

ForumIAS

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Prelims Marathon

8th to 14th June,
2020

HISTORY
ECONOMICS
POLITY
SCIENCE AND TECHNOLOGY
GEOGRAPHY AND ENVIRONMENT

History

Q.1) Arrange the following events in chronological order:

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

Select the correct answer using the code given below:

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

ANS: B

Explanation:

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

Q.2) "*The Sepoy Mutiny and the Revolt of 1857*" book was written by which of the following?

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

ANS: A

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

Q.3) Consider the following statements regarding the **Polygar Rebellion:**

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

Which of the statements given above is/are correct?

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

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ANS: D

Explanation: Polygar Rebellions (1799-1805).

- **Polygars (Palaiyakkarars) were feudal lords who were appointed as military chiefs and administrative governors from the time of the Vijayanagara Empire in parts of Southern India.** (They were given the charge of a Palayam or a group of villages).
- It was the **Polygars who collected taxes** from the cultivators.
- But the East India Company came into conflict with the Polygars over the question of who should collect taxes, and sought to control the Polygars.
- The first rebellion, also called the **First Polygar War broke out in September 1799** in Tirunelveli district in modern Tamil Nadu.
- The Polygars were led by Kattabomma Nayak (also called Veerapandi Kattabomman) who was in charge of Panchalankurichi Palayam.
- In the battles with the British troops, Kattabomman initially escaped but was subsequently caught and publicly hanged as a warning to other Polygars.

Q.4) Consider the following statements regarding the **First Factory Act, 1881:**

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

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

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

ANS: C

Explanation: First Factory Act, 1881.

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

Q.5) Which of the following Governor-General of India has divided the **sources of revenue into three classes-Imperial, Provincial and Divided?**

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

ANS: B

Explanation: Lord Ripon.

- Lord Ripon in 1882 decided to transfer financial responsibility to the provinces. Accordingly he divided the resources of revenues into **three categories-Imperial, Provincial and Divided.**
- The **Imperial Heads of revenue were customs, salt and opium, posts and telegraph, mint** etc. These revenues were exclusively meant for the Central Government.

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- The **Provincial Head were receipts of general administration and included subjects like law and justice public works, education, police, jails etc.** The income from these sources was exclusively assigned to the provinces.
- In addition to this a percentage of land revenue was also assigned to the provinces by the Imperial Government.
- The **Divided Heads included excise, stamps, registration, forests, licenses etc.** The income from these heads was shared between the imperial and the Provincial Government.

Q.6) The **Curzon-Kitchener controversy** is related to which of the following?

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

ANS: A

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

Q.7) The British Indian Government introduced the **policy of Masterly Inactivity** is related to which of the following nation?

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

ANS: C

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

Q.8) Which of the following is/are correctly matched?

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

Select the correct answer using the code given below:

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

ANS: C

Explanation:

- **The depressed class mission: R V Shinde** was a prominent campaigner on behalf of the Dalit movement in India who established the Depressed Classes Mission of India to provide education to the Dalits. He laid the **foundation of Depressed Class Mission on 18 October 1906** in order to work against untouchability on the national level.

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- **Social Service League:** Narayan Malhar Joshi, a leading member of the Servants of India Society, founded the Social Service League in 1911.
- The objective of the movement was “to collect and study social facts and discuss social problems with a view to forming public opinion on questions of social service” and to secure for the masses a better quality of life and work.
- The League opened a number of day and night schools, libraries, dispensaries and started boys’ clubs and scouts corps.
- **Deccan Education Society:** Deccan education society is an organization which runs 43 education establishments in Maharashtra, Pune **founded by Bal Gangadhar Tilak**. It was created in the year 1884. The college was the first higher-education institution in Pune.

Q.9) Consider the following statements regarding the **Nagpur Session (1920)** of Indian National Congress (INC):

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

Which of the statements given above is/are correct?

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

ANS: C

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

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

Q.10) The **Gita Rahasya** book was written by which of the following?

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

ANS: A

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

Economy

Q.1) The term “**Invisible hand**” in economics is related to which of the following?

- a) Free market system
- b) Command market system
- c) Socialist market system
- d) Both B and C

ANS: A

Explanation: Invisible hand.

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

Q.2) Which of the following is/are characteristics of a **Public good**?

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

Select the correct answer using the code given below:

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

ANS: A

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

The characteristics of a public good:

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

Q.3) The term “**Adjusted Gross Revenue (AGR)**” often seen news is related to which of the following?

- a) Petroleum sector
- b) Banking sector

- c) Telecom sector
- d) Defense sector

ANS: C

Explanation: Adjusted Gross Revenue (AGR).

- The **telecom sector was liberalized under the National Telecom Policy, 1994** after which licenses were issued to companies in return for a fixed license fee.
- To **provide relief from the steep fixed license fee, the government in 1999 gave an option to the licensees to migrate to the revenue sharing fee model.**
- Under this, **mobile telephone operators were required to share a percentage of their AGR with the government as annual license fee (LF) and spectrum usage charges (SUC).**
- License agreements between the Department of Telecommunications (DoT) and the telecom companies define the gross revenues of the latter.
- AGR is then computed after allowing for certain deductions spelt out in these license agreements.
- **The LF and SUC were set at 8 per cent and between 3-5 per cent of AGR respectively, based on the agreement.**

Q.4) Consider the following statements regarding the **Systematically Important Core Investment Companies (CICs-ND-SI)**:

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

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

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

ANS: C

Explanation: Core Investment Companies.

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

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

Q.5) Which of the following is/are type/types of **External Benchmark Rates**?

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

Select the correct answer using the code given below:

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

ANS: C

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

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

Q.6) Which of the following are **instruments of Monetary Policy** of Reserve Bank of India (RBI)?

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

Select the correct answer using the code given below:

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

ANS: D

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

- **Repo Rate:** The (fixed) interest rate at which the Reserve Bank provides overnight liquidity to banks against the collateral of government and other approved securities under the liquidity adjustment facility (LAF).
- **Reverse Repo Rate:** The (fixed) interest rate at which the Reserve Bank absorbs liquidity, on an overnight basis, from banks against the collateral of eligible government securities under the LAF.
- **Marginal Standing Facility (MSF):** A facility under which scheduled commercial banks can borrow additional amount of overnight money from the Reserve Bank by dipping into their Statutory Liquidity Ratio (SLR) portfolio up to a limit at a penal rate of interest. This provides a safety valve against unanticipated liquidity shocks to the banking system.

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- **Corridor:** The MSF rate and reverse repo rate determine the corridor for the daily movement in the weighted average call money rate.
- **Bank Rate:** It is the rate at which the Reserve Bank is ready to buy or rediscount bills of exchange or other commercial papers. The Bank Rate is published under Section 49 of the Reserve Bank of India Act, 1934. This rate has been aligned to the MSF rate and, therefore, changes automatically as and when the MSF rate changes alongside policy repo rate changes.
- **Cash Reserve Ratio (CRR):** The average daily balance that a bank is required to maintain with the Reserve Bank as a share of such per cent of its Net demand and time liabilities (NDTL) that the Reserve Bank may notify from time to time in the Gazette of India.
- **Statutory Liquidity Ratio (SLR):** The share of NDTL that a bank is required to maintain in safe and liquid assets, such as, unencumbered government securities, cash and gold. Changes in SLR often influence the availability of resources in the banking system for lending to the private sector.
- **Open Market Operations (OMOs):** These include both, outright purchase and sale of government securities, for injection and absorption of durable liquidity, respectively.
- **Market Stabilization Scheme (MSS):** This instrument for monetary management was introduced in 2004. Surplus liquidity of a more enduring nature arising from large capital inflows is absorbed through sale of short-dated government securities and treasury bills. The cash so mobilized is held in a separate government account with the Reserve Bank.

Q.7) Consider the following statements regarding the **Negative Rate Policy**:

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

Which of the statements given above is/are correct?

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

ANS: A

Explanation: Negative rate policy.

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

Q.8) Which of the following parameters are consists of **International Monetary Fund (IMF) Quota Formula**?

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

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Select the correct answer using the code given below:

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

ANS: C

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

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

Q.9) Which of the following are **pillars of Index of Economic Freedom**?

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

Select the correct answer using the code given below:

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

ANS: D

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

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

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

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

Q.10) Consider the following statements regarding the **Economic Census**:

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

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Which of the statements given above is/are correct?

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

ANS: B

Explanation: Economic Census.

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

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

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Polity

Q.1) With respect to World Economic Forum's Global Gender Gap Report 2020, India has improved its ranking in which of the following indicators?

- Political Empowerment
- Health and survival
- Educational attainment
- Economic participation

ANS: A

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

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

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

Q.2) Consider the following statements regarding the **Commission on the Status of Women (CSW)**:

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

Which of the statements given above is/are correct?

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

ANS: D

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

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

Q.3) Consider the following statements regarding the provisions of the **Protection of Children from Sexual Offences (POCSO) Act**:

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

Which of the statements given above is/are correct?

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

ANS: B

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

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

- The **Act defines a child as any person below eighteen years of age** and regards the best interests and well-being of the child as being of paramount importance at every stage, to ensure the healthy physical, emotional, intellectual and social development of the child.
- It **defines different forms of sexual abuse**, including penetrative and non-penetrative assault, as well as sexual harassment and pornography, and deems a sexual assault to be “aggravated” under certain circumstances, such as when the abused child is mentally ill or when the abuse is committed by a person in a position of trust or authority vis-à-vis the child, like a family member, police officer, teacher, or doctor
- It also **seeks to establish Special Courts for speedy trial** of such offences. The Act stipulates that a case of Child Sexual Abuse must be disposed of within one year from the date the offence is reported.
- It also **provides for relief and rehabilitation of the child**, as soon as the complaint is made. The Special Juvenile Police Unit or the local police are also required to report the matter to the Child Welfare Committee within 24 hours of recording the complaint, for long term rehabilitation of the child.
- It is **gender neutral law**, wherein the law takes cognizance of sexual crimes committed against both girls and boys under the age of 18 years.
- It **does not recognize consensual sexual acts among children or between a child and an adult**. Prosecutes any person (including a child) for engaging in a sexual act with a child irrespective of whether the latter consented to it.

Q.4) The “**Hague Convention**” is related to which of the following?

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

ANS: A

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

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

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

Q.5) NATIONAL LEGAL SERVICES AUTHORITY (NALSA) VS UNION OF INDIA case is related to which of the following?

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

ANS: C

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

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

Q.6) The term “**Bandicoot**” is related to which of the following?

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

ANS: B

Explanation: **Bandicoot is a robotic system for manhole and sewer line cleaning** aimed at the complete elimination of manual scavenging from the face of earth. The **Greater Hyderabad Municipal Corporation (GHMC) in 2019 procured a 'Bandicoot'**, which would help end the practice of manual scavenging.

Q.7) The “**Ananthsayanam Ayyangar Committee, Justice Venkatchaliah Commission, Balkrishna Sidke Renke and Idate Commission**” related to which of the following?

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

ANS: A

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

- The **Ananthsayanam Ayyangar Committee** (gave a comprehensive report on how CTA worked throughout India), the CTA was repealed in August 1949 and former

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“criminal tribes” were de-notified in 1952, when the Act was replaced with the Habitual Offenders Act, 1952 of Government of India.

- In 2002, **Justice Venkatchaliah Commission** recommended for strengthening the programmes for economic and educational development of De-Notified Tribes (DNTs).
- National Commission for De-notified Nomadic and Semi-Nomadic Tribes was constituted in 2005 under the **chairmanship of Balkrishna Sidke Renke**, to study the socio-economic conditions of these groups.
- Another National Commission for De-notified Nomadic and Semi-Nomadic Tribes chaired by **Bhiku Ramji Idate** was constituted in 2015 for a three-year period. It submitted its report viz “Voices of the Denotified, Nomadic & SemiNomadic Tribes” in 2018.

Q.8) Consider the following statements regarding the **Higher Education Financing Agency (HEFA)**:

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

Which of the statements given above is/are correct?

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

ANS: B

Explanation: The Higher Education Financing Agency (HEFA).

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

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

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

- An amount corresponding to 10% of the Government equity would be contributed by the partner institution, Canara Bank.
- All Centrally Funded Educational Institutions in **Higher Education, School Education and Medical Education sectors are eligible** to avail of loans through HEFA.

Q.9) Consider the following statements regarding the objectives of **Revitalizing Infrastructure and Systems in Education (RISE) by 2022**:

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

Which of the statements given above is/are correct?

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

d) 1, 2 and 3

ANS: B

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

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

Q.10) Consider the following statements regarding the report “**Healthy States, Progressive India**”:

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

Which of the statements given above is/are correct?

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

ANS: B

Explanation: The report “Healthy States, Progressive India”.

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

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

Science and technology

Q.1) Which of the following is/are cause/causes for the **formation of rainbow**?

1. Reflection
2. Refraction
3. Dispersion

Select the correct answer using the code given below:

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

ANS: D

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

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

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

Q.2) The Government of India launched a prestigious programme “**National Optical Fibre Network (NOFN)**” to provide broadband services to rural areas. On which principle the optical fibre works?

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

ANS: B

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

Q.3) Which of the following statements is/are correct about **double rainbow**?

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

Select the correct answer using the code given below:

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

d) Neither 1 nor 2

ANS: C

Explanation: Double rainbow.

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

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

Q.4) Which of the following is/are **sources of cadmium emissions** to air?

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

Select the correct answer using the code given below:

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

ANS: D

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

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

Q.5) Consider the following statements regarding the **gas hydrates**:

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

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Gas hydrates.

- Gas hydrates are formed when a gas such as **methane gets trapped in well-defined cages of water molecules** forming crystalline solids.
- In terrestrial conditions, **gas hydrates are formed naturally under the sea bed and glaciers** under high pressure, low temperature conditions. Methane hydrate is a potential source of natural gas.

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- Researchers at **Indian Institute of Technology (IIT) Madras** have experimentally shown that methane and carbon dioxide (CO₂) can exist as gas hydrates at temperatures and pressures seen in interstellar atmosphere.
- The methane and CO₂ hydrates were produced in the lab at very low pressures (ten thousand billionth of atmospheric pressure) and temperature (as low as -263 degree C) to simulate the conditions of deep space.

Q.6) The term “**Botulinum**” is related to which of the following?

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

ANS: A

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

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

Q.7) Consider the following statements regarding the **Gluten**:

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

Which of the statements given above is/are correct?

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

ANS: B

Explanation: Gluten.

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

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

- **Grains:** whole wheat, wheat bran, barley, rye, triticale, spelt, kamut, couscous, farro, semolina, bulgur, farina, einkorn, durum, wheat germ, cracked wheat, matzo, mir (a cross between wheat and rye)

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- **Processed grain-based products:** crackers, bread, breadcrumbs, pasta, seitan, wheat-containing soba noodles, some veggie burgers, cookies, pastries
- **Other foods and beverages:** barley malt, malt vinegar, soy sauce, certain salad dressings, sauces or gravies thickened with flour, bouillon and some broths, certain spice blends, flavored chips, beer, certain kinds of wine

Q.8) Which of the following is/are **Old World Monkeys**?

1. Tamarins
2. Macaques
3. Baboons

Select the correct answer using the code given below:

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

ANS: C

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

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

Q.9) Which of the following ape shares 99% of its DNA with **human DNA**?

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

ANS: A

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

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

Q.10) Consider the following statements regarding the **Measles**:

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

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Which of the statements given above is/are correct?

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

ANS: C

Explanation: Measles.

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

Geography

Q.1) Which of the following factors are affecting the **ocean salinity**?

1. Evaporation
2. Freezing of Ice
3. Rivers
4. Wind flow

Select the correct answer using the code given below:

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

ANS: D

Explanation: All waters in nature, whether rain water or ocean water, contain dissolved mineral salts. Salinity is the term used to define the total content of dissolved salts in sea water. Factors affecting ocean salinity are mentioned below:

- The salinity of water in the surface layer of oceans depends mainly on **evaporation and precipitation**.
- Surface salinity is greatly influenced in coastal regions by the **fresh water flow from rivers**, and in **Polar Regions by the processes of freezing and thawing of ice**.
- **Wind**, also influences salinity of an area by transferring water to other areas.
- The **ocean currents** contribute to the salinity variations. Salinity, temperature and density of water are interrelated. Hence, any change in the temperature or density influences the salinity of water in an area.

Q.2) Arrange the following **reservoirs of water on earth's surface** in ascending order of their percentage?

1. Oceans
2. Ice caps
3. Lakes
4. Streams and Rivers

Select the correct answer using the code given below:

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

ANS: B

Explanation: About 71 per cent of the planetary water is found in the oceans. The remaining is held as freshwater in glaciers and icecaps, groundwater sources, lakes, soil moisture, atmosphere, streams and within life.

Table 13.1 : Water on the Earth's surface

<i>Reservoir</i>	<i>Volume (Million Cubic km)</i>	<i>Percentage of the Total</i>
Oceans	1,370	97.25
Ice Caps and Glaciers	29	2.05
Groundwater	9.5	0.68
Lakes	0.125	0.01
Soil Moisture	0.065	0.005
Atmosphere	0.013	0.001
Streams and Rivers	0.0017	0.0001
Biosphere	0.0006	0.00004

Q.3) Consider the following statements regarding the **Storm Surge**:

1. Storm surge is the abnormal rise in seawater level during a storm, measured as the height of the water above the normal predicted astronomical tide.
2. The amplitude of the storm surge at any given location depends on the orientation of the coast line with the storm track, the intensity, size, speed of the storm, and the local bathymetry.

Which of the statements given above is/are correct?

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

ANS: C

Explanation: Storm Surge.

- Storm surge is the **abnormal rise in seawater level during a storm**, measured as the height of the water above the normal predicted astronomical tide.
- The surge is caused primarily by a storm's winds pushing water onshore.
- The amplitude of the storm surge at any given location **depends on the orientation of the coast line with the storm track**;
- The **intensity, size, and speed of the storm**; and the **local bathymetry**.

Q.4) Consider the following statements regarding the **Sponges**:

1. Sponges are complex, many-celled organisms.
2. While most sponges are found in the ocean, numerous species are also found in fresh water and estuaries.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: Sponges have been around for a very long time, with certain species having a fossil record that dates back approximately 600 million years to the earliest (Precambrian) period of Earth's history.

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The approximately 8,550 living sponge species are scientifically classified in the phylum Porifera, which is comprised of four distinct classes:

- the Demospongiae (the most diverse, containing 90 percent of all living sponges),
- Hexactinellida (the rare glass sponges),
- Calcarea (calcareous sponges), and
- Homoscleromorpha (the rarest and simplest class, only recently recognized, with approximately 117 species).

While sponges, like corals, are immobile aquatic invertebrates, they are otherwise completely different organisms with distinct anatomy, feeding methods, and reproductive processes. The main differences are:

- Corals are complex, many-celled organisms. **Sponges are very simple creatures with no tissues.**
- All corals require saltwater to survive. **While most sponges are found in the ocean, numerous species are also found in fresh water and estuaries.**

Q.5) Consider the following statements regarding the **Oceanic Rossby Waves**:

1. Oceanic Rossby Waves are fast moving waves.
2. Oceanic Rossby Waves stretch horizontally across the planet for hundreds of kilometers in eastward direction.

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

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

ANS: C

Explanation: Oceanic and atmospheric Rossby waves — also known as planetary waves — naturally occur largely due to the Earth's rotation. These waves affect the planet's weather and climate.

- Waves in the ocean come in many different shapes and sizes.
- **Slow-moving oceanic Rossby waves** are fundamentally different from ocean surface waves.
- Unlike waves that break along the shore, **Rossby waves are huge, undulating movements of the ocean that stretch horizontally across the planet for hundreds of kilometers in a westward direction.**
- They are so large and massive that they can change Earth's climate conditions.
- Along with rising sea levels, King Tides, and the effects of El Niño, oceanic Rossby waves contribute to high tides and coastal flooding in some regions of the world.

Q.6) The **Forchhammer's Principle** is related to which of the following?

- a) Ocean composition
- b) Population density
- c) Typhoon study
- d) None

ANS: A

Explanation: In 1865, the Danish geologist and mineralogist Johan Georg Forchhammer, with the help of naval and civilian collaborators, collected numerous samples of seawater from the Northern Atlantic and the Arctic Ocean. **He wanted to determine why the salinity (or "saltiness") of seawater varies in different areas of the ocean.**

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- Forchhammer put the samples through a detailed series of chemical analyses and found that the proportions of the major salts in seawater stay about the same everywhere.
- This constant ratio is known as Forchhammer's Principle, or the Principle of Constant Proportions.
- In addition to this principle, Forchhammer is credited with defining the term salinity to mean the concentration of major salts in seawater.
- Forchhammer's discovery helped scientists understand that salinity levels in seawater vary due to the addition or removal of fresh water, rather than differing amounts of salt minerals in the water.
- The principle is still applied today in marine research, and provides a simple way to estimate salinity and trace the mixing of water masses in the global ocean.

Q.7) With respect to the growth of the population 2010-15 over 1990-95, which region increasing its population growth?

- a) Asia
- b) Africa
- c) Europe
- d) North America

ANS: B

Explanation: Population growth in different parts of the world can be compared. The growth of population is low in developed countries as compared to developing countries. There is negative correlation between economic development and population growth.

Table 2.3: Growth of Population 2010-15 over 1990-95

Region	Growth Rate	
	1990-95	2010-15
World	1.6	1.2
Africa	2.4	2.6
Europe	0.2	0.1
North America	1.4	0.8
Latin America & Caribbean	1.7	1.1
Asia	1.6	1.0
Oceania (Australia, New Zealand and Fiji)	1.5	1.5

Q.8) Which of the following tribe/tribes is/are practices the **transhumance behavior**?

1. Gujars
2. Changpas
3. Bakarwals

Select the correct answer using the code given below:

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

ANS: D

Explanation: The transhumant system is prevalent in the Himalayas, where there are several nomadic tribes, such as the **Gujars, Bakarwals, Gaddis and Changpas**, who rear sheep and goats under this system.

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- The **animals are moved to subalpine and alpine pastures during summer, while during winter they are grazed on adjoining plains.**
- The scale of this enterprise is widespread and is practised by a variety of farmers, including landless and marginal farmers, who have adopted this profession for earning a livelihood.
- Sale of wool and live animals for meat is their only source of income. **The transhumant system is practised in order to locate the best herbage resources from pastures and grasslands.**
- There are also well recognized pastoral tribes who practise a complete transhumance, moving from one place to another on traditional migratory routes.
- The dates of migration have traditionally been fixed. Even grazing rights rest with the migratory graziers by traditional usage, though they do not hold proprietary rights over the land.
- The transhumant system is prevalent in the Himalayan region. However, **this system still exists in some states situated in the plains, such as Rajasthan, Madhya Pradesh, Tamil Nadu, Gujarat and Uttar Pradesh.**

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

Slash and burn agriculture	Region
1. Jhumming	: North-east India
2. Milpa	: Indonesia and Malaysia
3. Ladang	: Mongolia and northern China

Select the correct answer using the code given below:

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

ANS: A

Explanation: Primitive subsistence agriculture or shifting cultivation is widely practised by many tribes in the tropics, especially in Africa, south and Central America and south East Asia.

The **vegetation is usually cleared by fire, and the ashes add to the fertility of the soil. Shifting cultivation is thus, also called slash and burn agriculture.**

It is prevalent in tropical region in different names, e.g. **Jhuming in North eastern states of India, Milpa in Central America and Mexico and Ladang in Indonesia and Malaysia.**

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

- a) Subsistence farming
- b) Collective farming
- c) Contract farming
- d) None

ANS: B

Explanation: Collective farming.

- The basic principle behind collective farming is based on social ownership of the means of production and collective labour.
- **Collective farming or the model of Kolkhoz** was introduced in erstwhile Soviet Union to improve upon the inefficiency of the previous methods of agriculture and to boost agricultural production for self-sufficiency.
- The farmers used to pool in all their resources like land, livestock and labour.

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Q.11) Arrange the following **hill ranges** from **South to North**:

1. Balaghat range
2. Harischandra range
3. Satpura range
4. Vindhya range

Select the correct answer using the code given below:

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

ANS: A

Explanation:



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Q.12) Which of the following city is **farthest city to 80° E longitude** in India?

- a) Kanpur
- b) Jabalpur
- c) Chennai
- d) Hyderabad

ANS: D

Explanation: 80° E longitude passes near through Kanpur (UP), Jabalpur (MP), Nellore in Andhra Pradesh and Chennai in Tamil Nadu.



Q.13) Which of the following **National Parks** is/are located in **Andaman and Nicobar Islands**?

- 1. Galathea Bay National Park
- 2. Rani Jhansi National Park
- 3. Indira Gandhi National Park

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Select the correct answer using the code given below:

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

ANS: B

Explanation: National Parks in Andaman & Nicobar Islands.

Andaman Nicobar Islands

Protected Area Gazette Notification Database (Andaman Nicobar Islands)

National Park

S.No.	Name of Protected Area
1	Campbell Bay NP
2	Galathea Bay NP
3	Mahatama Gandhi Marine (Wandoor) NP
4	Middle Button Island NP
5	Mount Harriett NP
6	North Button Island NP
7	Rani Jhansi Marine NP
8	Saddle Peak NP
9	South Button Island NP

NOTE: Indira Gandhi (Annamalai) National Park located in Tamil Nadu.

Q.14) Arrange the following **National Parks** in India from **West to East**:

- 1. Dinosaur Fossil National Park
- 2. Black Buck National Park
- 3. Guru Ghasidas National Park
- 4. Betla National Park

Select the correct answer using the code given below:

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

ANS: A

Explanation:

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Black Buck National Park is located in Gujarat; Dinosaur Fossil National Park is located in Madhya Pradesh, Guru Ghasidas National Park located in Chhattisgarh and Betla National Park is located in Jharkhand.

Q.15) Arrange the following **Indus Valley Civilization** sites from **North to South**:

1. Ropar
2. Kalibangan
3. Dholavira
4. Kuntasi

Select the correct answer using the code given below:

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

ANS: C

Explanation: Ropar is located in Punjab, Kalibangan in Rajasthan, Dholavira and Kuntasi both located in Gujarat.



Q.16) Which of the following countries is/are sharing border with **Aral Sea**?

1. Kazakhstan
2. Kyrgyzstan
3. Uzbekistan

Select the correct answer using the code given below:

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

ANS: C

Explanation: Positioned in far-western Asia, just to the east of the Caspian Sea, the Aral Sea is located in the countries of Kazakhstan and Uzbekistan.



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Q.17) Arrange the following **Islands of South China Sea** from **South to North**:

1. Parcels Islands
2. Scarborough Shoal Islands
3. Spratlys Islands

Select the correct answer using the code given below:

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

ANS: D

Explanation: Tensions between China and both the Philippines and Vietnam have recently cooled, even as China increased its military activity in the South China Sea by conducting a series of naval maneuvers and exercises in March and April 2018. Meanwhile, China continues to construct military and industrial outposts on artificial islands it has built in disputed waters.



Q.18) Arrange the following **Islands of Indian Ocean** from **West to East**:

1. Seychelles
2. Assumption Island
3. Agalega Island
4. Diego Garcia

Select the correct answer using the code given below:

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

ANS: B

Explanation: The Indian Ocean is the world's third largest ocean and covers 70,560,000 km². Three continents have coastlines on the Indian Ocean; these are Asia, Africa, and Australia to the north, west, and east respectively. The Indian Ocean meets the Southern Ocean to the south. The Indian Ocean is home to hundreds of islands. Six

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island nations are located in the Indian Ocean, namely Comoros, Madagascar, Maldives, Mauritius, Seychelles, and Sri Lanka.



Q.19) Which of the following are **observer countries of Arctic council**?

1. India
2. China
3. Germany
4. Portugal
5. Austria

Select the correct answer using the code given below:

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

ANS: C

Explanation: The Arctic Council calls itself “the **leading intergovernmental forum**” for discussing and addressing issues concerning the Arctic region, including scientific research, and peaceful and sustainable use of resources in the region.

- The Council was established by the **eight Arctic States** — the countries whose territories fall in the Arctic region — through the **Ottawa Declaration of 1996**.
- The eight Arctic States — **Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States** — are the only members of the Arctic Council.
- **India** had been given the Observer status in 2013, along with five other countries — **China, Italy, Japan, South Korea, and Singapore**.

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- Prior to this group, only **France, Germany, the Netherlands, Poland, Spain and the United Kingdom** were granted Observer status. In 2017, **Switzerland too became an Observer.**

Q.20) Consider the following statements regarding the **Majuli Island**:

1. Majuli Island is largest river island in world and first island district of the country.
2. It is formed by Brahmaputra River in south and Kherkutia Xuti, another branch of Brahmaputra, joined by Dihang River in north.
3. The island is inhabited by Mising tribes, Deori and Sonowal Kachri tribes.

Which of the statements given above is/are correct?

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

ANS: B

Explanation: The World Records has declared Majuli in Assam as the largest river island in the world. It has toppled Marajo in Brazil to clinch the record. The beautiful river island is situated on the Brahmaputra River.



Here is all that you should know about Majuli:

1. It is formed by Brahmaputra River in the south and Kherkutia Xuti, an anabranch of the Brahmaputra, joined by the Subansiri River in the north.
2. The island is inhabited by Mising tribes, Deori and Sonowal Kachri tribes.
3. The people of the island speak Mising, Assamese and Deori language.
4. It covers an area of around 880 sq km.
5. It is one of the important tourist destinations of Assam.
6. Due to the frequent flooding of the Brahmaputra River, Majuli suffers heavy erosion. In the last 30-40 years it is estimated that it has lost about one third of its area.
7. It is home to about 1,60,000 people.
8. It is the hub of Assamese neo-Vaishnavite culture.
9. It was recently declared a district and was earlier a subdivision under Jorhat district.
10. It has been included in the tentative list of World Heritage Site by UNESCO.

Environment

Q.1) The concept of “**common but differentiated responsibility (CBDR)**” is enshrined in which of the following?

- Rio Earth Summit
- Kyoto Protocol
- Convention on Biological Diversity (CBD)
- World Summit on Sustainable Development

ANS: A

Explanation: The concept of **Common But Differentiated Responsibilities (CBDR)** was enshrined as **Principle 7 of the Rio Declaration at the first Rio Earth Summit in 1992.**

The declaration states:

- “In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities.
- The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.”

Q.2) Which of the following **Greenhouse Gases** are covered under **Kyoto Protocol**?

- Carbon Dioxide
- Methane
- Water Vapour
- Particulate matter
- Sulphur hexafluoride

Select the correct answer using the code given below:

- 1, 2 and 3 only
- 1, 2, 3, 4 and 5
- 1, 2 and 5 only
- 1, 2, 3 and 5 only

ANS: C

Explanation: The targets for the first commitment period of the Kyoto Protocol cover emissions of the six main greenhouse gases, namely:

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous Oxide (N₂O)
- Hydro-fluorocarbons (HFCs)
- Per-fluorocarbons (PFCs) and
- Sulphur hexafluoride (SF₆).

Q.3) The term “**MARKAL model**” is related to which of the following?

- Ozone depletion measurement
- Sustainable agriculture practices
- Energy efficiency
- None

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ANS: C

Explanation: MARKAL computes **energy balances at all levels of an energy system:** primary resources, secondary fuels, final energy, and energy services.

- The model aims to **supply energy services at minimum global cost** by simultaneously making equipment investment and operating decisions and primary energy supply decisions, by region.
- For example, in MARKAL, if there is an increase in residential lighting energy service (perhaps due to a decline in the cost of residential lighting), either existing generation equipment must be used more intensively or new equipment must be installed.
- The choice of generation equipment (type and fuel) incorporates analysis of both the characteristics of alternative generation technologies and the economics of primary energy supply.
- MARKAL is thus a vertically integrated model of the entire energy system.

Q.4) “The Future We Want” document is the outcome document of which of the following?

- a) Rio summit
- b) Rio+ 20 summit
- c) Paris summit
- d) World Summit on Sustainable Development

ANS: B

Explanation: The General Assembly, Recalling its resolution 64/236 of 24 December 2009, in which it decided to organize the United Nations Conference on Sustainable Development at the highest possible level in 2012, as well as its resolution 66/197 of 22 December 2011.

- Expresses its profound gratitude to the Government and the people of Brazil for hosting the **United Nations Conference on Sustainable Development in Rio de Janeiro (RIO+20 summit)** from 20 to 22 June 2012, and for providing all the necessary support.
- Endorses the outcome document of the United Nations Conference on Sustainable Development, entitled "**The future we want**", annexed to the present resolution.

Q.5) Consider the following statements regarding the Agasthyamalai Mountain region:

1. The region receives precipitation from both the southwest and northeast monsoons.
2. It is a Sacred Mountain.
3. The eastern side of Agasthyamalai is composed of the Kalakad Mundanthurai Tiger Reserve (KMTR).

Which of the statements given above is/are correct?

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

ANS: D

Explanation: The Agasthyamalai Mountain falls in the Tirunelveli and Kanyakumari districts of Tamil Nadu and the Kollam and Thiruvananthapuram districts of Kerala.

- It is a **Sacred Mountain and pilgrim centre**, where devotees come to worship sage Agasthya. Agasthya was a Dravidian sage, and is considered to be one of the seven rishis (saptarishi) of Hindu mythology. The Tamil language is considered to be a boon from Agasthya. There is a statue of Agasthya at the top of the peak and the devotees can render poojas themselves.

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- The Agasthyamalai region constitutes an extensive and compact tract of forest-clad mountains and plays a very important role as a watershed and repository of biodiversity. The **region receives precipitation from both the southwest and northeast monsoons** and has a very short dry season of less than 2-3 months duration.
- Agasthyamalai is one of the few safest homes in Western Ghats for many endemic animals such as Lion -Tailed Macaque, Nilgiri Langur, Brown Palm Civet, Malabar Spiny Dormouse, Nilgiri Marten and Nilgiri Tahr. The **eastern side of Agasthyamalai is composed of the Kalakad Mundanthurai Tiger Reserve (KMTR)**, a 900 sq km. protected area.

Q.6) Consider the following statements regarding the **Indian pangolin**:

1. It has sticky tongue, which is longer than its body, is specially adapted for reaching and lapping up insects in deep crevices.
2. It is listed as vulnerable on IUCN Red List.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: Indian pangolin.

Statement 1 is correct: Of the eight extant species of pangolin, the Indian Pangolin *Manis crassicaudata* and Chinese Pangolin *M. pentadactyla* occur in India. Indian Pangolin is a large anteater covered dorsally by 11-13 rows of scales.

- The adult male is about one-third larger than the female. A terminal scale is also present on the ventral side of the tail of the Indian Pangolin, which is absent in the Chinese Pangolin.
- Its sticky tongue, which is longer than its body, is specially adapted for reaching and lapping up insects in deep crevices.
- To tear open the anthills or termite mounds, it uses the powerful forelimbs that are armed with three disproportionately long claws. In sharp contrast, the hind legs have tough soles and short, blunt nails on the five toes.

Statement 2 is incorrect: Listed in Schedule I of Wildlife (Protection) Act, 1972 and as Endangered on IUCN Red List.

Q.7) Recently India, with the help of Bangladesh and Nepal, is **engaged in a tough battle with CITES forum to delist which of the following from the list of threatened varieties?**

- a) Sandalwood
- b) Teakwood
- c) Rosewood
- d) Sal wood

ANS: C

Explanation: India, with the help of Bangladesh and Nepal, is engaged in a tough battle at the forum for international trade for endangered species to de-list '**Dalbergia sisoo**', **commonly known as rosewood or sheesham**, from the list of threatened varieties in order to protect the livelihood of handicraft manufacturers and farmers in the Sub-continent.

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- The Ministry has submitted a proposal to CITES based on Non Detrimental Finding (NDF) study carried out by Botanical Survey of India, which shows that **Dalbergia sissoo** does not fall into any threatened category and is available in abundance both in wild and cultivated populations.
- Moreover, the species grows at a very fast rate and has the capacity to become naturalized outside its native range.

Q.8) Consider the following statements regarding the **Tokay Gecko (Gekko gekko)**:

1. It is endemic to North-east region of India.
2. It is listed in Appendix - I of Convention on International Trade in Endangered Species (CITES).

Which of the statements given above is/are correct?

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

ANS: D

Explanation: Tokay Gecko (Gekko gekko).

Statement 1 is incorrect: The Tokay Gecko (Gekko gekko) is one of the largest geckos in the country and the world; at about 15 inches the males are gigantic. **This is a nocturnal arboreal gecko, ranging from northeast India, to Nepal and Bangladesh, throughout Southeast Asia, Philippines to Indonesia and western New Guinea.** They are very colorful lizards too.

Statement 2 is incorrect: The Tokay gecko (Gekko gekko) was included for the **first time under Appendix II of CITES** at the Conference of the Parties (CoP18) to the convention. The gecko is used in Chinese traditional medicine and traded throughout south-east Asia in dried form or preserved in alcohol.

Q.9) Which of the following **specie/species** is/are covered under IUCN (Critically Endangered) category, Appendix I of CITES and Schedule I of the Indian Wildlife (Protection) Act, 1972?

1. Asian Elephant
2. Great Indian Bustard
3. Bengal Florican

Select the correct answer using the code given below:

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

ANS: C

Explanation: Asian Elephant: It is found in India, Nepal, Bangladesh, Bhutan and Myanmar. **IUCN status of Asian Elephant is Endangered.** It is also listed in **Appendix I** of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and **Schedule I** of the Wildlife (Protection) Act, 1972.

Great Indian Bustard: It is one of the heaviest flying birds in the world. Its largest populations are found in the Indian state of Rajasthan. It is state bird of Rajasthan. It is listed as **'Critically Endangered'** on the IUCN Red List. It is also listed in **Appendix I** of CITES and **Schedule I** of the Indian Wildlife (Protection) Act, 1972.

Bengal Florican: In India it is found in Uttar Pradesh, Assam and Arunachal Pradesh. It has been listed as '**Critically Endangered**' on the IUCN Red List. The bird is listed under **Schedule I** of the Wildlife Protection Act of India, 1972 and **Appendix I** of CITES.

Q.10) Consider the following statements regarding the **European Union Green Deal**:

1. The EU will aim to reach net-zero greenhouse gas emissions by 2050.
2. A new circular economy action plan will be tabled in March 2020, as part of a broader EU industrial strategy.
3. Renovation rate of buildings at double or triple times.

Select the correct answer using the code given below:

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

ANS: D

Explanation: European Commission president Ursula von der Leyen outlined the European Green Deal on Wednesday, vowing to "leave no-one behind" in the race to achieve a climate neutral economy by 2050. "This is Europe's man on the moon moment," she said in a video statement. "Our goal is to reconcile the economy with our planet" and "to make it work for our people," she added, describing climate policy as Europe's new growth strategy.

Here are the main points in the commission plan:

- **'Climate neutral' Europe:** This is the overarching objective of the European Green Deal. The EU will aim to reach net-zero greenhouse gas emissions by 2050, a goal that will be enshrined in a 'climate law' to be presented in March 2020.
- **Circular economy:** A new circular economy action plan will be tabled in March 2020, as part of a broader EU industrial strategy. It will include a sustainable product policy with "prescriptions on how we make things" in order to use less materials, and ensure products can be reused and recycled.
- **Building renovation:** This is meant to be one of the flagship programmes of the Green Deal. The key objective there is to "at least double or even triple" the renovation rate of buildings, which currently stands at around 1%.
- **Zero-pollution:** Whether in air, soil or water, the objective is to reach a "pollution-free environment" by 2050. New initiatives there include a chemical strategy for a "toxic-free environment".
- **Ecosystems & biodiversity:** A new biodiversity strategy will be presented in March 2020, in the run-up to a UN biodiversity summit taking place in China in October. "Europe wants to lead by example" with new measures to address the main drivers of biodiversity loss. That includes measures to tackle soil and water pollution as well as a new forest strategy.
- **Farm to fork strategy:** To be tabled in spring 2020, the new strategy will aim for a "green and healthier agriculture" system. This includes plans to "significantly reduce the use of chemical pesticides, fertilisers and antibiotics".
- **Transport:** One year after the EU agreed new CO₂ emission standards for cars, the automotive sector is once again in the commission's firing line. The current objective is to reach 95gCO₂/km by 2021.
- **Money:** To "leave no-one behind," the commission proposes a 'Just Transition Mechanism' to help regions most heavily dependent on fossil fuels. "We have the ambition to mobilise €100 billion precisely targeted to the most vulnerable regions and sectors".