

ForumIAS

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Prelims Marathon

7th to 13th September,
2020

HISTORY
ECONOMICS
POLITY
SCIENCE AND TECHNOLOGY
GEOGRAPHY AND ENVIRONMENT

History

Q.1) Which of the following pair (s) is/are correctly matched?

Archaeological Site	:	State
1. Daojali Hading	:	Meghalaya
2. Chirand	:	Uttar Pradesh
3. Koldihwa	:	Bihar

Select the correct answer using the code given below:

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

ANS: C

Explanation: Chirand: Chirand is a place in Saran district of Bihar and has significant importance archaeological and historical study of Bihar as well as India.

- In Chapra-Sonpur road, Chirand Village is situated near Doriiganj has its unprecedented archaeological, historical and cultural heritage.
- This region was dominated by Charo Dynasty hence it was named Chirand.
- In 1871, Sir W. W Hunter brought light to the archaeological significance of this area.

Daojali Hading: The excavation site at Daojali Hading (Assam) occupies an important place in the archaeological history of India as the first evidence of an Eastern Asiatic Neolithic complex of double-shouldered Celts and cord-marked pottery in India was reported from there.

- The discovery had put Northeast India on the Neolithic map of the world for the first time.
- However, the precise age of the artifacts were not known.

Koldihwa: Belan Valley in Uttar Pradesh near Prayag in Uttar Pradesh is one site where evidences of Paleolithic, Mesolithic and Neolithic sites have been found in sequence.

- The prehistoric sites of Belan valley include Mahgara, Chopani Mando, and Koldihwa.
- Koldihwa in Belan valley has provided earliest evidence of rice cultivation.

Q.2) “While some of the raw materials that the Harappans used were available locally, many items had to be brought from distant places”. Which of the following pair (s) is/are correctly matched?

Raw material	:	Imported from
1. Copper	:	Rajasthan and Oman
2. Tin	:	Afghanistan and Iran
3. Precious stones	:	Gujarat and Afghanistan

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: Raw materials are substances that are either found naturally (such as wood, or ores of metals) or produced by farmers or herders.

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- While some of the raw materials that the Harappans used were available locally, many items such as copper, tin, gold, silver and precious stones had to be brought from distant places.
- **The Harappans probably got copper from present-day Rajasthan, and even from Oman in West Asia.**
- **Tin, which was mixed with copper to produce bronze, may have been brought from present-day Afghanistan and Iran.**
- **Gold could have come all the way from present-day Karnataka, and precious stones from present-day Gujarat, Iran and Afghanistan.**

Q.3) Consider the following statements regarding “**Dholavira City**”:

1. It was located on the banks of Sabarmati River.
2. It was divided into three parts, and each part was surrounded with massive stone walls, with entrances through gateways.

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 city of Dholavira was located on Khadir Beyt (also spelled as Bet) in the Rann of Kutch, where there was fresh water and fertile soil.

- **Unlike some of the other Harappan cities, which were divided into two parts, Dholavira was divided into three parts, and each part was surrounded with massive stone walls, with entrances through gateways.**
- There was also a large open area in the settlement, where public ceremonies could be held.
- Other finds include large letters of the Harappan script that were carved out of white stone and perhaps inlaid in wood.
- This is a unique find as generally Harappan writing has been found on small objects such as seals.

Q.4) The term “**kammakaras**” in ancient period is related to which of the following?

- a) Agricultural labours
- b) Traders
- c) Farmers
- d) Warriors

ANS: A

Explanation: There were two major changes in agriculture around Janapadas period.

- One was the growing use of iron ploughshares. This meant that heavy, clayey soil could be turned over better than with a wooden ploughshare, so that more grain could be produced.
- Second, people began transplanting paddy. This meant that instead of scattering seed on the ground, from which plants would sprout, saplings were grown and then planted in the fields.
- This led to increased production, as many more plants survived. However, it was back breaking work.
- Generally, slave men and women, (dasas and dasis) and landless agricultural labourers (kammakaras) had to do this work.

Q.5) Which of the following pair (s) is/are correctly matched?

Philosophical school: Founder

1. Vaishesika : Konada
2. Nyaya : Kapila
3. Samkhya : Gotama

Select the correct answer using the code given below:

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

ANS: A

Explanation: Over centuries, India's intellectual exploration of truth has come to be represented by six systems of philosophy.

- These are known as Vaishesika, Nyaya, Samkhya, Yoga, Purva Mimansa and Vedanta or Uttara Mimansa.
- These six systems of philosophy are said to have been founded by sages Konada, Gotama, Kapila, Patanjali, Jaimini and Vyasa, respectively.
- These philosophies still guide scholarly discourse in the country.
- German-born British indologist, Friedrich Max Muller, has observed that the six systems of philosophy were developed over many generations with contributions made by individual thinkers.
- However, today, we find an underlying harmony in their understanding of truth, although they seem distinct from each other.

Q.6) Consider the following statements "**Buddhism and Jainism**":

1. Both the Mahavira and the Buddha felt that only those who left their homes could gain true knowledge.
2. They arranged sangha, an association of those who left their homes.

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: Both the Mahavira and the Buddha felt that only those who left their homes could gain true knowledge.

- They arranged for them to stay together in the sangha, an association of those who left their homes.
- The rules made for the Buddhist sangha were written down in a book called the Vinaya Pitaka.
- From this we know that there were separate branches for men and women. All men could join the sangha.
- However, children had to take the permission of their parents and slaves that of their masters.
- Those who worked for the king had to take his permission and debtors that of creditors.
- Women had to take their husbands' permission.

Q.7) Consider the following statements regarding “Battle of Chausa”:

1. It was between Sher Shah Suri and Babur.
2. After the battle, Sher Shah assumed the royal title of Farīd al-Dīn Shēr Shah.

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: Mughal emperor Humayun attacked Sher Khan, the ruler of Bengal and Bihar, in 1537 with aim of bringing the latter's province under the control of the Mughals.

- Sher Khan was an able strategist than Humayun and he coped up a peace treaty with the Mughal king.
- When Humayun turned his attention from the east Sher Khan attacked him at a place called Chausa.
- In this battle of Chausa in 1539, Humayun was defeated and he escaped to Agra.
- Sher Khan after defeating a Bengal army, he took over the rule of Bihar.
- In early 1539 he conquered Bengal and, through clever deception, the Rohtas stronghold southwest of Bengal.
- At the Battle of Chausa on June 26, 1539, he defeated the Mughal emperor Humāyūn and assumed the royal title of Farīd al-Dīn Shēr Shah.

Q.8) Consider the following statements regarding the “Arya Samaj”:

1. It was founded by Dayananda Saraswati.
2. Arya Samaj fixed the marriageable age at 25 years for boys and 16 years for girls.
3. It denied inter-caste marriage and widow re-marriage.

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

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

ANS: B

Explanation: The Arya Samaj Movement, revivalist in form though not in content, was the result of a reaction to Western influences.

- Its founder, Dayananda Saraswati or Mulshankar (1824-1883) was born in the old Morvi state in Gujarat in a brahmin family.
- He wandered as an ascetic for fifteen years (1845-60) in search of truth.
- The first Arya Samaj unit was formally set up by him at Bombay in 1875 and later the headquarters of the Samaj were established at Lahore.
- The Arya Samaj fixed the minimum marriageable age at twenty-five years for boys and sixteen years for girls.
- Swami Dayananda once lamented the Hindu race as “the children of children”.
- Inter-caste marriages and widow remarriages were also encouraged.
- Equal status for women was the demand of the Samaj, both in letter and in spirit.

Q.9) “Kalibangan” is an ancient site is located in which of the following state?

- a) Haryana
- b) Rajasthan
- c) Punjab

d) Gujarat

ANS: B

Explanation: The settlement of Kalibangan is located in Rajasthan along the dried-up bed of the river Ghaggar.

- Kalibangan was excavated in the 1960s under the guidance of B.K. Thapar.
- This place has yielded evidence for the existence of Pre-Harappan and Harappan habitations.
- It shows significant variation from Harappan in the sphere of religious beliefs.
- Some scholars have suggested that Kalibangan might have been part of the 'Eastern Domain' of the Harappan Civilization.
- In the areas of present-day Haryana, East Punjab and Western U.P. Harappan sites like Bara, Siswal and Alamgirpur have been discovered.
- They give evidence of the presence of distinct local traditions in pottery along with the Harappan pottery.
- Kalibangan might have been a mediator between the Harappan cultural zone and the eastern provinces.

Q.10) World famous **Ajanta Caves** are situated on the banks of which of the following River?

- a) Waghora River
- b) Narmada River
- c) Tapti River
- d) Bheema River

ANS: A

Explanation: Ajanta groups of caves, a World Heritage Site which overlooks a narrow sinuous gorge, through which flows the stream of Waghora.

- The river is descended from the head of the Cave 28 from a waterfall of seven leaps. Waghore means Tiger River in Marathi.
- Located at Aurangabad in the Indian State of Maharashtra, the thirty excavated rock cut temples at Ajanta are famous for Buddhist monuments and paintings.
- The caves at Ajanta are excavated in the semi-circular scarp of a steep rock about 76 m high.

Economy

Q.1) Which of the following are the objectives of the “**National Digital Communications Policy**”?

1. Broadband for all by 2022.
2. Creating 10 Million additional jobs in the Digital Communications sector.
3. Enhancing the contribution of the Digital Communications sector to 8% of India’s GDP from 6% in 2017.
4. Ensuring Digital Sovereignty.

Select the correct answer using the code given below:

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

ANS: C

Explanation: The National Digital Communications Policy, 2018 seeks to unlock the transformative power of digital communications networks - to achieve the goal of digital empowerment and improved well-being of the people of India; and towards this end, attempts to outline a set of goals, initiatives, strategies and intended policy outcomes.

The National Communications Policy aims to accomplish the following Strategic Objectives by 2022:

- Provisioning of Broadband for All
- Creating 4 Million additional jobs in the Digital Communications sector
- Enhancing the contribution of the Digital Communications sector to 8% of India’s GDP from ~ 6% in 2017
- Propelling India to the Top 50 Nations in the ICT Development Index of ITU from 134 in 2017
- Enhancing India’s contribution to Global Value Chains
- Ensuring Digital Sovereignty

Q.2) Which of the following measures will **spur the economic growth**?

1. Transparent and hassle-free land acquiring.
2. Availability of Skilled labour.
3. Lower interest rates in the economy.
4. Decrease in effective demand.

Select the correct answer using the code given below:

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

ANS: A

Explanation: The traditional argument is that the lower the interest rate, the better for businesses as it brings down the cost of capital, making investments more attractive.

- Any government would love this as the country would then draw higher investments leading to higher growth and more job creation.

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- Governments abhor higher interest rates as, theoretically, these push up project costs and keep investors away.
- Capital is one of the three main factors of production, which are critical to the growth of a commercial entity, the other two being land and labour.
- But capital is only a necessary, not sufficient, condition. Land, unless allocated by the local government, is too costly for investors seeking to set up shop.
- On labour, even if adequate hands are available for a job, the skill quotient is still low. Training graduates to be job-ready is a form of tax that companies pay.
- Also to be taken into account is the market environment and demand. If end users are seeing lesser money in hand than earlier, demand will certainly be impacted.
- Therefore, in an environment where the other factors of production are not favourable for an investor, low interest rates by themselves may not prove attractive enough.
- Any revival of economic activity will be contingent on joint efforts by the government on the fiscal front to stimulate demand, and the RBI, to keep interest rates low.

Q.3) Which of the following currency is also called as “**people’s money**”?

- a) Chinese renminbi
- b) American Dollar
- c) Japanese Yen
- d) Euro

ANS: A

Explanation: The renminbi is the official currency of the People’s Republic of China, and translates to “people’s money.” Its international symbol is CNY (or CNH in Hong Kong; but abbreviated RMB, with the symbol ¥).

Q.4) Which of the following is/are the **reasons for the currency depreciation**?

1. reduced monetary policy interest rates.
2. A surge in exports.
3. Traders and speculators selling currencies on the market.

Select the correct answer using the code given below:

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

ANS: C

Explanation: Currency depreciation can occur for a variety of reasons. Broadly these include changes in inflation rates, political instability and other economic factors. More specifically, some of the leading causes of currency depreciation are:

- Lower export revenues
- A surge in imports
- Reduced monetary policy interest rates
- Central bank intervention
- Traders and speculators selling currencies on the market

Q.5) Which of the following are the **factors behind the recent slowdown** in the Indian economy?

1. Gradual rise in consumption demand.
2. Decline in manufacturing activity.

3. Inability of the Insolvency and Bankruptcy Code (IBC) to resolve cases in a time-bound manner.
4. Rising global trade tension.

Select the correct answer using the code given below:

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

ANS: C

Explanation: India's real or inflation-adjusted gross domestic product (GDP) grew at 5 per cent in the June 2019 quarter of financial year 2019-20 (Q1FY20), the slowest growth in six years (25 quarters). In nominal terms, the growth stood at 7.99 per cent, lowest since December 2002.

- A slowdown in consumption demand, decline in manufacturing, inability of the Insolvency and Bankruptcy Code (IBC) to resolve cases in a time-bound manner, and rising global trade tension and its adverse impact on exports are some of the factors affecting India's growth
- "Private consumption, which contributes nearly 55-60 per cent, to India's GDP has been slowing down.
- While the reduced income growth of households has reduced urban consumption, drought/near-drought conditions in three of the past five years coupled with collapse of food prices has taken a heavy toll on rural consumption".
- Savings by household sector – which are used to extend loans for investment -- have gone down from 35 per cent (FY12) to 17.2 per cent (FY18). Households, including MSMEs, make 23.6 per cent of the total savings in the GDP.
- Gross Fixed Capital Formation (GFCF), a metric to gauge investment in the economy, too has declined from 34.3 per cent in 2011 to 28.8 per cent in 2018, government data show. Similarly, in the private sector, it has declined from 26.9 per cent in 2011 to 21.4 per cent in 2018.
- The household sector, which is the biggest contributor to the total capex in the economy, invests nearly 77 per cent in the real estate sector, which has lost steam since demonetization.

Q.6) Consider the following statements:

1. A cyclical slowdown is a period of lean economic activity that occurs at regular intervals.
2. A structural slowdown is a more deep-rooted phenomenon that occurs due to a one-off shift from an existing paradigm.

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

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

ANS: D

Explanation: A cyclical slowdown is a period of lean economic activity that occurs at regular intervals.

- Such slowdowns last over the short-to-medium term, and are based on the changes in the business cycle.
- Generally, interim fiscal and monetary measures, temporary re-capitalisation of credit markets, and need-based regulatory changes are required to revive the economy.

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- A structural slowdown, on the other hand, is a more deep-rooted phenomenon that occurs due to a one-off shift from an existing paradigm.
- The changes, which last over a long-term, are driven by disruptive technologies, changing demographics, and/or change in consumer behaviour.

Q.7) Consider the following statements regarding the “**Angel Tax**”:

1. It taxes funds raised by startups if they exceed the fair market value of the company.
2. It was introduced in 2015.
3. It is an indirect tax.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: Angel investors finance small startups. They provide funds at a stage where such startups find it difficult to obtain funds from traditional sources of finance such as banks, financial institutions, etc. In this way, they encourage entrepreneurship in the country.

- Further, such investors provide mentoring to entrepreneurs as well as access to their own business networks. Thus, they bring both experience and capital to new ventures.
- Angel Tax, formally known as Section 56 (2) (vii b) of the Income Tax Act, taxes funds raised by startups if they exceed the fair market value of the company.
- It was introduced in 2012 by the UPA government in order to detect money laundering practices and catch bogus startups.

Q.8) Which of the following statement is **NOT** correct about Central Public Sector Enterprise Exchange Traded Fund (CPSE ETF)?

- a) It was launched by the government in March 2014 to help divest its stake in select public sector undertakings through the ETF route.
- b) It is based on the Nifty CPSE index that comprises 11 PSEs.
- c) The parameters based on which companies have been made part of the index include a criteria that they have paid at least 10% dividend in the last two consecutive years.
- d) None

ANS: D

Explanation: CPSE ETF, as the name suggests, is an exchange-traded fund (ETF) comprising public sector enterprises (PSEs).

- The ETF was launched by the government in March 2014 to help divest its stake in select public sector undertakings through the ETF route.
- The ETF is based on the Nifty CPSE index that comprises 11 PSEs such as ONGC, NTPC, Coal India, Indian Oil Corporation, REC, Power Finance Corporation, Bharat Electronics, Oil India, NBCC (India), NLC India and SJVN.
- The parameters based on which companies have been made part of the index include a criteria that they have paid at least 10% dividend in the last two consecutive years.

Q.9) Consider the following statements:

1. WTO allows member countries to classify themselves as developing or developed.

2. Only the least developed countries status is designated by United Nations.
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:

Matter of choice

WTO allows member countries to classify themselves as "developed" or "developing". However, other members can challenge the decision of a country to be classified as "developing". Only the "least-developed countries" status is designated by the UN. Countries in the three lists:

Developing	Developed	Least-developed countries
India	U.S.	Afghanistan
China	European Union	Bangladesh
Russia	Japan	Bhutan
Brazil	Canada	Myanmar
South Africa	Australia	Nepal
South Korea	New Zealand	South Sudan

Q.10) Consider the following statements regarding the **shadow banking (lenders)**:

- 1. It refers to high-yield lending that takes place outside the regular banking sector.
- 2. Examples of shadow lenders include Special Purpose Entities, Non-Banking Financial Companies (NBFCs), Hedge Funds etc.

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: Shadow banking refers to often high-yield lending undertaken by NBFCs that takes place outside the regular banking sector. They are not subject to strict regulation and can sometimes be risky.

- The term 'shadow bank' was coined by Paul McCulley in 2007.
- Examples of shadow lenders include Special Purpose Entities, Non-Banking Financial Companies (NBFCs), Hedge Funds etc.
- These institutions function as intermediaries between the investors and the borrowers, providing credit, thus, leading to financial inclusion and hence generate liquidity in the system.

Polity

Q.1) Consider the following statements regarding “writs”:

1. The Supreme Court and the high courts can issue the writs.
2. President can empower any other court to issue writs.

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 **Supreme Court (under Article 32) and the high courts (under Article 226) can issue the writs** of habeas corpus, mandamus, prohibition, certiorari and quo-warranto.

- Further, the **Parliament (under Article 32) can empower any other court to issue these writs.**
- Since no such provision has been made so far, only the Supreme Court and the high courts can issue the writs and not any other court.

Q.2) “**Real duties are the result of the fulfillment of rights**” – said by which of the following personality?

- a) Gandhiji
- b) Jawaharlal Nehru
- c) Subhash Chandra Bose
- d) Vallabhai Patel

ANS: A

Explanation: It is only after guarantee to all the full sum of humanity, dignity, equality, and freedom promised by the Constitution, that we can ask of them to do their duty.

Perhaps, then, it is time to update Hind Swaraj (Gandhi) for the constitutional age: “**real duties are the result of the fulfillment of rights**”.

Q.3) Consider the following statements:

1. Both Parliament and State Legislature can make laws prescribing residence as a condition for certain employments or appointments in a state or union territory or local authority or other authority.
2. Only Parliament can abrogate or restrict the application of Fundamental Rights to members of armed forces, police 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: B

Explanation: Article 35 lays down that the power to make laws, to give effect to certain specified fundamental rights shall vest only in the Parliament and not in the state legislatures.

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- This provision ensures that there is uniformity throughout India with regard to the nature of those fundamental rights and punishment for their infringement.
- In this direction, Article 35 contains the following provisions:

The Parliament shall have (and the legislature of a state shall not have) power to make laws with respect to the following matters:

- Prescribing residence as a condition for certain employments or appointments in a state or union territory or local authority or other authority (Article 16).
- Empowering courts other than the Supreme Court and the high court's to issue directions, orders and writs of all kinds for the enforcement of fundamental rights (Article 32).
- Restricting or abrogating the application of Fundamental Rights to members of armed forces, police forces, etc. (Article 33).
- Indemnifying any government servant or any other person for any act done during the operation of martial law in any area (Article 34).

Q.4) Which of the following “**directive principles of state policy**” are added through 42nd Constitutional Amendment Act, 1972?

1. To minimize inequalities in income, status, facilities and opportunities.
2. To take steps to secure the participation of workers in the management of industries.
3. To secure opportunities for healthy development of children.

Select the correct answer using the code given below:

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

ANS: B

Explanation: The 42nd Amendment Act of 1976 added four new Directive Principles to the original list. They require the State:

- To secure opportunities for healthy development of children (Article 39).
- To promote equal justice and to provide free legal aid to the poor (Article 39 A).
- To take steps to secure the participation of workers in the management of industries (Article 43 A).
- To protect and improve the environment and to safeguard forests and wild life (Article 48 A).

The 44th Amendment Act of 1978 added one more Directive Principle, which requires the State to minimize inequalities in income, status, facilities and opportunities (Article 38).

Q.5) Arrange the following acts in chronological order:

1. The Payment of Bonus Act.
2. The Child Labour Prohibition and Regulation Act.
3. The Contract Labour Regulation and Abolition Act.
4. The Workmen's Compensation Act.

Select the correct answer using the code given below:

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

ANS: C

Explanation: The Minimum Wages Act (1948), the Payment of Wages Act (1936), the Payment of Bonus Act (1965), the Contract Labour Regulation and Abolition Act (1970), the Child Labour Prohibition and Regulation Act (1986), the Bonded Labour System Abolition Act (1976).

- The Trade Unions Act (1926), the Factories Act (1948), the Mines Act (1952), the Industrial Disputes Act (1947), the Workmen's Compensation Act (1923) and so on have been enacted to protect the interests of the labour sections.
- In 2006, the government banned the child labour.
- In 2016, the Child Labour Prohibition and Regulation Act (1986) was renamed as the Child and Adolescent Labour Prohibition and Regulation Act, 1986.

Q.6) Consider the following statements regarding the “**Lok adalat**”:

1. It is a statutory forum for conciliatory settlement of legal disputes.
2. Its awards are enforceable, binding on the parties and final as no appeal lies before any court against them.

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 Legal Services Authorities Act (1987) has established a nation-wide network to provide free and competent legal aid to the poor and to organize lok adalat for promoting equal justice.

- Lok adalat is a statutory forum for conciliatory settlement of legal disputes.
- It has been given the status of a civil court.
- Its awards are enforceable, binding on the parties and final as no appeal lies before any court against them.

Q.7) Which of the following **acts/legal provisions** are for the implementation of fundamental duties?

1. The Prevention of Insults to National Honour Act (1971).
2. The Protection of Civil Rights Act (1955).
3. The Indian Penal Code (IPC).
4. The Unlawful Activities (Prevention) Act of 1967.

Select the correct answer using the code given below:

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

ANS: D

Explanation: The Verma Committee on Fundamental Duties of the Citizens (1999) identified the existence of legal provisions for the implementation of some of the Fundamental Duties. They are mentioned below:

- The Prevention of Insults to National Honour Act (1971) prevents disrespect to the Constitution of India, the National Flag and the National Anthem.
- The various criminal laws in force provide for punishments for encouraging enmity between different sections of people on grounds of language, race, place of birth, religion and so on.

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- The Protection of Civil Rights Act (1955) provides for punishments for offences related to caste and religion.
- The Indian Penal Code (IPC) declares the imputations and assertions prejudicial to national integration as punishable offences.
- The Unlawful Activities (Prevention) Act of 1967 provides for the declaration of a communal organisation as an unlawful association.
- The Representation of People Act (1951) provides for the disqualification of members of the Parliament or a state legislature for indulging in corrupt practice, which is, soliciting votes on the ground of religion or promoting enmity between different sections of people on grounds of caste, race, language, religion and so on.
- The Wildlife (Protection) Act of 1972 prohibits trade in rare and endangered species.
- The Forest (Conservation) Act of 1980 checks indiscriminate deforestation and diversion of forest land for non-forest purposes.

Q.8) Consider the following statements regarding the “**Goods and Service Tax council**”:

1. Article 279-A empowers the Parliament to constitute a GST Council.
2. 1/3rd of the total number of members of the Council is the quorum for conducting a meeting.

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 101st Amendment Act of 2016 paved the way for the introduction of a new tax regime (i.e. goods and services tax - GST) in the country.

- The smooth and efficient administration of this tax requires co-operation and coordination between the centre and the states.
- In order to facilitate this consultation process, the amendment provided for the establishment of Goods and Services Tax Council or the GST Council.
- The amendment inserted a new Article 279-A in the Constitution. This Article empowered the President to constitute a GST Council by an order.
- Accordingly, the President issued the order in 2016 and constituted the Council.

The decisions of the Council are taken at its meetings. One-half of the total number of members of the Council is the quorum for conducting a meeting. Every decision of the Council is to be taken by a majority of not less than three-fourths of the weighted votes of the members present and voting at the meeting.

Q.9) Which of the following statement is **NOT** correct about “Attorney General of India”?

- a) Article 75 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) Both A and C.

ANS: A

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.

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- 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.

Q.10) The “**Section 188 of IPC**” is often seen in news is related to which of the following?

- a) Sedition.
- b) Marital discords.
- c) Disobedience to order duly promulgated by public servant.
- d) Registration of political parties.

ANS: C

Explanation: Section 3 of the Epidemic Diseases Act, 1897, provides penalties for disobeying any regulation or order made under the Act.

These are according to Section 188 of the Indian Penal Code (Disobedience to order duly promulgated by public servant).

ForumIAS

Science and technology

Q.1) Consider the following statements regarding the “**data localization**”:

1. Justice Srikrishna Committee report recommended that the data stored only locally.
2. Currently, the only mandatory rule on data localization in India is by the Reserve Bank of India for payment systems.

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: Data localisation laws refer to regulations that dictate how data on a nation's citizens is collected, processed and stored inside the country.

- Among reasons supporting data localisation put out by the Justice Srikrishna Committee report last year, a few key ones are: Data localisation is critical for law enforcement.
- Access to data by Indian law agencies, in case of a breach or threat, cannot be dependent on the whims and fancies, nor on lengthy legal processes of another nation that hosts data generated in India.
- A key observation of the report is that it is ideal to have the data stored only locally, without even having a copy abroad, in order to protect Indian data from foreign surveillance.
- Currently, the only mandatory rule on data localisation in India is by the Reserve Bank of India for payment systems. Other than this, there are only reports or drafts of bills that are yet to be signed into law.
- Among material available in the public domain on data localisation is the white paper that preceded the Justice Srikrishna Committee report, inviting public comments.
- The second piece is the Draft Personal Data Protection Bill, 2018 itself which has specific requirements on cross-border data transfers. This is seen as being more restrictive than the recommendations of the Srikrishna Committee.
- The draft e-commerce policy also has clauses on cross-border data transfer. For example, it suggests that if a global entity's India subsidiary transfers Indian users' data to its parent, the same cannot be transferred to a third party even with the user's consent.

Q.2) Consider the following statements regarding the “**Biotherapeutic medicines or 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, allergens, 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.

Q.3) Consider the following statements regarding the “**measuring units**”:

1. Standard units of measure such as the Kilogram, second, metre, ampere, Kelvin, mole and candela defined on the basis of physics constants.
2. The CSIR-NPL is India’s official reference keeper of units of measurements.

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: With the definition of the ‘kilogram’ getting a global, technical makeover, textbooks — from those used in schools to ones recommended by engineering colleges in India — are set to undergo an update.

- The kilogram derived its provenance from the weight of a block of a platinum-iridium alloy housed at the International Bureau of Weights and Measures in France.
- All other prototypes that served as national reference standards, including the one at New Delhi’s CSIR-National Physical Laboratory (NPL), were calibrated to it. No longer.
- On May 20, the kilogram joined other standard units of measure such as the second, metre, ampere, Kelvin, mole and candela that would no longer be defined by physical objects.
- The measures are all now defined on the basis of unchanging universal, physics constants. The kilogram now hinges on the definition of the Planck Constant, a constant of nature that relates to how matter releases energy.
- The CSIR-NPL, which is India’s official reference keeper of units of measurements, on Monday, released a set of recommendations requiring that school textbooks, engineering-education books, and course curriculum update the definition of the kilogram.

Q.4) 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: ‘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.

***NOTE:** According to National Physics Laboratory director, a Kibble Balance capable of measuring at least a kilogram takes about ₹50 crore to manufacture.

Q.5) Which of the following tree is also called as “**Magic Tree**”?

- a) Palm tree
- b) Banyan tree
- c) Drumstick tree
- d) Papaya tree

ANS: C

Explanation: Magic Moringa Tree has been crowned by WHO as a magical tree. In Europe and America was happening once called as “Miracle Tree”.

- Apparently, it's called "Kelor Tree" in Indonesia.
- Researchers have finally unravelled how each part of drumstick (Moringa oleifera), the “magic tree”, is nutritionally rich compared with other plants such as rice, papaya, spinach and cocoa.
- All the five tissues — stem, root, leaf, flower and seed — of drumstick studied were found to be rich either in certain vitamins or essential minerals.
- A team led by Prof. from the National Centre for Biological Sciences (NCBS), Bengaluru analysed the genes on complimentary DNA (cDNA) of all the five tissues.
- The team found drumstick leaves, which are the most nutritious part of the tree, are rich in vitamins, while the roots are mineral-rich.
- The stem is rich in vitamin C and the flowers and seeds are rich in potassium. The pod and flower also have enzymes that help bring down cholesterol level.

Q.6) Recently, **India’s largest Liquid Hydrogen Storage Tank** is established in which of the following state?

- a) Tamil Nadu
- b) Karnataka
- c) Kerala
- d) 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.

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- 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.

Q.7) The words “**Motion interpolation, video interpolation, and the soap opera effect**” is often seen in news is related to which of the following?

- a) Frame rate of videos
- b) Long distance telescopes
- c) Micro telescopes for drug therapy
- d) Thermal image radar system

ANS: A

Explanation: Motion smoothing is also known as motion interpolation, video interpolation, and the soap opera effect, it refers to a process of reducing motion blur by artificially inflating the frame rate of the film or series.

- So, from 24 frames per second (fps) it is increased to 60fps, 120fps or even higher (higher rates are perceived as motion), digitally combining the images to simulate more.
- This effect can be useful when watching sports, as the action moves quickly, and enabling the feature allows viewers to catch more details.

*NOTE: Motion interpolation is a feature that increases a video’s frame rate, usually up to the maximum frame rate of the TV. This has the effect of making movements look smoother, clearer, and more lifelike than what you typically see from movies and TV – pretty similar to the look of movement in soap operas (hence the alternate name of ‘soap opera effect’). This feature only matters if you want to be able to make movement in videos look a bit smoother. We test all our TVs to see whether they are able to interpolate 30 fps and 60 fps video. Only 120Hz TVs will be able to interpolate 24, 30, and 60 fps video up to a higher frame rate, but some 60Hz TVs are able to interpolate 24 and 30 fps video.

Q.8) Recently the World Health Organization said that “**burnout**” remains an “occupational phenomenon” and it is not considered as a medical condition. Which of the following is/are the characteristics of burnout syndrome?

1. Feelings of energy depletion or exhaustion.
2. Increased mental distance from one's job.
3. Reduced professional efficacy.

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 World Health Organization said on May 28 that “burnout” remains an “occupational phenomenon” that could lead someone to seek care but it is not considered a medical condition.

- The clarification came a day after the WHO mistakenly said it had listed burnout in its International Classification of Diseases (ICD) for the first time.

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- While burnout was listed in the previous version, the ICD-10, its definition has been changed in the latest edition of the text. “The definition has been modified based on existing research”.
- WHO has now defined burnout as “a syndrome conceptualised as resulting from chronic workplace stress that has not been successfully managed”.
- It said the syndrome was characterised by: “1) feelings of energy depletion or exhaustion; 2) increased mental distance from one's job, or feelings of negativism or cynicism related to one's job; and 3) reduced professional efficacy.”
- “Burn-out refers specifically to phenomena in the occupational context and should not be applied to describe experiences in other areas of life,” according to the definition.

Q.9) Consider the following statements regarding “**Apsara Nuclear Reactor**”:

1. It was the first nuclear reactor in Asia.
2. It was permanently shut down in 2010.

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: APSARA is the first nuclear reactor in Asia to have achieved criticality on August 4, 1956.

- It is a pool type reactor of 1 MW power with highly enriched uranium as fuel (4.5 kg) in the form of plates.
- Light water was used as both moderator and coolant. The maximum neutron flux was around 10^{13} neutrons/cm²/s.
- It was mainly used for production of isotopes, basic research, shielding experiments, neutron activation analysis, and neutron radiography and for testing neutron detectors.
- Apsara was permanently shut down in 2010.

Q.10) Consider the following statements regarding “**Poly-metallic Nodules**”:

1. These are commonly called manganese nodules.
2. These are most abundant on abyssal plains.

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: Of all the mineral resources considered as potential targets for deep-sea mining, poly-metallic nodules (also commonly called manganese nodules) are probably the most likely commodity to be developed into a commercial operation.

- Poly-metallic nodules are rounded accretions of manganese and iron hydroxides that cover vast areas of the seafloor, but are most abundant on abyssal plains at water depths of 4000-6500 metres.

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- They form through the aggregation of layers of iron and manganese hydroxides around a central particle (such as a shell or small rock fragment), and range in size from a few millimeters to tens of centimeters.
- The composition of nodules varies with their environment of formation, but in addition to manganese and iron, they can contain nickel, copper and cobalt in commercially attractive concentrations as well as traces of other valuable metals such as molybdenum, zirconium and Rare Earth Elements.

ForumIAS

Geography

Q.1) Which of the following pairs is/are correctly matched?

Latitude : **Passes through**

1. Tropic of Cancer : Ranchi
2. 20 ° Latitude : Hyderabad
3. 12 ° Latitude : Chennai

Select the correct answer using the code given below:

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

ANS: A

Explanation:



Q.2) The “**Tropic of Cancer**” falls directly on which of the following caves?

1. Khadagiri caves
2. Bhimbetka caves
3. Kanheri caves
4. Udaygiri caves

ANS: D

Explanation: The Udayagiri caves, in Vidisha, Madhya Pradesh, contain some of the oldest Hindu temples and iconography. They were built during the Gupta period (350-550 CE).

- These caves were not just an expression of religious piety but also a political statement. They lie on two low sandstone hills between the rivers Betwa and Bes.

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- It is possible that when these caves were carved out, they fell directly on the Tropic of Cancer and thus the name translates to Mount of Sunrise.
- On the day of summer solstice, the sun would have been directly overhead, making this a place of worship.

Q.3) Arrange the following rivers of Arunachal Pradesh from **east to west**:

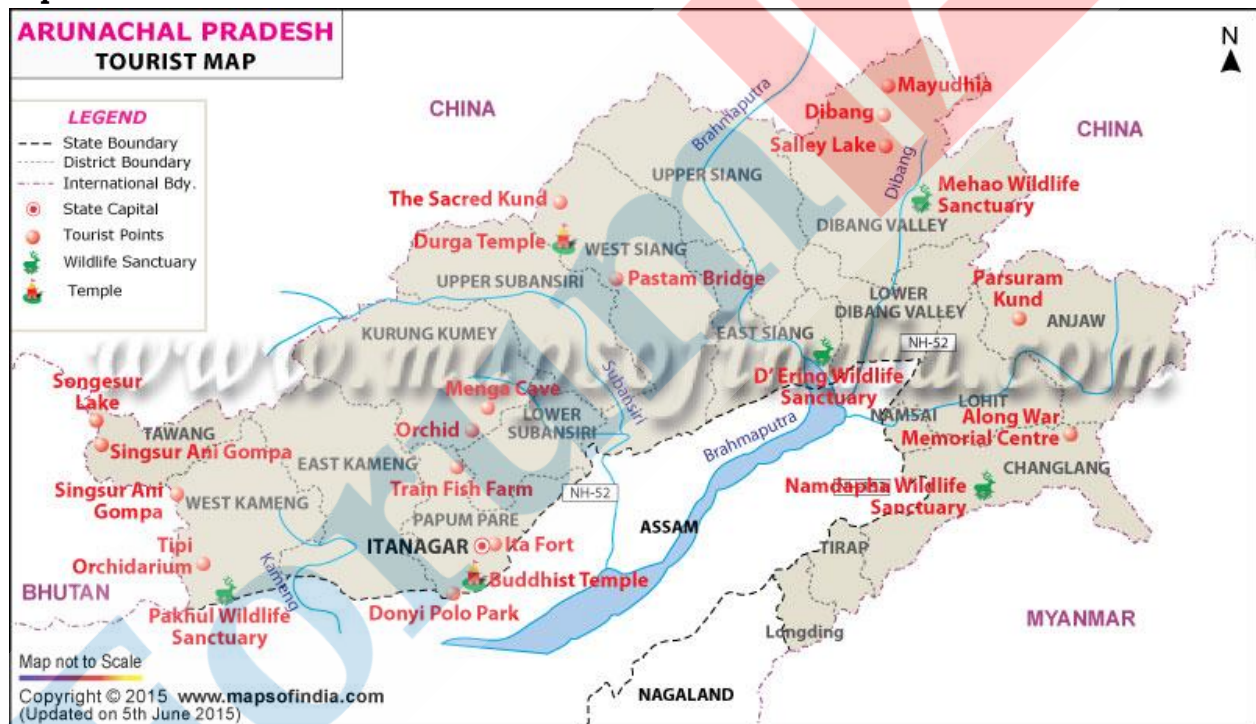
1. Dibang River
2. Dihang River
3. Lohit River
4. Subansiri River

Select the correct answer using the code given below:

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

ANS: B

Explanation:



Q.4) Which of the following pair (s) is/are correctly matched?

Pilgrimage centre : Adjacent River

1. Parasuram kund : Brahmaputra River
2. Ujjain : Shipra River
3. Bhadrachalam : Krishna River

Select the correct answer using the code given below:

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

ANS: B

Explanation: Parshuram Kund is a Hindu pilgrimage sites situated on the Brahmaputra plateau in the lower reaches of the Lohit River and 21 km north of Tezu in Lohit district of Arunachal Pradesh, India.

The Shipra, also known as the Kshipra, is a river in Madhya Pradesh state of central India.

- The river rises in the North of Dhar district, and flows north across the Malwa Plateau to join the Chambal River at the MP-Rajasthan boundary in Mandsaur district.
- It is one of the sacred rivers in Hinduism.
- The holy city of Ujjain is situated on its east bank.

Bhadrachalam is a town, known as a Hindu pilgrimage site, in the south Indian state of Telangana.

Beside the Godavari River, the huge 17th-century Bhadrachalam (or Sita Ramachandra swamy) Temple complex is dedicated to Lord Rama and has many ornate carvings.

Q.5) Which of the following pair (s) is/are correctly matched?

Tourist place	:	State
1. Gol Gumbaz	:	Karnataka
2. Ganapatipule	:	Maharashtra
3. Srisailam	:	Telangana

Select the correct answer using the code given below:

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

ANS: B

Explanation: Bijapur, or Vijayapura (Karnataka) as it is now known, was the capital of the Adil Shahi dynasty from 1490 to 1686.

- It is famous for its impressive buildings and dargahs. Undoubtedly, the most magnificent mausoleum is that of the seventh ruler of the dynasty, Mohammad Adil Shah (1627-1656), called the **Gol Gumbaz** (round dome).
- Covering an area of 18,225 sq ft, Gol Gumbaz has the distinction of being the largest space covered by a single dome in the world, followed by the Pantheon in Rome.
- Its dome is the second largest, after St. Peter's Basilica in Rome.

Ganapatipule (Maharashtra): Ganpatipule is a town on the Konkan Coast of western India.

- It's known for its beaches, such as Ganpatipule Beach and nearby Aare Ware Beach.
- On Ganpatipule Beach, the centuries-old Swayambhu Ganpati Temple is a pilgrimage site and houses a large orange statue of Ganesh.
- Prachin Konkan is an open-air museum with models depicting traditional Konkan life.
- Jaigad Fort and a British-built lighthouse lie to the north.

Srisailam (Andhra Pradesh): Mallikarjuna Swamy Temple in Srisailam, renowned as the Varanasi of South, is one among the 12 Jyotirlingas in the country.

Every year, tens of thousands of devotees trek up to the hill-top temple, crossing the precarious Nallamala forests on foot, to participate in the Maha Sivaratri Brahmotsavam.

Q.6) Which of the following pair (s) is/are correctly matched?

Hills	:	State
1. Horsley hills	:	Karnataka
2. Nandi hills	:	Andhra Pradesh

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3. Parasnath hills : Jharkhand

Select the correct answer using the code given below:

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

ANS: D

Explanation: Horsley Hills (Andhra Pradesh): Horsley Hills, located 1,290 metres above sea level and spread over 2 km radius, is best suited for rock climbing, gliding, trekking and cycling because of its zigzag terrain and a picturesque ghat road flanked by verdant forests.

- In fact, it was the scenic beauty, coupled with the pleasant climate that drew the attention of British officer W.D. Horsley in 1870, who later made it his home.
- Till Independence, Horsley Hills remained a hot destination for nature lovers, and enjoyed the patronage of the colonial rulers.

Nandi Hills (Karnataka): Nandi Hills, or Nandidurg, is a hill fortress in the south Indian state of Karnataka.

- Tipu Sultan Fort, a summer retreat of the namesake 18th-century ruler, features stone carvings and wall paintings.
- Prisoners are said to have been thrown to their death from Tipu's Drop, now known for its panoramic views.
- Local Hindu temples include the hilltop Yoga Nandeeshwara Temple, guarded by a huge statue of a bull (nandi).

Parasnath hills (Jharkhand): Parasnath is a mountain peak in the Parasnath Range.

- It is located towards the eastern end of the Chota Nagpur Plateau in the Giridih district of the Indian state of Jharkhand, India.
- The hill is named after Lord Parshvanatha, the 23rd Tirthankara.

Q.7) Which of the following are the bordering countries of North Sea?

- 1. England
- 2. Ireland
- 3. Germany
- 4. France
- 5. Sweden

Select the correct answer using the code given below:

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

ANS: C

Explanation: The North Sea - a part of the Atlantic Ocean - is bordered by Norway and Denmark, Scotland and England, (and in the southeast) by the Frisian Islands and Germany, the Netherlands, Belgium and France.



Q.8) The **Amazon forest** spread across which of the following countries?

1. Guyana
2. Colombia
3. Bolivia
4. Paraguay
5. Argentina

Select the correct answer using the code given below:

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

ANS: A

Explanation: The Amazon is a vast region that spans across eight rapidly developing countries: Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname and French Guiana, an overseas territory of France.



Q.9) Arrange the following national parks from north to south direction:

1. Vansada national park
2. Sanjay Gandhi national park
3. Bhagawan Mahavir national park
4. Blackbuck (velavadar) national park

Select the correct answer using the code given below:

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

ANS: D

Explanation:



Q.10) Which of the following latitude separates the Andaman Islands and Nicobar Islands?

- a) Eighth degree channel
- b) Ninth degree channel
- c) Tenth degree channel
- d) Eleventh degree channel

ANS: C

Explanation: The Ten Degree Channel is a channel that separates the Andaman Islands and Nicobar Islands from each other in the Bay of Bengal. The two sets of islands together form the Indian Union Territory of Andaman and Nicobar Islands.

Environment

Q.1) Which of the following pair (s) is/are correctly matched?

National Highway cuts through : **Protected Area**

- | | | |
|------------------------|---|------------|
| 1. National Highway 44 | : | Bandavgarh |
| 2. National Highway 6 | : | Simlipal |
| 3. National Highway 37 | : | Manas |

Select the correct answer using the code given below:

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

ANS: B

Explanation: National Highway 44 cuts through wildlife corridors connecting Kanha, Satpura, Pench, Bandhavgarh, Panna tiger reserves and at least four other protected areas.

- **National Highway 6** — India's second longest highway that runs across the breadth of the country from Surat to Kolkata — passes through corridors around Melghat, Bor, Nagzira, Simlipal tiger reserves and seven other national parks and sanctuaries.
- **National Highway 37** (Assam to Manipur) – Kaziranga National Park.

Q.2) The word “Flygskam” is often seen in news is related to which of the following?

- a) Solar based aircraft which circled Earth.
- b) Solar based flying car developed by Volkswagen.
- c) Anti – flying movement.
- d) Anti – fossil fuels movement.

ANS: C

Explanation: As a fiery Greta Thunberg (she has Asperger syndrome, and believes her ‘neurodiversity’ has enabled her to see climate change with a different lens) called out world leaders on their actions impacting the environment — at the recently-concluded Climate Action Summit at the UN headquarters in New York — she birthed a new movement well before she arrived: **flight shaming**.

- Having chosen to sail to the event rather than take a flight, the 16-year-old has got everyone thinking about how leaders headlining such global events get there.
- **Reportedly, it has also led to an anti-flying movement — flight shame, or flygskam in Swedish** — resulting in a decline in Swedish passengers travelling by air and opting instead for low-carbon alternatives such as rail and electric-powered road travel.

Q.3) Consider the following statements:

- 1. United Nations-led Conference to Combat Desertification (UNCCD) is the only legally binding international agreement on land issues.
- 2. In India, nearly 30 % of the land out of the total geographical area is considered as degraded.

Which of the statements given above is/are correct?

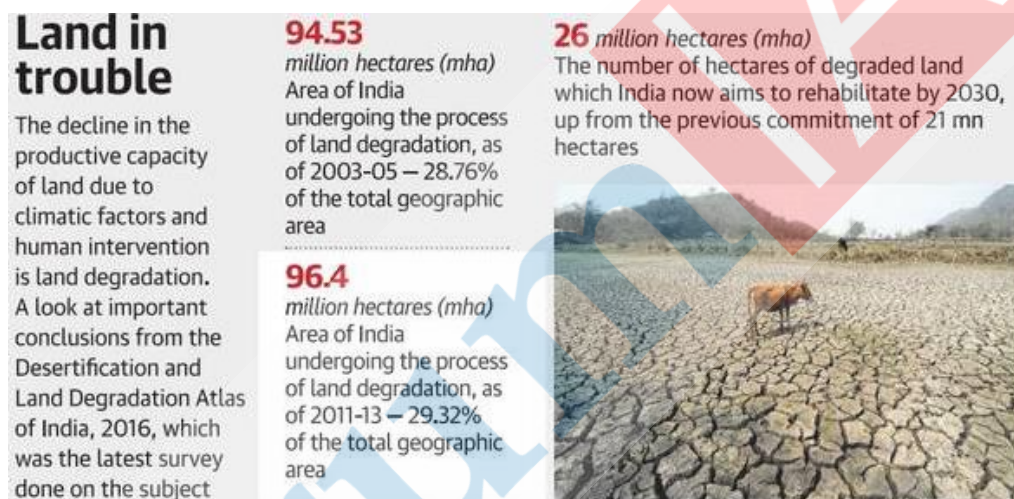
- a) 1 only
- b) 2 only
- c) Both 1 and 2

d) Neither 1 nor 2

ANS: C

Explanation: A two-week long United Nations-led Conference to Combat Desertification (UNCCD) ended with a commitment to achieve land degradation neutrality by 2030. Such neutrality is defined by the U.N. as ensuring that enough land is available across the world to ensure a sustainable future.

- The Delhi Declaration, a consensus document, agreed upon by more than 100 countries “welcomed” the proposed adoption of a “voluntary” land degradation neutrality target by India, which has committed to restoring at least 26 million hectares of degraded land by 2030.
- **The UNCCD is the only legally binding international agreement on land issues.**
- Its 196 parties aim, through partnerships, to implement the Convention and achieve the Sustainable Development Goals.
- India had agreed, again on a voluntary basis, to restore 20 million hectares by 2020. Nearly 96 million hectares of land is deemed ‘degraded’ in India.



Q.4) Consider the following statements:

1. Nilgiri Tahr is endemic to Southern Western Ghats.
2. Indian Grey Hornbill is common hornbill species found only in the Indian subcontinent.
3. The “big four” snakes - the common cobra, common krait, Russell’s viper, and saw-scaled viper are found in India.

Which of the statements given above is/are correct?

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

ANS: D

Explanation: **The Nilgiri Tahr** (*Nilgiritragus hylocrius*, former name is *Hemitragus hylocrius*) is an endangered mountain ungulate endemic to the southern part of the Western Ghats.

- The species is found in a roughly 400 km stretch in the Western Ghats which falls in the states of Kerala and Tamil Nadu.
- The Eravikulam National Park has the highest density and largest surviving population of Nilgiri tahr.

"**Big Four**" refers to the four most common venomous snake species in India—spectacled cobra (*Naja naja*), saw-scaled viper (*Echis carinatus*), Russell's viper (*Daboia russelii*) and common krait (*Bungarus caeruleus*).

The Indian Grey Hornbill (*Ocyrceros birostris*) is a fairly common hornbill species found only in the Indian subcontinent.

- It is a medium-sized hornbill with a beak to tail length of about 50 cm, but one of the larger conspicuous birds we may see in our backyards.
- These birds are known to be arboreal, i.e. spend most of their time on tall trees, but may descend for food and to collect mud pellets for nesting.
- They feed on fruits and berries from fig trees, insects, reptiles (snakes, lizards), small birds (mostly fledglings) but on occasion can go after slightly bigger adult birds as well.

Q.5) The "**Deep Carbon Observatory**" is often seen news is related to which of the following?

- a) It is located in Antarctica and to study the Cryo-sphere.
- b) It is a global community of more than 1000 scientists on a ten-year quest to understand the quantities, movements, forms, and origins of carbon in Earth.
- c) It is a group of deep ocean observatories located in all oceans to study carbon storage in the oceans.
- d) It is space-based observatory to study earth's carbon cycle.

ANS: B

Explanation: The Deep Carbon Observatory (DCO) is a global community of more than 1000 scientists on a ten-year quest to understand the quantities, movements, forms, and origins of carbon in Earth.

- Human activity churns out up to 100 times more planet-warming carbon each year as all the volcanoes on Earth, says a decade-long study released Tuesday.
- The Deep Carbon Observatory (DCO), a 500-strong international team of scientists, released a series of papers outlining how carbon is stored, emitted and reabsorbed by natural and manmade processes.
- They found that manmade carbon dioxide emissions drastically outstrip the contribution of volcanoes — which belch out gas and are often fingered as a major climate change contributor — to current warming rates.

By comparison, the CO₂ released annually by volcanoes hovers around 0.3 and 0.4 gigatonnes — roughly 100 times less than manmade emissions.

Q.6) Recently, which of the following country forests are affected by beetle infestation and which has turned climate-stressed woodlands into brown **ecological graveyards**?

- a) Italy
- b) Brazil
- c) Australia
- d) Germany

ANS: D

Explanation: Germany's forests have long been treasured by its people, so the country has reacted with alarm and dismay as a beetle infestation has turned climate-stressed woodlands into brown ecological graveyards.

- After two unusually hot summers in a row, vast patches of the forests mythologised by medieval fairytales, Goethe's writings and Romantic painters have turned into tinder-dry dead zones.

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- Given the scale of the threat to the one third of German territory covered by trees, Chancellor Angela Merkel's government convened a "national forest summit" on September 2019.

Q.7) The “Nandankanan Zoological Park” is often seen in news is located in which of the following state?

- a) Tamil Nadu
- b) Karnataka
- c) Odisha
- d) Kerala

ANS: C

Explanation: Nandankanan Zoological Park is a premier large zoo of India.

- Unlike other zoos in the country, Nandankanan is built right inside the forest and set in a completely natural environment.
- The animals are housed in enclosures with greenery with a feel of real forest and live with no fear or apprehension of becoming the hunter's prey.
- Nandankanan is 15 kms from Odisha's capital, Bhubaneswar.
- The Bhubaneswar railway station is at a distance of 18 kms and the Biju Patnaik International Airport is at a distance of 20 kms.

Q.8) The words “**Nimesulides and Flunixin**” is often seen in news is related to which of the following?

- a) Preservatives in processed foods
- b) Fruit ripening agents
- c) Vulture toxic drugs
- d) Moisturizing agents in cosmetics

ANS: C

Explanation: The use of anti-inflammatory drugs like diclofenac, nimesulides and flunixin threat to Vultures.

Q.9) Consider the following statements regarding the “**Wildlife Protection Act, 1972**”:

1. It has eight schedules which give varying degrees of protection.
2. Blue Whale falls in Schedule I of the Wildlife (Protection) Act, 1972.

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 Wildlife Protection Act, 1972 provides for the protection of wild animals, birds and plants; and for matters connected there with or ancillary or incidental thereto.

- It extends to the whole of India.
- **It has six schedules which give varying degrees of protection.**
- **The blue whale falls in Schedule I of the Wildlife (Protection) Act, 1972.**

*NOTE: Tiger, Blackbuck, Himalayan Brown Bear, Brow-Antlered Deer, Blue whale, Common Dolphin, Cheetah, Clouded Leopard, Hornbills, Indian Gazelle, and many others comes under Schedule 1.

Q.10) Which of the following place is known for “**Salt water crocodile**”?

- a) Rann of Kutch
- b) Bhitarkanika
- c) Pulicat Lake
- d) Machilipatnam

ANS: B

Explanation: Crocodiles are ambush hunters and apex predator of river systems of the India.

- There are three crocodilians species found in India, Muggers crocodile, the Gharial and the Saltwater Crocodile.
- Muggers crocodile and the gharial are found throughout the Indian subcontinent and they are ambush hunters, mostly prey on fish, reptiles, birds and mammals.
- Saltwater Crocodiles are the largest species of crocodilians family and largest of all living reptiles in the world.
- The apex predator found in saline and brackish mangrove swamp forest of Bhitarkanika and Sunderbans.
- Bhitarkanika National Park in Kendrapara district of Odisha is a separate swamp region and mangroves forest.
- The park is home to largest Saltwater Crocodiles in India and many other species of reptiles such as White Crocodile, Indian Python and King Cobra.

Q.11) The words “**SWAS, STAR and SAFAL**” is often seen in news is related to which of the following?

- a) Green Crackers
- b) Organic vegetables brands
- c) Air purifying machines
- d) Bio-diesel outlets

ANS: A

Explanation: 'Green' crackers have a small shell size compared to traditional crackers.

- They are produced using less harmful raw materials and have additives which reduce emissions by suppressing dust.
- Green crackers don't contain banned chemicals such as lithium, arsenic, barium and lead.
- **They are called Safe Water Releaser (SWAS), Safe Thermite Cracker (STAR) and Safe Minimal Aluminium (SAFAL) crackers.**

Green crackers release water vapour and don't allow the dust particles to rise. They are designed to have 30% less particulate matter pollution.

Q.12) “It has the highest concentration of one-horned rhinos in the world and is often called ‘**Mini Kaziranga**’ due to similar landscape and vegetation” – describes which of the following protected area?

- a) Manas national park
- b) Dibru- Saikhowa wild life Sanctuary
- c) Nameri national park
- d) Pobitora Wildlife Sanctuary

ANS: D

Explanation: Assam's Pobitora Wildlife Sanctuary, which has the highest concentration of one-horned rhinos in the world and is often called ‘**Mini Kaziranga**’ due to similar landscape and vegetation.

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- Pobitora is popularly known as ‘miniature Kaziranga’ for its highest density of one horned rhino in Assam.
- It is situated in the flood plains of River Brahmaputra in the district of Morigaon and 45 kms from Guwahati.
- Once the grazing reserve of erstwhile Nagaon district, Pobitora came into limelight during 1961-62 for the presence of one horned rhino (Rhinoceros Unicornis).

Q.13) The famous “**Godavarman Judgement**” is often seen in news is related to which of the following?

- a) It was related to protection of Wildlife.
- b) It was related to community forest areas.
- c) It was related to freedom to define forests.
- d) It was related to tribal rights of minor forest produce.

ANS: C

Explanation: The freedom to define land, not already classified as forests by the Centre or state records, as forest has been the prerogative of the States since 1996 and stems from a Supreme Court order called the **Godavarman judgement**.

Godavarman judgement: On December 12, 1996, a bench led by Chief Justice J.S. Verma passed an interim order directing that tree-felling and non-forestry activity in forests across the country be stopped.

- The path-breaking order re-defined the meaning of forests and extended protection to all areas with natural forests irrespective of their ownership.
- It laid down that ‘forests’ will be understood by its dictionary meaning, and the provisions of the Forest (Conservation) Act 1980, shall apply to all thickly wooded areas.
- States were directed to form expert committees to identify forests as defined and file reports. Senior Counsel Harish Salve was appointed Amicus Curie to assist the Supreme Court.

Q.14) Consider the following statements regarding the “**Great Nicobar Island of Andaman**”:

1. It is home to one of the most primitive tribes of India — the Shompens.
2. It includes the Great Nicobar Biosphere Reserve (GNBR) comprising of the Galathea National Park and the Campbell Bay National Park.
3. It is home to giant robber crabs, the rare megapode as well as leatherback turtles.

Which of the statements given above is/are correct?

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

ANS: D

Explanation: The Great Nicobar Island of Andaman has an area of about 1044 sq. km.

- According to the 2011 census, has a population of about 8,069.
- The island is home to one of the most primitive tribes of India — the Shompens (PVTG).
- The island includes the Great Nicobar Biosphere Reserve (GNBR) comprising of the Galathea National Park and the Campbell Bay National Park.
- The island harbours a wide spectrum of ecosystems from tropical wet evergreen forests, mountain ranges and coastal plains.

The island is also home to giant robber crabs, crab-eating macaques, the rare megapode as well as leatherback turtles.

Q.15) Which of the following Central Asian countries are part of **Hindu Kush Himalayas (HKH)**?

1. Tajikistan
2. Uzbekistan
3. Turkmenistan

Select the correct answer using the code given below:

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

ANS: A

Explanation: The HKH region spans **Afghanistan, Bangladesh, Bhutan, China, India, Kyrgyzstan, Mongolia, Myanmar, Nepal, Pakistan, Tajikistan, and Uzbekistan.**

- It traverses about 5 million square kilometres and hosts a large and culturally diverse population.
- The Third Pole, which contains vast cryospheric zones, is also the world's largest store of snow and ice outside the polar region.

Q.16) In which of the following agriculture produce (s), India is the world's largest producer of?

1. Banana
2. Mango
3. Chilies

Select the correct answer using the code given below:

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

ANS: A

Explanation: The King of fruits — Mango —and it may come as a surprise to many that India is the world's largest producer of Mangoes, along with Banana, Papaya, and Lemon. Also, Milk, Chilli pepper, Ginger, Chickpea, Millet, Jute and Wood fuel feature in the list of items in which India leads the world. The list was released by **The Spectator Index.**

Mango: Indian Mango had been on the international radar as in 2007, India allowed investments by Harley Davidson in exchange for the lifting of 18 years old ban on mangoes in the US.

- Uttar Pradesh, Andhra Pradesh and Karnataka are the leading Mango producers in the country.
- India produces over 40% of mangoes in the world. The fruit is exported to UAE, Bangladesh, UK, Saudi Arabia, and Nepal.

Banana: Tamil Nadu, Gujarat and Maharashtra are the topmost Banana producing Indian states.

- Bananas are the fifth largest agricultural commodity in world trade after cereals, sugar, coffee and cocoa.
- India's Banana productivity per hectare is over twice as compared to the rest of the world.

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- India exports the fruit to UAE, Saudi Arabia and other Gulf countries.

Chillies: Most of the Indian states produce chilly pepper. Malaysia, Indonesia, Sri Lanka and Pakistan are some of the importers of Indian chilly.

Q.17) The “**Management Effectiveness Evaluation (MEE)**” is often seen in news is related to which of the following?

- Protected areas
- Renewable energy
- Sustainable agriculture
- Energy efficiency

ANS: A

Explanation: Management Effectiveness Evaluation (MEE) is the assessment of how well protected areas such as national parks, wildlife sanctuaries, conservation reserves, community reserves and tiger reserves are being managed and their effectiveness in conserving target flora and fauna.

Q.18) Which of the following pair (s) is/are correctly matched?

Mountain peak	:	Country
1. Mount Kilimanjaro	:	Tanzania
2. Mount Denali	:	United States of America
3. Mount Kosciuszko	:	Russia

Select the correct answer using the code given below:

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

ANS: D

Explanation: Important Mountain Peaks.

- **Mount Everest, Asia (8,848 metres)**
- **Mount Kilimanjaro, Africa (Tanzania) (5,895 metres)**
- **Mount Denali, North America (USA - Alaska) (6,190 metre)**
- **Mount Aconcagua, South America (6,962 metre)**
- **Mount Elbrus, Europe (5,642 metre)**
- **Mount Vinson Massif, Antarctica (4,892 metre)**
- **Mount Kosciuszko, Australia (2,228 metre)**

Q.19) The “**Sisseri River**” is often seen in news is a tributary of which of the following River?

- Lohit River
- Dibang River
- Subansri River
- Manas River

ANS: B

Explanation: Sisseri is a tributary of Dibang.

- Dambuk in Lower Dibang Valley district is cut off from the rest of the country for around six months each monsoon.
- The Border Road Organization constructing Sisseri Bridge, so residents welcomed the prospect of actually driving over dry land instead of piggy-backing on elephants to cross River Sisseri (known as Sissar in the Adi tribal language).

Q.20) Which of the following theories/hypothesis are explaining the **origin of the earth**?

1. Nebular Hypothesis
2. Binary theories
3. Big-bang theory

Select the correct answer using the code given below:

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

ANS: D

Explanation: A large number of hypotheses were put forth by different philosophers and scientists regarding the origin of the earth.

- One of the earlier and popular arguments was by German philosopher Immanuel Kant. Mathematician Laplace revised it in 1796. It is known as Nebular Hypothesis.
- The hypothesis considered that the planets were formed out of a cloud of material associated with a youthful sun, which was slowly rotating.
- Later in 1900, Chamberlain and Moulton considered that a wandering star approached the sun. As a result, a cigar-shaped extension of material was separated from the solar surface.
- As the passing star moved away, the material separated from the solar surface continued to revolve around the sun and it slowly condensed into planets.
- Sir James Jeans and later Sir Harold Jeffrey supported this argument. At a later date, the arguments considered of a companion to the sun to have been coexisting.
- These arguments are called binary theories. The most popular argument regarding the origin of the universe is the Big Bang Theory.
- It is also called expanding universe hypothesis. Edwin Hubble, in 1920, provided evidence that the universe is expanding.