

ForumIAS

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Prelims Marathon

19th to 25th September, 2022

HISTORY
ECONOMICS
POLITY
SCIENCE AND TECHNOLOGY
GEOGRAPHY AND ENVIRONMENT

FORUMIAS



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
- 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.

- 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.

- 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?

- It warms the Earth by absorbing heat in the atmosphere and by reducing albedo.
- It disrupts cloudiness and monsoon rainfall and accelerates melting of mountain glaciers such as the Hindu Kush-Himalayan glaciers.
- Black carbon stays in the atmosphere for years.
- 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?

- Refrigerators
- Fire extinguishing
- Cleaning metallic components

Select the correct answer using the code given below:

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

ANS: D

Explanation:

- 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 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 Tiruvanchakkalam 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) Thiruvarur
- 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.

PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER (THIRD WEEK), 2022

- 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.
- 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 Mahabhimisikram, 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 (orrrar).
- 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).
- 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: Laxmikanth

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: Astrobees:

- Astrobees 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.

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- 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.
- 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

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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:

- NITI Aayog has released the India Innovation Index 2021. It is prepared by the Institute for Competitiveness.

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- 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?

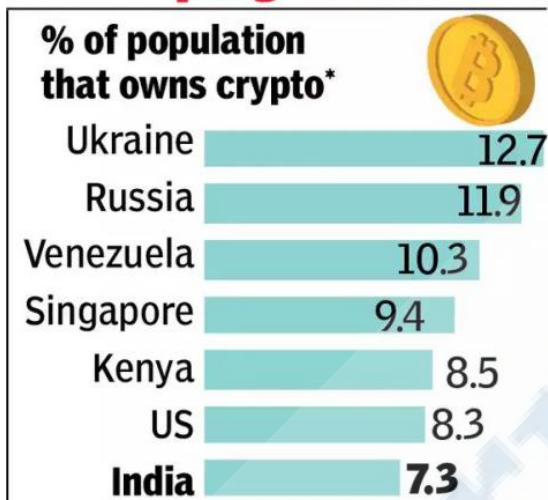
- a) Russia
- b) China
- c) Ukraine
- d) Venezuela

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 theUS (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.

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- Financial support for capex: Government will fund capital expenditure to BSNL for the deployment of indigenous 4G stack.
- 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.
- 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.
- 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