.nic.in/>

Q.10) The Central Vigilance Commission was established under the recommendation of which of the following?

- a) Sarkaria Commission
- b) Punchi Commission
- c) Santhanam Committee
- d) Second ARC commission

ANS: C

Explanation:

- The Central Vigilance Commission (CVC) is the main agency for preventing corruption in the Central government. It was established in 1964 by an executive resolution of the Central government. Its establishment was recommended by the Santhanam Committee on Prevention of Corruption1 (1962–64).

Source: Laxmikant

Science and Technology

Q.1) Which of the following statement about white onion is/are correct?

1. The White Onion of Alibaug in Maharashtra has received a 'Geographical Indication'.
2. The soil of Alibaug has high sulphur content which makes onion low pungent and sweet in taste.

Select the correct answer using the codes given below:

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

ANS: A

Explanation: GI Tag for White Onions:

- The White Onion of Alibaug in Maharashtra's Raigad district has received a 'Geographical Indication'.
- Alibaug is a coastal town in the Raigad district of Maharashtra. The soil of Alibaug taluka has low sulphur content. Due to this, onions here have low pungency, sweet taste, 'no tear' factor, low pyruvic acid, high protein, fat and fibre content, besides high antioxidant compounds (quercetin).
- It boosts immunity, helps with insomnia, blood cleaning, blood pressure and heatrelated ailments.

Source: EPIC August 2022

Q.2) With respect to Indian Virtual Herbarium, consider the following statements:

1. It has been developed by the Bombay Natural History Society (BNHS).
2. It is a digital database of plants and preserved parts of plants with labelled information.

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: Indian Virtual Herbarium:

- It has been developed by the Botanical Survey of India (BSI). It is a digital database of plants and preserved parts of plants with labelled information.
- The herbarium provides information on plants in different categories such as Cryptogams (spore-bearing plants), Phanerogams (seedbearing plants).
- Each record in the digital herbarium includes an image of the preserved plant specimen, scientific name, collection locality, and collection date, collector name, and barcode number.
- This is the biggest virtual database of flora in the country.

Source: EPIC August 2022

Q.3) With respect to Pyrene, which of the following statement is/are correct?

1. Pyrene is a polycyclic aromatic hydrocarbon (PAH).
2. It is a carcinogenic.
3. Pyrene originates from multiple sources like combustion of petrogenic fossil fuels and incomplete incineration of municipal wastes and biomass.

Select the correct answer using the codes 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: Pyrene Bioremediation:

- Pyrene is a polycyclic aromatic hydrocarbon (PAH). It is a carcinogenic. Pyrene originates from multiple sources including combustion of petrogenic fossil fuels and incomplete incineration of municipal wastes and biomass. It gets lodged into the soil, water and atmosphere resulting in widespread environmental pollution.
- Researchers at the CSIR have found a fungus named whiterot fungus *Trametes maxima* IPLC-32 which has the potential to cause microbial degradation of pyrene.
- This fungus causes pyrene degradation using special enzymes.
- This fungus may prove to be helpful in the remediation of pyrene and decrease the pollution level of the soil.

Source: EPIC August 2022

Q.4) Which of the statement about Cryptojacking is/are correct?

1. Cryptojacking is a cyber-attack wherein a computing device is hijacked and controlled by the attacker and is used to illicitly mine cryptocurrency.
2. Cryptojacking is done to reduce cost of mining of coins of cryptocurrencies by using computing power of hijacked systems.

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: Cryptojacking:

- Cryptojacking is a cyber-attack wherein a computing device is hijacked and controlled by the attacker and is used to illicitly mine cryptocurrency. In most cases, a malicious programme is installed when the user clicks on an unsafe link, or visits an infected website and unknowingly provides access to their system.
- Cryptojacking is done to reduce cost of mining of coins of cryptocurrencies by using computing power of hijacked systems. Cryptojacking is hard to detect and the victims mostly remain unaware that their systems have been compromised.
- According to a report, cryptojacking incidents have increased by 30% in 2022 (first 6 months) compared to 2021.

Source: EPIC August 2022

Q.5) Tiangong Space Station, sometimes seen in news is constructed by which of the following countries?

- a) China
- b) Japan
- c) Russia
- d) North korea

ANS: A

Explanation: Tiangong Space Station:

- It is an under-construction Chinese Permanent space station to be placed in Low Earth orbit. The Space Station roughly will have one-fifth the mass of the International Space Station.
- The space station consists of 3 modules — the core module, Tianhe and two lab modules, Wentian and Mengtian.
- The Tianhe module was launched in 2021 and the Mengtian module is set to be launched in October 2022.

Source: EPIC August 2022

Q.6) Consider the following statements:

1. The Space Liability Convention of 1972 defines responsibility in case a space object causes harm.
2. It also has law against space junk crashing back to earth.

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: Space Liability Convention, 1972:

- The Space Liability Convention of 1972 defines responsibility in case a space object causes harm.
- A launching State shall be absolutely liable to pay compensation for damage caused by its space objects on the surface of the earth or to aircraft, and liable for damage due to its faults in space.
- However, there is no law against space junk crashing back to earth.

Source: EPIC August 2022

Q.7) With respect to Astrobees, which of the following statement is/are correct?

1. It is NASA's new free-flying robotic system.
2. They have been deployed at the International Space Station and are working independently, side by side with humans.

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: Astrobee:

- Astrobee is NASA's new free-flying robotic system. They have been deployed at the International Space Station and are working independently, side by side with humans.
- The robots are designed to complete tasks such as taking inventory, documenting experiments conducted by astronauts with their built-in cameras or working together to move cargo throughout the station. The names of robots deployed are Honey, Queen and Bumble.

Source: EPIC August 2022

Q.8) Consider the following statement about Small Satellite Launch Vehicle (SSLV):

1. It is a smalllift launch vehicle developed by ISRO.
2. SSLV's first launch in 2022 deployed the satellites in designated orbits.

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: Small Satellite Launch Vehicle (SSLV):

- The Small Satellite Launch Vehicle (SSLV) is a smalllift launch vehicle developed by ISRO with payload
- capacity to deliver 500 kg (1,100 lb) to low Earth orbit (500 km (310 mi)). It can also deliver or 300 kg (660 lb) payload to Sun-synchronous orbit (500 km (310 mi)).
- SSLV will be used for launching small satellites, with the capability to support multiple orbital drop-offs.
- Advantages of SSLV include small assembly times of 72 hours and low cost. It can enable space launch every week.
- SSLV's first launch on August 07, 2022 suffered technical glitch and couldn't deploy the satellites in designated orbits.

Source: EPIC August 2022

Q.9) Consider the following statements about Monkeypox:

1. Monkeypox belongs to the orthopoxvirus.
2. It is a RNA Virus.

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: About Monkeypox:

- Monkeypox belongs to the orthopoxvirus, which is a genus of viruses that also includes the variola virus which causes smallpox.
- It is an enveloped double-stranded DNA virus, unlike the RNA virus. This makes it far more stable and less prone to rapid mutations.

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- There are two distinct genetic clades of the monkeypox virus: the central African (Congo Basin) clade and the West African clade. The Congo Basin clade has historically caused more severe disease and was thought to be more transmissible.

Vaccines against Monkeypox

- There is no dedicated monkeypox vaccine. Vaccinations against smallpox were found to be 85% effective in preventing smallpox, a disease eradicated in 1980.
- In 2019, the United States Food and Drugs Administration (FDA), approved the JYNNEOS Vaccine for the prevention of smallpox, monkeypox and other diseases caused by orthopoxviruses in adults 18 years of age and older and categorized as having a high risk of infection.
- JYNNEOS Vaccine contains a live vaccinia virus that does not replicate efficiently in human cells.
- The vaccinia virus is the smallpox virus but is made incapable of replicating within the body.
- It is administered as two injections 28 days apart. The immune response takes 14 days after the second dose.

Source: EPIC August 2022

Q.10) Consider the following statements about AlphaFold:

1. AlphaFold is an AI-based protein structure prediction tool.
2. It is based on a computer system called deep neural network.

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: About AlphaFold:

- AlphaFold is an AI-based protein structure prediction tool. It is based on a computer system called deep neural network.
- It uses processes based on 'training, learning, retraining and relearning'. By using this method, AlphaFold has now predicted the structures of the entire 214 million unique protein sequences deposited in the Universal Protein Resource (UniProt) database.

Source: EPIC August 2022

Indian Economy

Q.1) Consider the following statements about Landlord Port Model:

1. The port authority maintains ownership of the port.
2. Jawaharlal Nehru Port (JNP) has become the first major landlord port 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: Landlord Port Model:

- In the landlord port model, the publicly governed port authority acts as a regulatory body and as a landlord while private companies carry out port operations (mainly cargo-handling activities).
- The port authority maintains ownership of the port while the infrastructure is leased to private firms that provide and maintain their own superstructure and install their own equipment to handle cargo.
- The landlord port gets a share of the revenue from the private entity.
- Jawaharlal Nehru Port (JNP) has become the first major landlord port in India.

Source: EPIC August 2022

Q.2) Jagriti Mascot, recently seen in news is related to which of the following?

- a) Skill Development
- b) Consumer Rights
- c) GST
- d) Differently abled persons

ANS: B

Explanation: Jagriti Mascot:

- The Department of Consumer Affairs (DoCA) has launched 'Jagriti' mascot.
- It is a mascot for empowering consumers and generating awareness of their rights.
- It will be projected as an empowered consumer who is spreading awareness about consumer rights & addressing solutions to the problems faced by the consumers.
- The mascot shall be shown along with tagline "Jago Grahak Jago" in all its media campaigns.

Source: EPIC August 2022

Q.3) India Innovation Index, is released by which of the following?

- a) Ministry of Science and technology
- b) Ministry of Commerce
- c) NITI Aayog
- d) Ministry of skill development

ANS: C

Explanation: India Innovation Index:

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- NITI Aayog has released the India Innovation Index 2021. It is prepared by the Institute for Competitiveness.
- It is a tool for the evaluation of the country's innovation ecosystem and ranks the States and the UTs on 7 key pillars.
- Karnataka topped in the 'Major States' category.
- Manipur emerged as a winner in the 'North East and Hill States' category. Chandigarh was the top performer in the 'Union Territories and City States' category.

Source: EPIC August 2022

Q.4) With respect to Blue bond, which of the following given statement is/are correct?

1. India launched the world's first sovereign blue bond.
2. It is issued to raise capital from investors to finance marine and ocean-based projects.

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: Blue Bonds:

- A blue bond is a debt instrument issued by governments, development banks or others to raise capital from investors to finance marine and ocean-based projects (like sustainable oceanic resource mining and sustainable fishing) that have positive environmental, economic and climate benefits.
- The issuance of a blue bond enables investors to fulfil their corporate social responsibilities and generate benefits for the ocean.
- SEBI has proposed the concept of blue bonds as a mode of sustainable finance.
- The Republic of Seychelles launched the world's first sovereign blue bond in 2018 raising a total of \$15 million to advance the small island state's blue economy.

Source: EPIC August 2022

Q.5) Which of the following is not a reason for fall of forex reserve of India?

- a) Exchange rate of US\$ and the Euro
- b) Rising oil prices
- c) Exchange rate of Indian Rupee
- d) Inflow of funds by FPI

ANS: D

Explanation: Fall in India's Forex Reserves:

- From a peak of \$642.45 billion in 2021, India's foreign exchange reserves have dipped to \$572.71 billion as of July 2022.
- That's a fall of almost \$70 billion in just over 10 months. The forex fell due to outflow of funds from the domestic market by Foreign Portfolio Investors (FPIs, US\$30.3 billion withdrawn since January 2022), rising oil prices, RBI's intervention in currency market to stabilize the value of Rupee (exchange rate) and change in value of foreign currency assets due to change in exchange rate of US\$ and the Euro.

Source: EPIC August 2022

Q.6) Which among the following countries topped the list of UNCTAD's report on countries with respect to public ownership of cryptocurrencies?

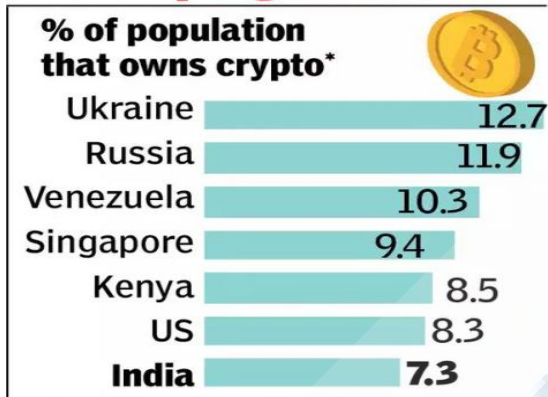
- a) Russia
- b) China
- c) Ukraine
- d) Venezuela

ANS: C

Explanation: Ownership of Cryptocurrencies:

- According to a UNCTAD report Ukraine has topped the list of countries with respect to public ownership of cryptocurrencies.
- 12.7% Ukrainians own cryptocurrencies. It is followed by Russia (11.9%), Venezuela (10.3%), Singapore (9.4%), Kenya (8.5%) and the US (8.3%). India has been ranked 7th with 7.3% Indians owning cryptocurrencies.

Developing Ecos Lead



Source: UNCTAD; *As of 2021

Source: EPIC August 2022

Q.7) Consider the following:

1. Viability gap funding for rural wireline operations
2. Financial support for capital expenditure to BSNL
3. BSNL will be allotted Spectrum in the 900/1800 MHz band.

Which of the above mentioned is/are aspects of BSNL's Revival Package?

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

ANS: D

Explanation: Revival Package for BSNL:

- Key Aspects of BSNL's Revival Package Upgrading BSNL Services -Administrative allotment of Spectrum: To improve existing services and provide 4G services, BSNL will be allotted Spectrum in the 900/1800 MHz band. With this, BSNL will be able to compete in the market and provide high-speed data using their vast network including in rural areas.
- Financial support for capex: Government will fund capital expenditure to BSNL for the deployment of indigenous 4G stack.

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- Viability gap funding for rural wireline operations: Despite the commercial non-viability, BSNL has been providing wireline services in rural/remote areas to meet the social objectives.
- The government will provide funds to BSNL as viability gap funding for commercially unviable rural wire-line operations done during 2014-15 to 2019-20.
- De-stressing the BSNL balance sheet -Debt structuring: Government will provide a sovereign guarantee to BSNL and MTNL for raising long-term loans. This will help restructure existing debt and de-stressing the balance sheets.
- Financial support for AGR dues: To further improve the balance sheet, Adjusted Gross Revenue (AGR) dues of BSNL will be settled by conversion into equity.
- Augmenting BSNL Fibre Network -Merger of BBNL and BSNL: To facilitate wider utilization of infrastructure laid under BharatNet, Bharat Broadband Network Ltd (BBNL) will be merged with BSNL.
- The infrastructure created under BharatNet will continue to be a national asset, accessible on a non-discriminatory basis to all the Telecom Service Providers.

Source: EPIC August 2022

Q.8) As the price of a bond goes up, its yield goes:

- a) Down
- b) Up
- c) Remains same
- d) first up then becomes constant

ANS: A

Explanation: About the Yield Curve:

- Bond yield is the return an investor realizes on a bond.
- Price and yield are inversely related: As the price of a bond goes up, its yield goes down.
- The yield curve is the graphical representation of yields from bonds (with an equal credit rating) over different time horizons. Under normal circumstances, the yield curve is upward sloping.
- It means as one buys bonds of longer tenure — one gets higher yields. Moreover, a longer tenure also implies that there is a greater risk of failure.
- Inverted Yield Curve: There are times when the bond yield curve becomes inverted e.g., bonds with a tenure of 2 years end up paying out higher yields (returns/ interest rate) than bonds with a 10-year tenure.
- Such an inversion of the yield curve essentially suggests that investors expect future growth to be weak.

Source: EPIC August 2022

Q.9) In RBI's Financial Inclusion Index, which of the following parameters is given highest weightage?

- a) Access
- b) Usage
- c) Quality
- d) All have equal weightage

ANS: B

Explanation: About the FI Index:

- The aim of the Index is to capture the extent of financial inclusion across the country.
- The index comprises 3 broad parameters: Access (35% weightage), Usage (45%) and Quality (20%).

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- Each of these parameters consists of various dimensions, which are computed based on 97 indicators e.g., the quality parameter includes aspects such as financial literacy, consumer protection, and inequalities and deficiencies in services.
- The index score varies from 0 to 100, where 0 represents complete financial exclusion and 100 indicates full financial inclusion. The index has been constructed without any 'base year'. It reflects the cumulative efforts of all stakeholders.

Key Findings of the Index

- The extent of financial inclusion across the country has increased to 56.4 in March 2022 showing growth across parameters.
- The index stood at 53.9 in March 2021 and at 43.4 in March 2017. This shows rapid improvement in the reach of financial services over the past 5 years.

Source: EPIC August 2022

Q.10) Consider the following statements about External Commercial Borrowings (ECBs):

1. ECBs are commercial loans that eligible resident entities raise from outside India.
2. ECBs are not susceptible to exchange rate risk.

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: About External Commercial Borrowings (ECBs):

- ECBs are commercial loans that eligible resident entities raise from outside India. ECBs include buyer's or supplier's credit, foreign currency convertible bonds, foreign currency exchangeable bonds, and loans among others.
- ECBs can be raised via the automatic route where cases are examined by Authorized Category Dealer or the approval route where borrowers are mandated to forward their request to RBI through their authorized dealers.

Relaxation in ECB Norms:

- RBI has increased the quantum of funds that can be raised by Indian firms through ECBs. The limit has been increased from US\$ 750 million to US\$ 1.5 billion till December 2022, under the automatic route.
- The objective of this relaxation was to increase the supply of foreign exchange reserves and thereby prevent the fast depreciation of the rupee witnessed over the last few months.

Benefits of raising Credit through ECBs

- Companies can borrow credit at a lower interest rate from abroad;
- ECBs offer flexibility to borrow a large volume of funds for a relatively long period of time;
- Borrowing in foreign currencies enables companies to pay for their machinery imports etc. thereby nullifying the impact of varying exchange rates;
- ECBs help in diversifying the investor base and access funds at lower cost. This improves profitability.

Risks associated with ECBs

- ECBs are susceptible to exchange rate risk. If the currency depreciates during the term of loan, it raises cost of debt servicing (a simplified example: a company borrows US\$ 1 million @10% annual interest for 1 year when the exchange rate was INR 70/\$.
- Thus, it borrowed INR 70 million in Rupee terms. If after 1 year the Rupee has depreciated to INR 80/\$, then the company ends up paying INR 80 million + 0.8 million interest, instead of INR 70 + 0.7 million interest).

Source: EPIC August 2022

Polity

Q.1) Which of the following statement is NOT correct about “Attorney General of India”?

- a) Article 76 has provided for the office of the Attorney General for India.
- b) He is the highest law officer in the country.
- c) He must be a person who is qualified to be appointed a judge of the Supreme Court.
- d) He is appointed by appointment committee.

ANS: D

Explanation:

- The Constitution (Article 76) has provided for the office of the Attorney General for India.
- He is the highest law officer in the country.
- The Attorney General (AG) is appointed by the president.
- He must be a person who is qualified to be appointed a judge of the Supreme Court.
- In other words, he must be a citizen of India and he must have been a judge of some high court for five years or an advocate of some high court for ten years or an eminent jurist, in the opinion of the president.

Source: Laxmikanth

Q.2) Consider the following statements:

1. The maximum members of state legislature are fixed at 500 and minimum strength at 50.
2. The Constitution ensures that there is uniformity of representation between different constituencies in the state.

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 legislative assembly consists of representatives directly elected by the people on the basis of universal adult franchise.
- Its maximum strength is fixed at 500 and minimum strength at 60.
- For the purpose of holding direct elections to the assembly, each state is divided into territorial constituencies.
- The demarcation of these constituencies is done in such a manner that the ratio between the population of each constituency and the number of seats allotted to it is the same throughout the state.
- In other words, the Constitution ensures that there is uniformity of representation between different constituencies in the state.

Source: Laxmikanth

Q.3) Which Constitutional Amendment reduced the age of voter from 21 to 18?

- a) 35th Constitutional Amendment
- b) 42nd Constitutional Amendment
- c) 48th Constitutional Amendment
- d) 61st Constitutional Amendment

ANS: D

Explanation:

- The election is based on the principle of universal adult franchise.
- Every Indian citizen who is above 18 years of age and who is not disqualified under the provisions of the Constitution or any law is eligible to vote at such election.
- The voting age was reduced from 21 to 18 years by the 61st Constitutional Amendment Act, 1988.

Source: Laxmikanth

Q.4) With reference to the president's oath, which of the following statements is/are correct?

1. President swears to execute the office faithfully.
2. President devotes himself to the service and well-being of the people of India.
3. President devotes himself to defend the Constitution and the law of the nation.

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:

- Before entering upon his office, the President has to make and subscribe to an oath or affirmation to faithfully execute the office.
- President swears to devotes himself to the service and well-being of the people of India.
- President sears to preserve protect and defend the Constitution and the law.

Source: Laxmikanth

Q.5) Which among the following is not a constitutional body?

- a) Finance Commission
- b) Inter-State Council
- c) Zonal Council
- d) Election Commission

ANS: C

Explanation:

- The Zonal Councils are the statutory (and not the constitutional) bodies.
- They are established by an Act of the Parliament, that is, States Reorganisation Act of 1956.
- The act divided the country into five zones (Northern, Central, Eastern, Western and Southern) and provided a zonal council for each zone.
- While forming these zones, several factors have been taken into account which includes: the natural divisions of the country, the river systems and means of communication, the cultural and linguistic affinity and the requirements of economic development, security and law and order.

Source: Laxmikanth

Q.6) The Punchhi Commission report was related to which among the following?

- a) Centre-State Relations
- b) Fiscal Federalism
- c) Electoral Reforms
- d) Creation of new states

ANS: A

Explanation:

- The Second commission on Centre-State Relations was set-up by the Government of India in April 2007 under the Chairmanship of Madan Mohan Punchhi, former Chief Justice of India.
- It was required to look into the issues of Centre-State relations keeping in view the sea-changes that have taken place in the polity and economy of India since the Sarkaria Commission had last looked at the issue of Centre-State relations over two decades ago.

Source: Laxmikanth

Q.7) Which State Appointed Rajamannar Committee to give recommendations on Inter-State Relation?

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

ANS: B

Explanation:

- In 1969, the Tamil Nadu Government (DMK) appointed a three-member committee under the chairmanship of Dr P V Rajamannar to examine the entire question of Centre-state relations and to suggest amendments to the Constitution so as to secure utmost autonomy to the states.
- The committee submitted its report to the Tamil Nadu Government in 1971.

Source: Laxmikanth

Q.8) "The power conferred on the President by this article (Article 352) shall include the power to issue different Proclamations on different grounds, being war or external aggression or internal disturbance whether or not there is a proclamation already issued by him and such proclamation is in operation" – this provision was added by which amendment act?

- a) 38th Amendment Act of 1975
- b) 42nd Amendment Act 1976
- c) 44th Amendment Act 1978
- d) 56th Amendment Act 1987

ANS: A

Explanation:

- "The power conferred on the President by this article (Article 352) shall include the power to issue different Proclamations on different grounds, being war or external aggression or internal disturbance or imminent danger of war or external aggression or internal disturbance, whether or not there is a Proclamation already issued by the President and such Proclamation is in operation" - This provision was added by the 38th Amendment Act of 1975.

Source: Laxmikanth

Q.9) Consider the following statements regarding financial emergency:

1. The Financial Emergency continues indefinitely till it is revoked, if it is approved by both houses.
2. A resolution approving the proclamation of financial emergency should be passed by both Houses of Parliament by special majority.

Which of the statements above given is/are correct?

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

ANS: A

Explanation:

- Once approved by both the Houses of Parliament, the Financial Emergency continues indefinitely till it is revoked.

This implies two things:

- there is no maximum period prescribed for its operation; and
- Repeated parliamentary approval is not required for its continuation.
- A resolution approving the proclamation of financial emergency can be passed by either House of Parliament only by a simple majority, that is, a majority of the members of that house present and voting.
- A proclamation of Financial Emergency may be revoked by the president at anytime by a subsequent proclamation. Such a proclamation does not require the parliamentary approval.

Source: Laxmikanth

Q.10) Consider the following statements:

1. During emergency, Central government converts the federal structure into a unitary one by an amendment of the Constitution.
2. Emergency provisions are contained in Part XVIII of the Constitution.

Which of the statements above given is/are correct?

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

ANS: B

Explanation:

- The Emergency provisions are contained in Part XVIII of the Constitution, from Articles 352 to 360.
- These provisions enable the Central government to meet any abnormal situation effectively.
- The rationality behind the incorporation of these provisions in the Constitution is to safeguard the sovereignty, unity, integrity and security of the country, the democratic political system, and the Constitution.
- During an Emergency, the Central government becomes all powerful and the states go into the total control of the Centre.
- It converts the federal structure into a unitary one without a formal amendment of the Constitution.

Source: Laxmikanth

Geography

Q.1) Which among the following is/are the indirect source of information about the interiors of Earth?

1. Seismic Activities
2. Volcanic Eruption
3. Meteors

Select the correct answer using the codes given below:

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

ANS: C

Explanation:

- The earth's radius is 6,370 km. No one can reach the centre of the earth and make observations or collect samples of the material.
- Most of our knowledge about the interior of the earth is largely based on estimates and inferences. Yet, a part of the information is obtained through direct observations and analysis of materials.
- Volcanic eruption forms another source of obtaining direct information. As and when the molten material (magma) is thrown onto the surface of the earth, during volcanic eruption it becomes available for laboratory analysis. However, it is difficult to ascertain the depth of the source of such magma.

Indirect Sources:

- Another source of information is the meteors that at times reach the earth. However, it may be noted that the material that becomes available for analysis from meteors, is not from the interior of the earth.
- The material and the structure observed in the meteors are similar to that of the earth. They are solid bodies developed out of materials same as, or similar to, our planet.
- Hence, this becomes yet another source of information about the interior of the earth.
- The other indirect sources include gravitation, magnetic field, and seismic activity.

Source: NCERT – XI Fundamentals of Physical Geography

Q.2) Consider the following pairs:

Discontinuity	:	Layers
1. Moho Discontinuity	:	Separates Crust and mantle
2. Gutenberg Discontinuity	:	Separates mantle and core
3. Connardo Discontinuity	:	Separates Felsic and Mefic layer

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

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

ANS: D

Explanation:

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- The portion of the interior beyond the crust is called the mantle. The mantle extends from Moho's discontinuity to a depth of 2,900 km. The upper portion of the mantle is called asthenosphere.
- Connardo's discontinuity separates upper felsic layer of continent from mafic layer.
- It is only present within continental crust and not in the oceanic layer.
- While the Gutenberg discontinuity separates the lower mantle from the core. It is present at about 2900 km of depth.

Source: NCERT – XI Fundamentals of Physical Geography

Q.3) India has the longest land frontier with which of the following countries?

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

ANS: D

Explanation:

India has 15,106.7 Km of land border and a coastline of 7,516.6 Km including island territories. The length of our land borders with neighboring countries is as under:

Name of the country	Length of the border (in Km)
Bangladesh	4,096.7
China	3,488
Pakistan	3,323
Nepal	1,751
Myanmar	1,643
Bhutan	699
Afghanistan	106
Total	15,106.7

Source: NCERT – XI Fundamentals of Physical Geography

Q.4) Consider the following statements regarding the Dharwar Rock System:

1. It is the first metamorphic sedimentary rocks in India.
2. They were first studied in Dharwar region of Karnataka.

Which of the statements given above is/are correct?

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

ANS: 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.

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- 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 – XI Fundamentals of Physical Geography

Q.5) Consider the following statements:

1. The phenomenon of wearing down of relief variations of the surface of the earth through erosion is known as gradation.
2. The earth's surface is being continuously subjected to by external forces originating within the earth's atmosphere and by internal forces from within the earth.

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 earth's crust is dynamic. You are well aware that it has moved and moves vertically and horizontally. Of course, it moved a bit faster in the past than the rate at which it is moving now.
- The differences in the internal forces operating from within the earth which built up the crust have been responsible for the variations in the outer surface of the crust.
- The earth's surface is being continuously subjected to external forces induced basically by energy (sunlight).
- Of course, the internal forces are still active though with different intensities. That means, the earth's surface is being continuously subjected to by external forces originating within the earth's atmosphere and by internal forces from within the earth.
- The external forces are known as exogenic forces and the internal forces are known as endogenic forces.
- The actions of exogenic forces result in wearing down (degradation) of relief/elevations and filling up (aggradation) of basins/ depressions, on the earth's surface.
- The phenomenon of wearing down of relief variations of the surface of the earth through erosion is known as gradation.

Source: NCERT – XI Fundamentals of Physical Geography

Q.6) Which of the following are geomorphic agents?

1. Glaciers
2. Winds
3. Waves

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:

- A process is a force applied on earth materials affecting the same.

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- An agent is a mobile medium (like running water, moving ice masses, wind, waves and currents etc.) which removes, transports and deposits earth materials.
- Running water, groundwater, glaciers, wind, waves and currents, etc., can be called geomorphic agents.

Source: NCERT – XI Fundamentals of Physical Geography

Q.7) Which of the following events are comes under diastrophism?

1. Orogenic movement
2. Plate tectonics
3. Earthquakes

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:

- All processes that move, elevate or build up portions of the earth's crust come under diastrophism. They include:
- orogenic processes involving mountain building through severe folding and affecting long and narrow belts of the earth's crust;
- epeirogenic processes involving uplift or warping of large parts of the earth's crust;
- earthquakes involving local relatively minor movements;
- plate tectonics involving horizontal movements of crustal plates.

Source: NCERT – XI Fundamentals of Physical Geography

Q.8) Which of the following are the processes of chemical weathering?

1. Carbonation
2. Exfoliation
3. Thermal expansion

Select the correct answer using the codes given below:

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

ANS: A

Explanation:

- A group of weathering processes viz; solution, carbonation, hydration, oxidation and reduction act on the rocks to decompose, dissolve or reduce them to a fine clastic state through chemical reactions by oxygen, surface and/or soil water and other acids.
- Water and air (oxygen and carbon dioxide) along with heat must be present to speed up all chemical reactions.
- Over and above the carbon dioxide present in the air, decomposition of plants and animals increases the quantity of carbon dioxide underground.
- These chemical reactions on various minerals are very much similar to the chemical reactions in a laboratory.
- There are five major types of mechanical weathering: thermal expansion, exfoliation, abrasion, and salt crystal growth.

Source: NCERT – XI Fundamentals of Physical Geography

Q.9) Consider the following statements regarding the “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 only
- b) 1 and 3 only
- c) 2 and 3 only
- d) 1, 2 and 3

ANS: B

Explanation:

- Tropical thorn forests occur in the areas which receive rainfall less than 50cm.
- 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: NCERT – XI Fundamentals of Physical Geography

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

- a) The plain which is formed due to glacial deposition.
- b) The plain which is formed due to river deposits.
- c) The underground plains are formed due water deposition and erosion.
- d) It is an underwater plain on the deep ocean floor.

ANS: D

Explanation:

- An abyssal plain is an underwater plain on the deep ocean floor, usually found at depths between 3,000 metres (9,800 ft) and 6,000 metres (20,000 ft).
- Lying generally between the foot of a continental rise and a mid-ocean ridge, abyssal plains cover more than 50% of the Earth's surface.

Source: NCERT – XI Fundamentals of Physical Geography

Environment

Q.1) Kiwi fruit or Chinese gooseberry is grown in which of the following State(s) of India?

1. Nagaland
2. Himachal Pradesh
3. Arunachal Pradesh

Select the correct answer using the code given below:

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

ANS: D

Explanation:

- Kiwi or Chinese gooseberry (*Actinidia deliciosa*) is grown widely in New Zealand, Italy, USA, China, Japan, Australia, France, Chile and Spain.
- In India, it is mostly grown in the mid hills of Himachal Pradesh, Nagaland, J & K, Sikkim, Meghalaya and Arunachal Pradesh. India currently imports 4,000 tonnes of Kiwis.
- Kiwi can be grown in areas experiencing 700-800 chilling hours (no. of hours during which temperature remains at or below 70 C during the winter season). The plant can be grown at 800-1500 m. above m.s.l.
- A rainfall of about 150 cm. /year is sufficient.
- The plant does not withstand strong winds and frost during the growing period because of its vigorous vegetative growth, large leaves and viny habit. In summer, high temperature (> 350 C) and low humidity may cause scorching of leaves. Sun scald and heat stress are the main problems in its cultivation in lower areas.

Source: ForumIAS

Q.2) Consider the following statements regarding use of Sulphur in agriculture:

1. Sulphur fertilization helps plants to grow and develop properly and improves utilization of nutrients.
2. High content of Sulphur in soil causes soil acidification.

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:

- Sulphur is essential in the structural and enzymatic components in plants. Sulphur is a key component of some essential amino acids and is needed for protein synthesis. Chlorophyll synthesis also requires S.
- Sulphur is not readily translocated within plants, so all plants need a continuous supply of Sulphur from emergence to crop maturity.

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- Sulphur is part of an enzyme required for nitrogen uptake and lack of it can severely hamper nitrogen metabolism. Together with nitrogen, Sulphur enables the formations of amino acids needed for protein synthesis.
- Soil organic matter is the primary source of plant-available SO₄-S in surface soil. High Sulphur deposition in soils contributes to their acidification. Soil bacteria change the sulfur to sulfuric acid, lowering the soil pH.
- Adverse effects of Sulphur contamination of soils are shown by the fall in pH, an increase of phytotoxic aluminium concentration.

Source: ForumIAS

Q.3) Consider the following statements regarding Biofortification:

1. It aims to increase nutrient levels in crops during plant growth rather than through manual means during processing of the crops.
2. Bt-Cotton is a biofortified variety of cotton.

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

- Fortification is the practice of deliberately increasing the content of an essential micronutrient, i.e. vitamins and minerals (including trace elements) in a food.
- Biofortification is the process by which the nutritional quality of food crops is improved through agronomic practices, conventional plant breeding, or modern biotechnology.
- Biofortification differs from conventional fortification in that biofortification aims to increase nutrient levels in crops during plant growth rather than through manual means during processing of the crops.
- Bt cotton is a genetically modified pest resistant plant cotton variety, which produces an insecticide to combat bollworm.

Examples of biofortification projects include:

- iron-biofortification of rice, beans, sweet potato, cassava and legumes;
- zinc-biofortification of wheat, rice, beans, sweet potato and maize;
- provitamin A carotenoid-biofortification of sweet potato, maize and cassava; and
- amino acid and protein-biofortification of sourghum and cassava.

Source: ForumIAS

Q.4) Which of the following statements correctly defines the term Aquaponics?

- a) Cultivation of marine organisms in tanks or ponds filled with seawater
- b) Growing of plants in a soil-less environment
- c) Farming marine species in complete organic environment
- d) Cultivation of plants and aquatic animals complementing each other

ANS: D

Explanation:

- Aquaponics is cooperation between plants and fish and the term originates from the two words aquaculture (the growing of fish in a closed environment) and hydroponics (the growing of plants usually in a soil-less environment).
- It is the cultivation of plants and aquatic animals in a recirculating environment.
- In this system, fishes eat the food and excrete waste, which is converted by beneficial bacteria to nutrients that the plants can use. In consuming these nutrients plants help to purify the water.

Source: ForumIAS

Q.5) Consider the following statements regarding the Pusa Decomposer:

1. It is a fungi-based liquid solution that can soften the hard stubble.
2. The decomposer is an immediate solution for converting the agricultural waste into compost overnight.

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:

- Pusa Decomposer developed by the Indian Agriculture Research Institute (IARI) is essentially a fungi-based liquid solution that can soften hard stubble to the extent that it can be easily mixed with soil in the field to act as compost.
- This would then rule out the need to burn the stubble, and also help in retaining the essential microbes and nutrients in soil that are otherwise damaged when the residue is burned.
- The window of time required for the solution to work, which is currently the main concern of farmers, is around 20 to 25 days, as per the IARI.
- Farmers argue that this window is too long for them, as they ideally wait about a week or 10 days after harvesting the non-basmati variety of rice — which leaves hard stubble — to sow the wheat crop.

Source: ForumIAS

Q.6) Consider the following statements regarding the Bt Cotton:

1. It is an insect-resistant transgenic crop that can combat the bollworm.
2. It is the only Genetically modified (GM) crop approved 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:

- Bt cotton is an insect-resistant transgenic crop designed to combat the bollworm.
- Bt cotton was created by genetically altering the cotton genome to express a microbial protein from the bacterium *Bacillus thuringiensis*.
- Genetically modified (GM) crops are those crops whose DNA has been modified by introducing alien genes in the seeds to get desired effects.
- Bt cotton is the only Genetically modified (GM) crop approved in India by the Genetic Engineering Appraisal Committee of Ministry of Environment.

Source: ForumIAS

Q.7) Which of the following is/are potential impact(s) of Monocropping?

1. Depletion of soil nutrients
2. Increased use of pesticides and herbicides

Select the correct answer using the code given below:

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

ANS: C

Explanation:

- Monocropping is the technique where the farmer grows the same crop on the same land every year; this is usually practiced in wheat, rice fields, sugarcane grape vineyards and corn fields.
- The long-term effects of monocropping are quite dangerous making Monoculture farming untenable:
 - growing only one crop on the field throughout the farm repetitively leads to depletion of soil nutrients as soil has is not replenished with nutrients. Further the intensive farming methods pf monocropping leaves soil scarce of nutrients.
 - the depletion of those soil nutrients, especially nitrogen, leads to weakness in soil and an inability to support healthy growth of plants.
 - higher demand of nutrients is fulfilled by using higher amount of fertilizers. These fertilizers have their own toll on the environment.
- Monocultures are quite vulnerable to weeds and pests, which needs more pesticides to get rid of them. Weeds and insect pests can spread faster in monocultures because of the lack of biological and genetic diversity.

Source: ForumIAS

Q.8) “Ratooning” is the method used for the production of which of the following crop?

- a) Rice
- b) Wheat
- c) Cotton
- d) Sugar cane

ANS: D

Explanation:

- Ratoon cropping is an old system that has been practiced for many years, especially in the Tropics.
- Although the origin of ratooning is probably not known for any particular crop, it may have begun when man first noticed the regrowth of new shoots following the cutting of certain crops at harvest, thus, producing a new crop without replanting.
- Because ratooning is practiced widely and is important in many crops, a review of the practice may be valuable, especially because increased food and fiber production is imperative in tropical areas.
- This practice is widely used in the cultivation of crops such as rice, sugarcane, banana and pineapple.

Source: ForumIAS

Q.9) 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 code given below:

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

ANS: A

- 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: ForumIAS

Q.10) The words “macchia, maquis and chaparral” is related to which of the following?

- a) Shrub vegetation
- b) Tropical vegetation
- c) Tundra vegetation
- d) Alpine vegetation

ANS: A

Explanation:

- Chaparral is sclerophyllous vegetation that is tolerant of seasonal drought.
- It consists of small trees, woody grasses and oleose, xerophytic shrubs that form a nearly continuous cover of intertwined branches.
- Usually less than 10 per cent of the ground is bare, though the proportion may be higher at inhospitable sites.
- Where annual precipitation is in the range 250–500 mm, plants may be only 1–2 m high, while crowns may reach 3.5–4 m where precipitation is 500–750 mm.
- In California chaparral is common at elevations of 300–1500 m. It occupies 3.4 million ha (8.5 per cent) of the state, particularly in its southern part and at moderate elevations.
- The European synonym for chaparral, maquis (in Italian, macchia, plural macchie), is derived from the Corsican word for a species of sun rose (Cistus), which is often a striking component of the maquis community.

Source: ForumIAS

History

Q.1) Who among the following is remembered as the eponymous hero of the Buddhist text, Milinda-pinha?

- a) King Kharavela of Kalinga
- b) Menander
- c) Antialcidas
- d) Heliodorus

ANS: B

Explanation:

- Menander (c.165/145–130 BCE) was the best known of the Indo-Greek kings. He is said to have ruled a large kingdom in the north-west of the country.
- His coins have been found over an extensive area ranging from the valleys of the Kabul and Indus rivers to as far as western Uttar Pradesh.
- This gives a good indication of the extent of his kingdom. Though he does not look like a great and heroic conqueror as seen in his coins, he is said to have raided the Gangetic region along with the kings of Panchala and Mathura.
- King Kharavela of Kalinga mentioned in the Hathigumpa inscription, was not able to stop him.
- Menander successfully attacked Pataliputra, but retreated without consolidating his conquest.
- Interestingly, in his coins, he is described as “king” and “soter” or saviour, and not as a great conqueror. Menander is mainly remembered as the eponymous hero of the Buddhist text, Milinda-pinha (questions of Milinda), in which he is engaged in a question-and-answer discussion on Buddhism with the teacher Nagasena.
- He is believed to have become a Buddhist and promoted Buddhism.

Source: Tamil Nadu State Board Class 11

Q.2) Who among the following Indo-Greek king, become a follower of Vishnu?

- a) Menander
- b) Demetrius
- c) Antialcidas
- d) Heliodorus

ANS: D

Explanation:

- Another Indo-Greek king whose name is remembered is Antialcidas (or Antialkidas), c. 110. He is known to us primarily because his emissary, Heliodorus, who was sent to the court of King Bhagabhadra erected a pillar or garuda-dhvaja with its capital adorned by a figure of Garuda, in honour of God Krishna (Vasudeva). Heliodorus had evidently become a follower of Vishnu. (The pillar stands in isolation in the middle of a open ground in Vidisha, Madhya Pradesh.)

Source: Tamil Nadu State Board Class 11

Q.3) Consider the following statements:

1. Kanishka was an ardent follower of Buddhism and hosted the fourth Buddhist mahasangha.
2. Kushana coins were of the highest quality and conformed to the weight standards of Roman coins.

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: Kanishka:

- The best known of the Kushana kings was Kanishka, who is thought to have ruled from 78 CE till 101 or 102 CE. Ironically, 78 CE is held to be the beginning of the “Saka era” in the Indian calendar. Historians are, hence, divided about Kanishka’s period.
- His rule is said to have started anywhere between 78 and 144 CE. Kanishka was an ardent follower of Buddhism and hosted the fourth Buddhist mahasangha or council (the third council had been held in Pataliputra during Asoka’s reign).
- By now Mahayana Buddhism had become the dominant sect, and Kanishka supported the missions sent to China to preach Buddhism.
- Kushana coins were of the highest quality and conformed to the weight standards of Roman coins. In the coins, Kushana rulers are referred to as “king of kings”, “Caesar”, “lord of all lands” and by other such titles.
- Unfortunately, the titles did not leave much room on the coins for the actual name of the ruler. Hence our information on the Kushana kings tends to be very uncertain.
- Kanishka’s coins as well as his statue found near Mathura show him dressed in a belted tunic along with overcoat and wearing boots, testifying to his Central Asian origins.

Source: Tamil Nadu State Board Class 11

Q.4) Greek historians have recorded the name ‘Sandrakottus’ or ‘Sandrakoptus’ for who among the following?

- a) Pushyamitra Shunga
- b) Menander
- c) Chandragupta Maurya
- d) Ashoka

ANS: C

Explanation:

- Contemporary accounts by Greek historians show that Chandragupta was a youth living in Taxila when Alexander invaded India.
- Greek historians have recorded his name as “Sandrakottus” or “Sandrakoptus”, which are evidently modified forms of Chandragupta.
- Inspired by Alexander, Chandragupta led a revolt against the Nandas years later and overthrew them.

Source: Tamil Nadu state board

Q.5) Hathigumpha Inscriptions, which tells about the Kalinga Ruler in detail, is located at?

- a) Udaygiri Caves
- b) Arikamedu
- c) Kosala
- d) Ujjain

ANS: A

Explanation:

- The defining event of Ashoka's rule was his campaign against Kalinga (present-day Odisha) in the eighth year of his reign.
- This is the only recorded military expedition of the Mauryas. The number of those killed in battle, those who died subsequently, and those deported ran into tens of thousands. The campaign had probably been more ferocious and brutal than usual because this was a punitive war against Kalinga, which had broken away from the Magadha Empire (the Hathigumpha inscription speaks of Kalinga as a part of the Nanda Empire).
- Hathigumpha inscription at Udayagiri caves is the main source of information about Kalinga ruler Kharavela. This inscription, consisting of seventeen lines has been incised in deep cut Brahmi script.

Source: Tamil Nadu state board

Q.6) The third Buddhist Council convened at the time of Ashoka was held at which of the following places?

- a) Dhauliya
- b) Taxila
- c) Amaravati
- d) Patliputra

ANS: D

Explanation:

- One of the major events of Ashoka's reign was the convening of the Third Buddhist sangha (council) in 250 BCE in the capital Pataliputra.
- Ashoka's deepening commitment to Buddhism meant that royal patronage was extended to the Buddhist establishment.
- An important outcome of this sangha was the decision to expand the reach of Buddhism to other parts of the region and to send missions to convert people to the religion.

Source: Tamil Nadu state board

Q.7) Which among the following historical chronicle in Pali from Sri Lanka serves as an important source of information about Mauryan Period?

- a) Mahavamsa
- b) Brahamanas
- c) Indica
- d) Deepavamsa

ANS: A

Explanation:

- The names of Chandragupta and his two successors in the Mauryan period are well known now. But reconstructing their lives and careers was a laborious and difficult process for the earlier historians.
- There are hardly any comprehensive contemporary accounts or literary works which refer to the Mauryan emperors though they are mentioned in various Buddhist and Jain texts as well as in some Hindu works like the brahmanas.
- The Mahavamsa, the comprehensive historical chronicle in Pali from Sri Lanka, is an important additional source.
- The scattered information from these sources has been corroborated by accounts of Greek historians who left their accounts about India following Alexander's campaign in north-western part of the country.

Source: Tamil Nadu state board

Q.8) The three crowned kings, the Cheras, the Cholas and the Pandyas are known by which of the following term in Sangam text?

- a) Muvendar
- b) Athiyaman
- c) Kizhar
- d) Velir

ANS: A

Explanation:

- Though the three Tamil ruling families were known to Asoka in the third century BCE itself, some individual names are known only from the Sangam poems of the first century and later.
- Known as muvendar, 'the three crowned kings', the Cheras, Cholas and Pandyas controlled major agrarian territories, trade routes and towns.
- But the Satiyaputra (same as Athiyaman) found in the Asokan inscription along with the above three houses is a Velir chief in the Sangam poems.

Source: Tamil Nadu state board

Q.9) “Kanaganahalli”- ancient Buddhist site is located in which of the following state?

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

ANS: D

Explanation:

- Early Buddhist art in India expanded exponentially when, in 1994, archaeologists unearthed a spectacular ancient stupa outside the hamlet of Kanaganahalli in modern Karnataka State, in India’s southwest.
- As if by magic, a lost Buddhist monastic center from the early first millennium emerged from a shapeless mound.
- By virtue of its remarkable stone sculpture and hundreds of ancient stone inscriptions, Kanaganahalli instantly took its place among the most celebrated early Buddhist sites in India.
- One location mentioned in the inscriptions even turns up in Ptolemy’s Geographia of the 2nd century CE, a reminder of how small the world was becoming even at the beginning of the first millennium.

Source: Ncert History

Q.10) Which of the following kingdom introduced turban, tunic, trousers and heavy long boots and coats?

- a) Kushans
- b) Cheras
- c) Mughals
- d) Mauryan

ANS: A

Explanation:

- Shakas – Kushanas introduced better cavalry & use of riding horses on large scale along with use of turban, tunic, trousers & longcoats.
- Kushanas were the 1st ruler in India to issue gold coins on wide scale & controlled major part of silk trade.
- Kushanas adopted pompous titles as King of Kings & were called Sons of god like Asoka was called dear to gods.

Source: Old NCERT.

Society and Welfare

Q.1) The “Spandana initiative” is often seen in news is related to which of the following state?

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

ANS: D

Explanation:

- It is an initiative of Andhra Pradesh Government to make police stations more approachable for the public, especially women.
- Spandana (means response) centers have been established within the premises of all District Collector offices and police stations.
- These centers mostly have a female receptionist and other staff members who are trained, briefed and sensitized in handling women victims and complainants.
- Spandana centres spread across the district, and each have video conferencing facility, it is easier and cheaper for people to lodge complaints.

Source: The Hindu

Q.2) Which of the following indicators used by Global Hunger Index for ranking countries?

1. Undernourishment
2. Child wasting
3. Child stunting
4. Child mortality

Select the correct answer using the code given below:

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

ANS: D

Explanation:

- The 14th Global Hunger Index (GHI) 2019 was released recently and it had ranked India a lowly 102 among the 117 countries it had mapped.
- The GHI has been brought out almost every year by Welthungerhilfe (lately in partnerships with Concern Worldwide) since 2000.
- A low score gets a country a higher ranking which implies a better performance.
- The reason for mapping hunger is to ensure that the world achieves –Zero Hunger by 2030 - one of the Sustainable Development Goals of the United Nations.

Four indicators of GHI:

- Undernourishment (which reflects inadequate food availability)
- Child Wasting (which reflects acute under nutrition)

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- Child Stunting (which reflects chronic under nutrition)
- Child Mortality (which reflects both inadequate nutrition and unhealthy environment)

Source: The Hindu

Q.3) 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.4) The “Ananthsayanam Ayyangar Committee, Justice Venkatchaliah Commission, Balkrishna Sidke Renke and Idate Commission” related to which of the following?

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

ANS: A

Explanation:

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

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

Source: The Hindu

Q.5) The “Bru/Reang community”, sometimes seen in news is related to which of the following state?

- a) Manipur
- b) Jharkhand
- c) Chhattisgarh
- d) Mizoram

ANS: D

Explanation:

- Twenty-three years after ethnic clashes in Mizoram forced 37,000 people of the Bru (or Reang) community to flee their homes to neighbouring Tripura, an agreement has been signed to allow them to remain permanently in the latter state.
- The agreement among the Bru leaders and the governments of India, Tripura, and Mizoram, signed in New Delhi on January 16, gives the Bru the choice of living in either state.
- In several ways, the agreement has redefined the way in which internal displacement is treated in India.

Source: Indian Express

Q.6) Recently, Khadi and Village Industries Commission (KVIC) revived the 1000 year old Monpa Handmade Paper of which of the following state?

- a) Gujarat
- b) Tripura
- c) Arunachal Pradesh
- d) Odisha

ANS: C

Explanation:

- Due to the committed efforts of Khadi and Village Industries Commission (KVIC), the 1000-year old heritage art – the Monpa Handmade Paper of Arunachal Pradesh – which was driven to the extinction, has come to life once again.
- The art of making Monpa handmade paper originated over 1000 years ago.
- Gradually the art became an integral part of local custom and culture in Tawang in Arunachal Pradesh.
- Once produced in every household in Tawang, this handmade paper was a major source of livelihood for the locals. However, the handmade paper industry almost disappeared in the last 100 years; prompting KVIC to plan revival of this ancient art.

Source: Press Information Bureau

Q.7) With reference to the “Adopt a Heritage: Apni Dharohar, Apni Pehchaan project”, which of the following is/are eligible to adopt a heritage?

1. Individuals
2. Non Governmental Organizations
3. Public sector companies

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 Ministry of Tourism, Government of India runs the “Adopt a Heritage:

- Apni Dharohar, Apni Pehchaan” project which is a collaborative effort by the Ministry of Tourism, Ministry of Culture, Archaeological Survey of India and State/ UTs Government for developing tourism amenities at heritage/ natural/ tourist sites spread across India for making them tourist friendly, in a planned and phased manner which I started in September 2017.
- The project aims to encourage companies from public sector, private sector, trusts, NGOs, individuals and other stakeholders to become ‘Monument Mitras’ and take up the responsibility of developing and upgrading the basic and advanced tourist amenities at these sites as per their interest and viability in terms of a sustainable investment model under CSR. They would also look after the Operation & Maintenance of the same.

Source: Indian Express

Q.8) Consider the following statements regarding National Disaster Responsive Force (NDRF):

1. It functions under ministry of Home Affairs.
2. It consists of both military and Para-military battalion forces.

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:

- Today NDRF is a distinguished, unique Force across the country functioning under the Ministry of Home Affairs, Government of India, within the overall command, control and leadership of the Director General, NDRF.
- At present, National Disaster Response Force consists of 12 battalions, three each from the BSF and CRPF and two each from CISF, ITBP and SSB.
- Each battalion have 18 self-contained specialist search and rescue teams of 45 personnel each including engineers, technicians, electricians, dog squads and medical/paramedics.
- The total strength of each battalion is 1,149. All the 12 battalions have been equipped and trained to respond natural as well as man-made disasters.

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- Battalions are also trained and equipped for response during chemical, biological, radiological and nuclear (CBRN) emergencies.

Source: <http://www.ndrf.gov.in/about-us>

Q.9) Consider the following statements regarding Disaster Management in India:

1. Constitution of India does not explicitly mention the word Disaster.
2. Central government used the concurrent subject to pass disaster management act.

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:

- Constitution of India does not have any explicit provision on the subject of disaster management.
- As a result, the subject of disaster management failed to secure a place in the elaborate scheme of division of vital subjects between the centre and states.
- As far as the DM Act is concerned, the Seventh Schedule to the Constitution does not have an explicit entry on disaster management.
- Hence, Parliament had to trace its legislative competence for passing the DM Act to the Concurrent List entry on “Social security and social insurance; employment and unemployment”.

Source: <https://vidhilegalpolicy.in/blog/covid-19-and-the-need-for-clear-centre-state-roles/>

Q.10) 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

Science and Technology

Q.1) Consider the following statements regarding the “biologics”:

1. It is a product that is produced from living organisms or contains components of living organisms.
2. Most biologics are complex mixtures that are not easily identified or characterized.

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:

- Biological products include a wide range of products such as vaccines, blood and blood components, allergenics, somatic cells, gene therapy, tissues, and recombinant therapeutic proteins.
- Biologics can be composed of sugars, proteins, or nucleic acids or complex combinations of these substances, or may be living entities such as cells and tissues.
- Biologics are isolated from a variety of natural sources - human, animal, or microorganism - and may be produced by biotechnology methods and other cutting-edge technologies.
- Gene-based and cellular biologics, for example, often are at the forefront of biomedical research, and may be used to treat a variety of medical conditions for which no other treatments are available.
- In contrast to most drugs that are chemically synthesized and their structure is known, most biologics are complex mixtures that are not easily identified or characterized.
- Biological products, including those manufactured by biotechnology, tend to be heat sensitive and susceptible to microbial contamination.
- Therefore, it is necessary to use aseptic principles from initial manufacturing steps, which is also in contrast to most conventional drugs.
- Biological products often represent the cutting-edge of biomedical research and, in time, may offer the most effective means to treat a variety of medical illnesses and conditions that presently have no other treatments available.

Source: WHO

Q.2) The term “Kibble Balance” is often seen in news is related to which of the following?

- a) Device to measure Planck Constant.
- b) Device to measure heat balance.
- c) Device to measure water balance.
- d) Device to measure wind balance.

ANS: A

Explanation:

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- 'Kibble Balance', is a device that was used to measure the Planck Constant and thereby reboot the kilogram.
- Named after its inventor, Bryan Kibble at the U.K.'s National Physical Laboratory (NPL), who conceptualized it in 1975, the Kibble balance is an exquisitely accurate weighing machine.
- Like any balance, it is designed to equalize one force with another: In this case, the weight of a test mass is exactly offset by a force produced when an electrical current is run through a coil of wire immersed in a surrounding magnetic field.

Source: The Hindu

Q.3) India's largest Liquid Hydrogen Storage Tank is established in which of the following state?

- Tamil Nadu
- Telangana
- Odisha
- Andhra Pradesh

ANS: D

Explanation:

- ISRO Chairman K Sivan flagged off the shipment of India's largest liquid hydrogen storage tank at the VRV Asia Pacific's manufacturing plant at Sri City in Chittoor district of Andhra Pradesh.
- VRV Asia Pacific manufactured the storage tank with a Liquid Nitrogen (LIN) shield, in a collaborative effort with Satish Dhawan Space Centre (SDSC) SHAR, under the Make in India initiative.
- The storage capacity of the tank is 120 kilo liters. Liquid hydrogen is used as fuel for satellite launch vehicles.

Source: The Hindu

Q.4) "Vitrification technology" is often seen in news is associated with which of the following?

- Nuclear Waste
- Solar Power generation
- Horticulture
- Plant varieties specification

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.

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- To allow incorporation into the glass matrix the waste is initially calcined (dried) to a granular powder.
- The product is then incorporated into molten glass, poured into a robust stainless steel canister about 1.3 metres high, and allowed to cool, forming a solid matrix. The containers are then welded closed and are ready for storage and final disposal.
- 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

Q.5) Which of the following is/are functions of Genetic Engineering Appraisal Committee (GEAC)?

1. To appraise activities involving large scale use of hazardous microorganisms and recombinants in research and industrial production from the environmental angle.
2. To appraise proposals relating to release of genetically engineered organisms and products into the environment including experimental field trials.
3. It has no powers to take punitive action under the Environment Protection Act.

Select the correct answer using the codes given below:

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

ANS: B

Explanation:

- The Genetic Engineering Appraisal Committee (GEAC) functions in the Ministry of Environment, Forest and Climate Change (MoEF&CC).
- As per Rules, 1989, it is responsible for appraisal of activities involving large scale use of hazardous microorganisms and recombinants in research and industrial production from the environmental angle.
- The committee is also responsible for appraisal of proposals relating to release of genetically engineered (GE) organisms and products into the environment including experimental field trials.
- The committee or any persons authorized by it has powers to take punitive action under the Environment Protection Act.

Source: ForumIAS factly

Q.6) Which of the statements given below is/are correct?

1. Hadrons like protons combine to form quarks.
2. No exotic Sub-atomic Particles has been discovered at CERN yet.

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: D

Explanation:

- 3 New exotic Sub-atomic Particles discovered at CERN. The Large Hadron Collider (LHC) has observed 3 new particles; a 'pentaquark' and a pair of 'tetraquarks'.
- About Quarks, Pentaquark and Tetraquark Quarks are elementary particles that come in 6 'flavours': up, down, charm, strange, top, and bottom.
- They usually combine together in groups of twos and threes to form hadrons such as the protons and neutrons that make up atomic nuclei.
- But they can also combine into four-quark and five-quark particles called tetraquarks and pentaquarks.
- These exotic hadrons were predicted by theorists about six decades ago — around the same time as conventional hadrons — but they have been observed by the Large Hadron Collider and other experiments only in the past 20 years.

Source: EPIC July 2022

Q.7) In reference to the Navigation with Indian Constellation (NavIC) Technology, consider the following statements:

1. It is developed jointly by ISRO and DRDO.
2. It is expected to provide a position accuracy of better than 20 m in the primary service area.
3. It consists of 3 active satellites located at a distance of approximately 36,000 Km from Earth's surface.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Navigation with Indian Constellation (NavIC) Technology

- An autonomous regional satellite navigation system, also known as the Indian Regional Navigation Satellite System (IRNSS), is developed by ISRO.
- It has been designed to provide accurate position information service to users in India as well as the region extending up to 1500 km from its boundary.

It will provide two types of services:

- Standard Positioning Service (SPS): provided to all the users.
- Restricted Service (RS): It is an encrypted service provided only to authorised users.
- The IRNSS System is expected to provide a position accuracy of better than 20 m in the primary service area.

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- Presently, it consists of 7 active satellites located at a distance of approximately 36,000 Km.
 - 3 satellites are in Geostationary Orbit (GEO).
 - 4 satellites are in inclined Geosynchronous Orbit (GSO).

Source: The Hindu

Q.8) In the context of the recent launch of the Rohini-200 Sounding Rocket, consider the following statements:

1. RH-200 is a two-stage rocket capable of climbing to a height of 70 km bearing scientific payloads.
2. The '200' in the name denotes the length of the rocket in mm.
3. The first and second stages of RH-200 are powered by solid motors.

Which of the statements given above is/are correct?

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

ANS: C

Explanation:

- The 3.5-metre-tall RH-200, a trusted member of the Rohini sounding rocket family used by the ISRO for atmospheric studies, has completed 198 consecutive successful flights, according to the Vikram Sarabhai Space Centre (VSSC), Thumba.
- RH-200 is a two-stage rocket capable of climbing to a height of 70 km bearing scientific payloads.
- The first and second stages of RH-200 are powered by solid motors. The '200' in the name denotes the Diameter of the rocket in mm.
- Other operational Rohini variants are RH-300 Mk-II and RH-560 Mk-III.
- Sounding rockets have an important place in the ISRO story. The first sounding rocket to be launched from Thumba was the American Nike-Apache - on November 21, 1963.
- After that, two-stage rockets imported from Russia (M-100) and France (Centaure) were flown. The ISRO launched its own version - Rohini RH-75 - in 1967.
- The sounding rocket programme "was indeed the bedrock on which the edifice of launch vehicle technology was built".
- Today, these small rockets are launched both from the Thumba Equatorial Rocket Launching Station (TERLS) and the Satish Dhawan Space Centre, Sriharikota.

Source: The Hindu

Q.9) Indian Railways has announced that it is installing Real-Time Train Information System (RTIS) on locomotives and trains. It has developed RTIS in collaboration with which of the following institute?

- a) Defence Research and Development Organisation (DRDO)
- b) Indian Institute of Remote Sensing (IIRS)
- c) Indian Space Research Organisation (ISRO)
- d) Institute of Defence Studies and Research (IDSR)

ANS: C

Explanation:

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- Indian Railways has announced that it is installing Real-Time Train Information System (RTIS), developed in collaboration with ISRO, on locomotives & trains.
- With this, Train Control will now be able to track the location & speed of RTIS-enabled locomotives /trains more closely, without any manual intervention.
- RTIS devices have been installed for 2700 locomotives in 21 electric loco sheds.
- The Indian Space Research Organisation is the national space agency of India.
- ISRO is India's primary agency for performing tasks related to space-based applications, space exploration, and the development of related technologies.

ISRO:

- Headquarters: Bengaluru
- Founded: 15 August 1969
- Chairman: S. Somanath
- Founder: Vikram Sarabhai

Source: The Hindu

Q.10) With reference to the Double Asteroid Redirection Test (DART) Mission, consider the following statements:

1. The mission is to test the new technology to be prepared in case an asteroid heads towards Earth.
2. It is the first demonstration of the kinetic impactor technique to change the motion of an asteroid in space.
3. It is a joint Mission of NASA and the European Space Agency.

Which of the statement given above is/are correct?

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

ANS: A

Explanation: NASA's DART mission:

- In the first-of-its-kind, save-the-world experiment, NASA is about to hit hard a small, harmless asteroid millions of miles away. A spacecraft named Dart will zero in on the asteroid, intent on slamming it head-on at 14,000 mph (22,500 kph).
- It is NASA's first planetary defence test mission named the Double Asteroid Redirection Test (DART).
- The mission is to test the new technology to be prepared in case an asteroid heads towards Earth in the future.
- The aim is to test the newly developed technology that would allow a spacecraft to crash into an asteroid and change its course.
- After the mission has collided with the asteroid, scientists will study its impact on the trajectory of the asteroid with a range of telescopes deployed on different regions of the planet.
- DART is the first demonstration of the kinetic impactor technique to change the motion of an asteroid in space.
- DART is a low-cost spacecraft.
- It has two solar arrays and uses hydrazine propellant for manoeuvring the spacecraft.

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- It also carries about 10 kg of xenon which will be used to demonstrate the agency's new thrusters called NASA Evolutionary Xenon Thruster–Commercial (NEXT-C) in space.
- NEXT-C gridded ion thruster system provides a combination of performance and spacecraft integration capabilities that make it uniquely suited for deep space robotic missions.
- The spacecraft carries a high-resolution imager called Didymos Reconnaissance and Asteroid Camera for Optical Navigation (DRACO).
- Images from DRACO will be sent to Earth in real time and will help study the impact site and surface of Dimorphos (the target asteroid).

Source: The Hindu

Indian Economy

Q.1) Which of the following constitutes the stages of Business-Cycle of an economy?

1. Depression
2. Recovery
3. Boom
4. Recession
5. Growth

Select the correct answer using the codes given below:

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

ANS: C

Explanation:

Economists have pointed out that the business cycle is characterised by four phases or stages in which economies alternate:

- Depression
- Recovery
- Boom
- Recession

Source: ForumIAS

Q.2) The Global Infrastructure Facility is a/an:

- a) ASEAN initiative to upgrade infrastructure in Asia and financed by credit from the Asian Development Bank.
- b) World Bank collaboration that facilitates the preparation and structuring of complex infrastructure Public-Private Partnerships (PPPs) to enable mobilization of private sector and institutional investor capital.
- c) Collaboration among the major banks of the world working with the OECD and focused on expanding the set of infrastructure projects that have the potential to mobilize private investment.
- d) UNCTAD funded initiative that seeks to finance and facilitate infrastructure development in the world.

ANS: B

Explanation:

- The Global Infrastructure Facility (GIF) is a partnership among governments, multilateral development banks, private sector investors, and financiers. It is designed to provide a new way to collaborate on preparing, structuring, and implementing complex projects that no single institution could handle on its own.
- The comprehensive project support provided by the GIF draws on the combined expertise of its technical and advisory partners.

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- This group, which includes commercial banks and institutional investors, ensures that well-structured and bankable infrastructure projects are brought to market in a way that sustainably meet the needs of governments and service users. Funding partners provide financial contributions to the GIF.
- The GIF partnership is overseen by a Governing Council that supervises strategic programming and funds management as well as the development of operational policies and procedures. It also holds the GIF's management accountable for delivering on objectives and principles.
- The Governing Council comprises representatives of funding and technical partners and representatives of emerging markets and developing economies, and is co-chaired by the World Bank Group and a Funding Partner.

Source: ForumIAS

Q.3) The People's Plan was formulated by which of the following person?

- a) M. Visvesvaraya
- b) M. N. Roy
- c) Purshotamdas Thakurdas
- d) Vinobha Bhave

ANS: B

Explanation:

- In 1945, yet another plan was formulated by the radical humanist leader M.N. Roy, Chairman of the Post-War Reconstruction Committee of Indian Trade Union. The plan was based on Marxist socialism and advocated the need of providing the people with the 'basic necessities of life'. Agricultural and industrial sectors, both were equally highlighted by the plan. Many economists have attributed the socialist leanings in Indian planning to this plan.
- The common minimum programmes of the United Front Government of the mid-nineties (20th century) and that of the United Progressive Alliance of 2004 may also be thought to have been inspired from the same plan. 'Economic reforms with the human face', the slogan with which the economic reforms started in the early 1990s also has the resonance of the People's Plan.

Source: ForumIAS

Q.4) The General Theory of Employment, Interest and Money written by which of the following Economist?

- a) Adam Smith
- b) David Ricardo
- c) J. M. Keynes
- d) Robert Lucas

ANS: C

Explanation:

- The belief in the self-correcting quality of the market and the 'invisible hand' of Adam Smith got a major setback in early 20th century during the Great Depression (1929).
- The impact of the depression spread from the USA to other economies of Western Europe escalating large scale unemployment, downfall in demand and economic activities and

lockouts in industrial enterprises. The prevailing Smithonian macro ideas failed to check the crisis.

- A new approach was needed which came in the famous work, The General Theory of Employment, Interest and Money (1936) by the English economist at Cambridge University, John Maynard Keynes (1883–1946).

Source: ForumIAS

Q.5) Bajaj Committee related to which of the following?

- a) Infrastructure Development
- b) Agricultural Reforms
- c) Tribal Development
- d) Centrally Sponsored Schemes

ANS: D

Explanation:

- Under the Centrally Sponsored Schemes (CSSs) a certain percentage of the funding is borne by the Centre and the states in the ratio of 50:50, 70:30, 75:25 or 90:10 and the implementation is done by the state governments.
- CSSs are formulated in subjects from the State List to encourage states to prioritise in areas that require more attention. Funds are routed either through the Consolidated Fund of the states and or are transferred directly to state/district level autonomous bodies/implementing agencies.
- As per the Bajaj Committee Report (1987), CSSs have been defined as the schemes which are funded directly by Central ministries/departments and implemented by the states or their agencies, irrespective of their pattern of financing, unless they fall under the Centre's sphere of responsibility, i.e., the Union List.

Source: ForumIAS

Q.6) Partnership for Global Infrastructure and Investment (PGII) Initiative is related to which of the following grouping?

- a) QUAD
- b) G7
- c) G20
- d) BRICS

ANS: B

Explanation: What is the PGII Initiative?

- It is a US\$ 600 billion global infrastructure investment partnership aimed at helping developing countries;
- The initiative was first unveiled at the 2021 G7 summit in Britain, UK. At that time, it was called the Build Back Better Initiative;
- The initiative will help developing countries make improvements in four core areas:
 - Healthcare;
 - Digital connectivity;
 - Gender equality and equity;
 - Climate and energy security;

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- The initiative has been viewed as a counter to China's Belt and Road Initiative (BRI) which critics have termed a 'debt trap'.

Source: EPIC July 2022

Q.7) Global Competitiveness Report was given which of the following?

- a) World Bank
- b) WTO
- c) IMF
- d) WEF

ANS: D

Explanation:

- The Global Competitiveness Report was originally co-published by the IMD World Competitiveness Center and the World Economic Forum (WEF) under the title of –World Competitiveness Report.
- Subsequently, from this collaboration, two publications evolved. In 1996, the name of the report published by the IMD World Competitiveness Center was officially changed to World Competitiveness Yearbook after the co-publication with the WEF ended.
- Both IMD and WEF began to publish their own World Economy Rankings and eventually, the WEF's publication will become the global competitiveness report.

Source: ForumIAS Factly

Q.8) Kelkar committee, Bhandari committee and Basu committee formed to provide measures to improve which of the following Institutions?

- a) Commercial Banks
- b) Reserve Bank of India
- c) Cooperative Banks
- d) Regional Rural Banks

ANS: D

Explanation:

- The Regional Rural Banks (RRBs) were first set up on 2 October, 1975 (only 5 in numbers) with the aim to take banking services to the doorsteps of the rural masses specially in the remote areas with no access to banking services with twin duties to fulfill To provide credit to the weaker sections of the society at concessional rate of interest who previously depended on private money lending, and To mobilize rural savings and channelize them for supporting productive activities in the rural areas.
- The Government of India, the concerned state government and the sponsoring nationalized bank contribute the share capital of the RRBs in the proportion of 50 per cent, 15 per cent and 35 per cent, respectively. The area of operation of the RRB is limited to notify few districts in a state.
- Following the suggestions of the Kelkar Committee, the government stopped opening new RRBs in 1987-by that time their total number stood at 196. Due to excessive leanings towards social banking and catering to the highly economically weaker sections, these banks started incurring huge losses by early 1980s.
- For restructuring and strengthening of the banks, the governments set up two committees-the Bhandari Committee (1994–95) and the Basu Committee (1995–96).

Source: ForumIAS

Q.9) Consider the following statements with respect to Priority Sector Lending (PSL):

1. All Indian banks have to follow the compulsory target of priority sector lending (PSL)
2. Indian and Foreign Banks need to lend 40 per cent to the priority sector every year of their total lending.

Which of the following given below codes are correct?

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

ANS: A

Explanation:

- All Indian banks have to follow the compulsory target of priority sector lending (PSL). The priority sector in India are at present the sectors-agriculture, small and medium enterprises (SMEs), road and water transport, retail trade, small business, small housing loans (not more than Rs. 10lakhs), software industries, self-help groups (SHGs), agro-processing, small and marginal farmers, artisans, distressed urban poor and indebted non-institutional debtors besides the SCs, STs and other weaker sections of society.
- The PSL target must be met by the banks operating in India in the following way:
- Indian Banks need to lend 40 per cent to the priority sector every year (public sector as well as private sector banks, both) of their total lending.
- Foreign Banks (having less than 20 branches) have to fulfill only 32 per cent PSL target which has sub-targets for the exports (12 per cent) and small and medium enterprises (10 per cent).

Source: ForumIAS

Q.10) “Fiscal Stimulus” is provided to different sectors of an economy to promote the growth. Which of the following constitutes fiscal stimulus?

1. Increasing taxes
2. Monetary incentives
3. Export subsidies

Which of the following given below codes are correct?

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

ANS: C

Explanation:

- A stimulus package is a number of incentives and tax rebates offered by a government to boost spending in a bid to pull a country out of a recession or to prevent an economic slowdown.
- A stimulus package can either be in the form of a monetary stimulus or a fiscal stimulus. A monetary stimulus involves cutting interest rates to stimulate the economy.
- When interest rates are cut, there is more incentive for people to borrow as the cost of borrowing is reduced. An increase in borrowing means there'll be more money in circulation, less incentive to save, and more incentive to spend.
- Lowering interest rates could also weaken the exchange rate of a country, thereby leading to a boost in exports. When exports are increased, more money enters the economy, encouraging spending and stirring up the economy.

Source: ForumIAS

Polity

Q.1) Consider the following statements regarding Regulating Act of 1773:

1. It designated the Governor of Bengal as the Governor General of India.
2. It provided the establishment of a Supreme Court in Delhi.

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: Regulating act of 1773 was of great constitutional importance as

- (a) it was the first step taken by the British Government to control and regulate the affairs of the East India Company in India;
- (b) it recognised, for the first time, the political and administrative functions of the Company; and
- (c) it laid the foundations of central administration in India.

The features of this Act were as follows:

- It designated the Governor of Bengal as the 'GovernorGeneral 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, 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) Which of the following act introduced the concept of separate electorate in British India?

- a) Regulating Act of 1773
- b) Regulating Act of 1793
- c) Pitts India Act of 1784
- d) Indian Councils Act of 1909

ANS: D

Explanation: Indian Councils Act of 1909 is also known as Morley-Minto Reforms (Lord Morley was the then Secretary of State for India and Lord Minto was the then Viceroy of India). The features of this Act were as follows:

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- It considerably increased the size of the legislative councils, both Central and provincial. The number of members in the Central legislative council was raised from 16 to 60. The number of members in the provincial legislative councils was not uniform.
- It retained official majority in the Central legislative council, but allowed the provincial legislative councils to have non-official majority.
- It enlarged the deliberative functions of the legislative councils at both the levels. For example, members were allowed to ask supplementary questions, move resolutions on the budget and so on.
- It provided (for the first time) for the association of Indians with the executive councils of the Viceroy and Governors. Satyendra Prasad Sinha became the first Indian to join the Viceroy's executive council. He was appointed as the Law Member.
- It introduced a system of communal representation for Muslims by accepting the concept of 'separate electorate'. Under this, the Muslim members were to be elected only by Muslim voters. Thus, the Act 'legalised communalism' and Lord Minto came to be known as the Father of Communal Electorate.
- It also provided for the separate representation of presidency corporations, chambers of commerce, universities and zamindars.

Source: Laxmikanth

Q.3) Consider the following statements regarding Constituent Assembly:

1. It held its first meeting on January 26, 1949.
2. Muslim League boycotted the first meeting.
3. Dr. Sachchidananda Sinha was elected as the temporary President of the Assembly.

Choose the correct answer from below given codes:

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

ANS: D

Explanation: The Constituent Assembly held its first meeting on December 9, 1946.

- The Muslim League boycotted the meeting and insisted on a separate state of Pakistan. The meeting was, thus, attended by only 211 members.
- Dr. Sachchidananda Sinha, the oldest member, was elected as the temporary President of the Assembly, following the French practice.
- Later, Dr. Rajendra Prasad was elected as the President of the Assembly.
- Similarly, both H.C. Mukherjee and V.T. Krishnamachari were elected as the Vice-Presidents of the Assembly. In other words, the Assembly had two Vice-Presidents.

Source: Laxmikanth

Q.4) Which of the following committee was headed by the Jawaharlal Nehru?

- a) Provincial Constitution Committee
- b) Minorities Sub-Committee
- c) Union Constitution Committee
- d) Rules of Procedure Committee

ANS: C

Explanation: The Constituent Assembly appointed a number of committees to deal with different tasks of constitution-making. Out of these, eight were major committees and the others were

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minor committees. The names of these committees and their Chairman are given below: Major Committees are:

1. Union Powers Committee - Jawaharlal Nehru
2. Union Constitution Committee -Jawaharlal Nehru
3. Provincial Constitution Committee -Sardar Patel
4. Drafting Committee - Dr. B.R. Ambedkar
5. Advisory Committee on Fundamental Rights, Minorities and Tribal and Excluded Areas - Sardar Patel. This committee had the following five sub-committees:
 - (a) Fundamental Rights Sub-Committee - J.B. Kripalani
 - (b) Minorities Sub-Committee - H.C. Mukherjee
 - (c) North-East Frontier Tribal Areas and Assam Excluded & Partially Excluded Areas Sub-Committee -Gopinath Bardoloi
 - (d) Excluded and Partially Excluded Areas (other than those in Assam) Sub-Committee - A.V. Thakkar
 - (e) North-West Frontier Tribal Areas Sub-Committee
6. Rules of Procedure Committee - Dr. Rajendra Prasad
7. States Committee (Committee for Negotiating with States) - Jawaharlal Nehru
8. Steering Committee - Dr. Rajendra Prasad

Source: Laxmikanth

Q.5) Who among the following was the calligrapher of Indian Constitution?

- a) Prem Behari Narain Raizada
- b) H.V.R. Iyengar
- c) Jawaharlal Nehru
- d) Sardar Vallabhai Patel

ANS: A

Explanation: Important facts about Indian Constitution:

- Elephant was adopted as the symbol (seal) of the Constituent Assembly.
- Sir B.N. Rau was appointed as the constitutional advisor (Legal advisor) to the Constituent Assembly.
- H.V.R. Iyengar was the Secretary to the Constituent Assembly.
- S.N. Mukerjee was the chief draftsman of the constitution in the Constituent Assembly.
- Prem Behari Narain Raizada was the calligrapher of the Indian Constitution. The original constitution was handwritten by him in a flowing italic style.
- The original version was beautified and decorated by artists from Shantiniketan including Nand Lal Bose and Beohar Rammanohar Sinha.
- Beohar Rammanohar Sinha illuminated, beautified and ornamented the original Preamble calligraphed by Prem Behari Narain Raizada.
- The calligraphy of the Hindi version of the original constitution was done by Vasant Krishan Vaidya and elegantly decorated and illuminated by Nand Lal Bose

Explanation: Laxmikanth

Q.6) Which of the following committee recommended framing Fundamental Duties in Indian Constitution for Indian Citizens?

- a) Jawaharlal Nehru committee
- b) B R Ambedkar Committee
- c) Sardar Swaran Singh Committee
- d) All of the above

ANS: C

Explanation: In 1976, the Congress Party set up the Sardar Swaran Singh Committee to make recommendations about fundamental duties, the need and necessity of which was felt during the operation of the internal emergency (1975–1977).

- The committee recommended the inclusion of a separate chapter on fundamental duties in the Constitution.
- It stressed that the citizens should become conscious that in addition to the enjoyment of rights, they also have certain duties to perform as well.
- The Congress Government at Centre accepted these recommendations and enacted the 42nd Constitutional Amendment Act in 1976.
- This amendment added a new part, namely, Part IVA to the Constitution.
- This new part consists of only one Article, that is, Article 51A which for the first time specified a code of ten fundamental duties of the citizens.

Source: Laxmikanth

Q.7) Part XX of the Indian Constitution deals with which of the following?

- a) President
- b) Classical Languages
- c) Powers of Parliament to amend the Constitution
- d) Anti Defection Law

ANS: C

Explanation: Like any other written Constitution, the Constitution of India also provides for its amendment in order to adjust itself to the changing conditions and needs.

- However, the procedure laid down for its amendment is neither as easy as in Britain nor as difficult as in USA.
- In other words, the Indian Constitution is neither flexible nor rigid but a synthesis of both.
- Article 368 in Part XX of the Constitution deals with the powers of Parliament to amend the Constitution and its procedure.
- It states that the Parliament may, in exercise of its constituent power, amend by way of addition, variation or repeal any provision of the Constitution in accordance with the procedure laid down for the purpose.

Source: Laxmikanth

Q.8) Consider the following statements:

1. Article 262 contemplates the establishment of an Inter-State Council to effect coordination between the states and between Centre and states.
2. Prime Minister can establish such a council.

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: Article 263 contemplates the establishment of an Inter-State Council to effect coordination between the states and between Centre and states.

- Thus, the President can establish such a council if at any time it appears to him that the public interest would be served by its establishment.
- He can define the nature of duties to be performed by such a council and its organisation and procedure.

Source: Laxmikanth

Q.9) Consider the following statements regarding emergency:

1. President can declare a national emergency
2. President can also issue different proclamations on grounds of war, external aggression and armed rebellion.

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: 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 can also issue different proclamations on grounds of war, external aggression, armed rebellion, or imminent danger thereof, whether or not there is a proclamation already issued by him and such proclamation is in operation.
- This provision was added by the 38th Amendment Act of 1975.

Source: Laxmikanth

Q.10) Consider the following statements regarding Council of Ministers:

1. Prime Minister is appointed by the President.
2. Other Council of ministers is appointed by Prime Minister.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: Article 75–Other Provisions as to Ministers

- The Prime Minister shall be appointed by the President and the other Ministers shall be appointed by the President on the advice of the Prime Minister.
- The total number of ministers, including the Prime Minister, in the Council of Ministers shall not exceed 15% of the total strength of the Lok Sabha.
- This provision was added by the 91st Amendment Act of 2003.

Source: Laxmikanth

Revision

Q.1) Which of the following is NOT a member of “Bombay Plan”?

- a) Sardar Vallabhai Patel
- b) Purshotamdas Thakurdas
- c) G.D. Birla
- d) Kasturbhai Lalbhai

ANS: A

Explanation: The Bombay Plan was the popular title of ‘A Plan of Economic Development for India’, which was prepared by a cross-section of India’s leading capitalists.

- The eight capitalists involved in this plan were Purshotamdas Thakurdas, J.R.D. Tata, G.D. Birla, Lala Sri Ram, Kasturbhai Lalbhai, A.D. Shroff, Avdeshir Dalal and John Mathai. The Plan was published in 1944– 45.
- Out of these eight industrialists, Purshotamdas Thakurdas was one among the 15 members of the National Planning Committee (1938);
- J.R.D. Tata, G.D. Birla and Lala Sri Ram, were members of the sub-committees (29 in total) of the National Planning Committee.

Source: Ramesh Singh

Q.2) Which of the following is NOT an indicator of Human Development Report (HDR)?

- a) Health
- b) Education
- c) Standard of Living
- d) Environment

ANS: D

Explanation: The HDR measures development by combining three indicators—Health, Education and Standard of Living—converted into a composite human development index, the HDI.

The creation of a single statistic in HDI was a real breakthrough which was to serve as a frame of reference for both ‘social’ and ‘economic’ development.

Source: Ramesh Singh

Q.3) “Most Favoured Nation” clause is often seen in news is related to which of the following International Organization?

- a) UNDP
- b) WEF
- c) IMF
- d) WTO

ANS: D

Explanation: The WTO provides a rule based transparent and predictable multilateral trading system.

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- The WTO rules envisage non-discrimination in the form of National Treatment and Most Favoured Nation (MFN) treatment to India's exports in the markets of other WTO Members.
- National Treatment ensures that India's products once imported into the territory of other WTO Members would not be discriminated vis-à-vis the domestic products in those countries.
- MFN treatment principle ensures that members do not discriminate among various WTO members.

Source: Ramesh Singh

Q.4) Consider the following statements regarding GDP Deflator:

1. It is the ratio between GDP at Current Prices and GDP at Constant Prices.
2. If GDP deflator is found to be 2, it implies decrease in price level of the economy.
3. It is acclaimed as a better measure of price behavior because it covers all goods and services produced in the country.

Choose the correct answer from below given codes:

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

ANS: C

Explanation: GDP Deflator is the ratio between GDP at Current Prices and GDP at Constant Prices.

- If GDP at Current Prices is equal to the GDP at Constant Prices, GDP deflator will be 1, implying no change in price level.
- If GDP deflator is found to be 2, it implies rise in price level by a factor of 2, and if GDP deflator is found to be 4, it implies a rise in price level by a factor of 4.
- GDP deflator is acclaimed as a better measure of price behaviour because it covers all goods and services produced in the country (because the weight of services has not been equitably accounted in the Indian 'headline inflation', i.e., inflation at WPI).

Source: Laxmikanth

Q.5) Who among the following started the "Satya Prakash" in Gujarati in 1852 to advocate widow remarriage?

- a) Veerasalingam Pantulu
- b) Jagannath Shankar Seth
- c) Karsondas Mulji
- d) D.K. Karve

ANS: C

Explanation: Jagannath Shankar Seth and Bhau Daji were among the active promoters of girls' schools in Maharashtra.

- Vishnu Shastri Pandit founded the Widow Remarriage Association in the 1850s.
- Another prominent worker in this field was Karsondas Mulji who started the Satya Prakash in Gujarati in 1852 to advocate widow remarriage.

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- Similar efforts were made by Professor D.K. Karve in western India and by Veerasalingam Pantulu in Madras.
- Karve himself married a widow in 1893. He dedicated his life to the upliftment of Hindu widows and became the secretary of the Widow Remarriage Association.

Source: Spectrum

Q.6) Who among the following personality founded the Ladies Social Conference (Bharat Mahila Parishad)?

- a) Sarojini Naidu
- b) Ramabai Ranade
- c) Sarla Devi Chaudhurani
- d) Annie Besant

ANS: B

Explanation: In 1910, Sarla Devi Chaudhurani convened the first meeting of the Bharat Stree Mahamandal in Allahabad.

- Considered as the first major Indian women's organisation set up by a woman, its objectives included promotion of education for women, abolition of the purdah system and improvement in the socio-economic and political status of woman all over India.
- Sarla Devi believed that the man working for women's upliftment lived 'under the shade of Manu'.
- Ramabai Ranade founded the Ladies Social Conference (Bharat Mahila Parishad), under the parent organisation National Social Conference, in 1904 in Bombay.

Source: Spectrum Modern History

Q.7) "Sesbania cannabina and Sesbania rostrata" is related to which of the following?

- a) Birds
- b) Spiders
- c) Fishes
- d) Legumes

ANS: D

Explanation: Sesbania is a legume commonly used as a green manure crop to add nitrogen and organic matter to the soil.

- The most common species of sesbania used in Asia are Sesbania cannabina (former name acculeata), S. rostrata and S. cannabina (which produce nitrogen-fixing nodules in its roots).
- Sesbania rostrata (produces nitrogen-fixing nodules in both roots and stems) and is commonly found in Africa.

Source: [Sesbania - IRRI Rice Knowledge Bank](#)

Q.8) “Strobilanthes reptans” is seen in news is related to which of the following?

- a) Invasive Species
- b) Artificial Reefs
- c) Micro organisms
- d) Ancient Dinosaurs

ANS: A

Explanation: Strobilanthes reptans appears has earned the Indian tag with the reputation of being an invasive weed in the Indo-Pacific islands.

It is unclear how the Strobilanthes reptans struck roots in Arunachal Pradesh This is one find the botanists involved wish they had never had to record. Strobilanthes reptans appears ornamental.

Source: The Hindu

Q.9) “Part V” of the Constitution is related to which of the following?

- a) Classical Languages
- b) Fundamental Rights
- c) Powers of Parliament
- d) Directive Principles of State Policy

ANS: C

Explanation: The Parliament is the legislative organ of the Union government.

- It occupies a pre-eminent and central position in the Indian democratic political system due to adoption of the parliamentary form of government, also known as ‘Westminster’ model of government.
- Articles 79 to 122 in Part V of the Constitution deal with the organisation, composition, duration, officers, procedures, privileges, powers and so on of the Parliament.

Source: Laxmikanth

Q.10) Consider the following statements:

1. The representatives of states in the Lok Sabha are indirectly elected by the people from the territorial constituencies in the states.
2. The voting age was reduced from 21 to 18 years by the 51st Constitutional Amendment Act, 1988.

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 representatives of states in the Lok Sabha are directly elected by the people from the territorial constituencies in the states. The election is based on the principle of universal adult franchise.

- Every Indian citizen who is above 18 years of age and who is not disqualified under the provisions of the Constitution or any law is eligible to vote at such election.
- The voting age was reduced from 21 to 18 years by the 61st Constitutional Amendment Act, 1988.

Source: Laxmikanth