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CORRIGENDUM OF ALL INDIA MOCK TEST 2

Q.No.18) Which of the following scenarios could lead to the imposition of President's Rule under Article 356 of the Indian Constitution ?

1. A situation where a State government fails to implement directives issued by the Union government under constitutional provisions.
2. The occurrence of widespread internal disturbances within a State that do not amount to armed rebellion but are beyond the State's control.
3. A prolonged disagreement between the Governor and the Chief Minister of a State regarding policy matters, leading to administrative deadlock.
4. The inability of a newly elected State legislative assembly to form a stable government within a reasonable timeframe after elections.

Select the correct answer using the codes given below :

(a) 1 and 4 only

(b) **1, 2 and 4 only**

(c) 4 only

(d) 3 and 4 only

EXPLANATION:

A situation where a State government fails to implement directives issued by the Union government under constitutional provisions. This is a valid ground for imposing President's Rule. Article 365 states that if any State has failed to comply with, or to give effect to, any directions given in the exercise of the executive power of the Union, it shall be lawful for the President to hold that a situation has arisen in which the government of the State cannot be carried on in accordance with the provisions of this Constitution. **So, Statement 1 is correct.**

According to Article 355, it shall be the duty of the Union to protect every State against external aggression and internal disturbance and to ensure that the Government of every State is carried on in accordance with the provisions of this Constitution.

Therefore, when widespread internal disturbances occur within a State that do not amount to armed rebellion but are beyond the State's control, the President rule can be imposed as per Article 356 to protect the State from disturbances. **So, Statement 2 is correct.**

Based on the report of the Sarkaria Commission on Centre-state Relations (1988), the Supreme Court in the Bommai case (1994) enlisted the situations where the exercise of power under Article 356 could be proper or improper.

- When the President rule is imposed following a prolonged disagreement between the Governor and the Chief Minister of a State regarding policy matters, which leads to an administrative deadlock, this situation is recognzzized as the improper use by the Supreme Court in the Bommai case (1994) and

various judgements. Therefore, this situation will not lead to the imposition of President's Rule under Article 356 of the Indian Constitution. **So, Statement 3 is not correct.**

- When President rule is imposed after general elections to the assembly, no party secures a majority to form a stable government within a reasonable timeframe after elections. This situation is recognized as proper by the Supreme Court. This scenario could lead to the imposition of President's Rule under Article 356 of the Indian Constitution.

Articles 356 and 365 of the Indian Constitution both deal with presidential intervention in a state's governance, but they are triggered by different circumstances. Article 356 permits the imposition of President's Rule when there is a failure of constitutional machinery in a state, whereas Article 365 enables such intervention if a state fails to comply with the directions issued by the central government.

So, Statement 4 is correct.

Updated explanation:

Q.NO-5 -With reference to off-budget borrowings by the Indian Government, how many of the following statements is/are correct?

1. These loans are not taken by the Centre directly, but by another public institution that borrows on the directions of the central Government.
2. These loans are included in the national fiscal deficit.
3. These borrowings can be used to fund both capital and revenue expenditure.

Select the correct answer using the code given below.

(a) Only one

(b) **Only two**

(c) All three

(d) None

EXPLANATION:

Off-budget borrowings are loans that are taken not by the Centre directly but by another public institution that borrows on behalf of the central Government or state government. Such borrowings are used to fulfil the Government's expenditure needs.

- However, since the liability for the loan is not formally on the Centre, the loan is not included in the national fiscal deficit. This helps keep the country's fiscal deficit within acceptable limits. **So, Statement 1 is correct, and Statement 2 is not correct.**

According to the Comptroller and Auditor General (CAG), off-budget borrowings are usually used for capital expenditure, as they allow flexibility in funding capital-intensive projects. However, in recent times, the tool has been increasingly used not only for capital but also for revenue expenditure. These expenditures are excluded from official fiscal calculations, despite their significant fiscal implications, thereby distorting the actual fiscal position of the Government. **So, Statement 3 is correct.**

ALL INDIA MOCK TEST 3 - 2025

GENERAL STUDIES I - EXPLANATION

INDEX

1. Consider the following statements :
   1. The Inter-State Water Disputes Act of 1956 provides for the creation of river boards to oversee the regulation and development of inter-state rivers.
   2. The Supreme Court holds the final authority in any dispute concerning inter-state river waters, and its ruling is binding on all parties.

   Which of the above statements is/are correct ?
   (a) 1 only
   (b) 2 only
   (c) Both 1 and 2
   (d) Neither 1 nor 2

EXPLANATION:

Article 262 of the Constitution provides for the adjudication of interstate water disputes. It makes two provisions:

- Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution and control of waters of any interstate river and river valley.
- Parliament may also provide that neither the Supreme Court nor any other court is to exercise jurisdiction in respect of any such dispute or complaint.

Under this provision, the Parliament has enacted two laws [the River Boards Act (1956) and the Inter-State Water Disputes Act (1956)].

The River Boards Act of 1956 provides for the establishment of river boards for the regulation and development of interstate rivers and river valleys. A river board is established by the central government at the request of the state governments concerned to advise them. **So, Statement 1 is not correct.**

The Inter-State Water Disputes Act empowers the Central government to set up an ad hoc tribunal for the adjudication of a dispute between two or more states in relation to the waters of an inter-state river or river valley.

The decision of the tribunal would be final and binding on the parties to the dispute. Neither the Supreme Court nor any other court is to have jurisdiction in respect to any water dispute that may be referred to such a tribunal under this Act. **So, Statement 2 is not correct.**

2. Consider the following statements :
   1. The Charter Act of 1813 introduced the open competition system for the selection and recruitment of civil servants.
   2. Lord Cornwallis reduced the maximum age limit for appearing for the Indian civil services.

   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

EXPLANATION:

The Charter Act of 1833 attempted to introduce a system of open competition for the selection of civil servants and stated that Indians should not be debarred from holding any place, office, or employment under the Company. However, this provision was negated due to opposition from the Court of Directors.

Subsequently, the Charter Act of 1853 formally introduced the system of open competition for the selection and recruitment of civil servants. The covenanted civil service was thus thrown open to Indians as well. Accordingly, the Macaulay Committee (Committee on the Indian Civil Service) was appointed in 1854. **So, Statement 1 is not correct.**

Lord Lytton-viceroy of India (1876-1880) viewed the aspirations of educated Indians with contempt. During his period the maximum age for appearing in the Indian Civil Service examination was reduced

from 21 to 19 years. Since the examination was held only in London, it was in any case difficult for the Indians to take this examination.
The lowering of the age was looked upon as a step calculated to prevent Indians from appearing in this examination. the Indian Association took up this question and organised an all-India agitation against it, popularly known as the Indian Civil Service agitation. **So, Statement 2 is not correct.**

3. If a 'cause of action' arises within the territorial limits of High Court 'A', but the respondent resides within the territorial limits of High Court 'B', where can a writ petition generally be filed ?
   (a) Only in High Court 'A'
   (b) Only in High Court 'B'
   (c) Either in High Court 'A' or High Court 'B'
   (d) Only in the Supreme Court of India

EXPLANATION:

If a 'cause of action' arises within the territorial limits of High Court 'A', but the respondent resides within the territorial limits of High Court 'B', a writ petition can generally be filed in either High Court 'A' or High Court 'B'.

- This is because Article 226(2) of the Constitution of India allows a High Court to exercise jurisdiction not only where the respondent resides or works, but also where the cause of action arises, wholly or in part.
- Therefore, even if the respondent is outside the territorial jurisdiction of High Court 'A', it can still entertain the writ petition since the cause of action arose within its limits.
- Similarly, High Court 'B' also has jurisdiction because the respondent resides there.

The power of the High Court under Article 226 to issue writs is broader than that of the Supreme Court under Article 32, as it extends not only to the enforcement of Fundamental Rights but also to other legal rights. **So, Option (c) is correct.**

4. Match the following campaigns of the Government of India with their description :

	Campaign		***Description***
A.	Sahi Fasal	I.	It helps the government to utilise limited fuel resources to support the needy.
B.	Give It Up	II.	It aims to revive collective action and citizen participation in cleanliness efforts.
C.	Swachhata Hi Seva	III.	It encourages farmers to grow water-efficient crops.

Select the correct answer using the code given below :
(a) A-I, B-II, C-III
(b) A-I, B-III, C-II
(c) **A-III, B-I, C-II**
(d) A-II, B-I, C-III

EXPLANATION:

'Sahi Fasal' campaign was launched by the National Water Mission, Ministry of Jal Shakti in 2019 to nudge the farmers in the water-stressed areas to grow less water-intensive, economically remunerative and environmentally friendly crops.
'Sahi Fasal' is an awareness generation campaign implemented with the objective of weaning away the farmers from growing water-intensive crops and using micro-irrigation techniques with a view to increasing water use efficiency in agriculture. **A-III**

In India, domestic LPG is heavily subsidised by the government and each cylinder that is used for household purposes carries a substantial subsidy.
This translates to a huge annual subsidy burden on the government, draining precious resources, which otherwise could be used in developmental activities. The existing LPG subsidies need to meet the needs of the people for whom it is truly essential.
On 2015, Government of India launched the GiveItUp Campaign; a scheme that appeals to well-off citizens to voluntarily surrenders their subsidies to give back LPG connections to poor households. **B-I**

Swachhata Hi Seva Campaign was launched to reignite the spirit of collective action and citizen participation for cleanliness across India, focusing on three key pillars under the 'whole of society approach'.

- Cleanliness Target Units (CTUs) – Shramdaan activities aimed at the time-bound transformation of target units and general cleanliness.
- Swachhata Mein Jan Bhagidari – Promoting public participation, awareness, and advocacy.
- Safai Mitra Suraksha Shivirs – Conducting preventive health checkups and providing social security coverage for sanitation workers.

The Swachhata Hi Seva Abhiyan 2024 aims to raise greater awareness about the importance of cleanliness and environmental stewardship, with tree plantation as a key activity. This initiative is part of the Government of India's efforts to promote a clean and green India under the Swachh Bharat Mission, and marks the 10th anniversary of its launch by the Prime Minister on 2nd October 2014, coinciding with Gandhi Jayanti. **C-II. So, Option (c) is correct.**

5. Consider the following statements :
   1. There is no provision in the Constitution prescribing the power of the judiciary to punish for its contempt.
   2. Publication of matter that interferes with the administration of justice amounts to civil contempt of Court.

   Which of the above statements is/are correct ?
   (a) 1 only
   (b) 2 only
   (c) Both 1 and 2
   (d) **Neither 1 nor 2**

EXPLANATION:

The Constitution of India has provided the judiciary with the power to punish for contempt.

- According to Article 129 of the Constitution of India, the Supreme Court is 'a Court of record' and confers power to punish for contempt of itself.
- Article 142 allows the Court to provide punishment for contempt, subject to any other law. Among these two provisions, the Supreme Court clarified that its primary source of contempt power is under Article 129, as the power under 142 is qualified by any law the Parliament makes.
- Article 215 of the Constitution of India empowers High Courts to be courts of record, granting them all the powers inherent in such courts, including the power to punish for contempt of themselves.
- The Contempt of Courts Act, 1971, gives statutory backing to the concept of contempt of court. **So, Statement 1 is not correct.**

As per the Contempt of Court Act, 1971, contempt of court can either be civil or criminal:

- Civil Contempt: It is the willful disobedience to any judgment, decree, direction, order, writ, or other process of a court or willful breach of any undertaking given to a court.
- Criminal Contempt: It is the direct interference with the administration of justice, where the act impedes or subverts the process of the Court, thereby affecting the judicial process. Any act or publication that substantially affects the administration of justice or maliciously lowers the integrity

of the Court in the public eye attracts criminal contempt. Acts like bribing a witness in an ongoing case also amount to criminal contempt.

Thus, the publication of matters that interfere with the administration of justice falls under criminal contempt, not civil contempt. **So, Statement 2 is not correct.**

6. Consider the following statements with respect to Special Leave Petition (SLP) :
   1. It is a discretionary power of the Supreme Court.
   2. It vests the Supreme Court with plenary jurisdiction to hear appeals.
   3. The Supreme Court may grant special leave to appeal from any judgment passed by any court in the Indian Territory except on matters of law relating to the armed forces.
   4. SLP can be filed against any High Court's order refusing to grant the 'certificate of fitness for appeal' to the Supreme Court at any time.

   Which of the statements given above are correct ?
   (a) 1, 2 and 4 only
   (b) 2, 3 and 4 only
   (c) 1, 3 and 4 only
   (d) **1, 2 and 3 only**

EXPLANATION:

Article 136 of the Indian Constitution grants discretionary powers to the Supreme Court of India to allow special leave petitions. The Supreme Court can use this power in exceptional circumstances and when a question of law arises.

Article 136 only applies to judicial decisions. It does not apply to purely executive or administrative decisions. The Supreme Court, while granting a special leave petition, relies upon the facts that are presented to it by the petitioner. So, the petitioner must not mislead the court by giving improper facts.

If the court becomes aware that the presented facts were misleading, it can revoke the appeal granted to the petitioner. The Supreme Court can also exercise its discretionary power to refuse to grant special leave to petition when there is a gross miscarriage of justice. **So, Statement 1 is correct.**

Article 136 of the Constitution:

- Confers the plenary jurisdiction in the matter of entertaining and hearing appeals by grant of special leave to the Supreme Court.
- Deals with the discretionary power of the Supreme Court to grant "special leave to appeal" from "any judgment, decree, determination, sentence or order in any cause or matter passed or made by any court or tribunal in the territory of India.
- The article does not apply to any decision or order made by any court or tribunal under any law relating to the Armed Forces. **So, Statements 2 and 3 are correct.**

The expression "special leave to appeal" was taken from the Government of India Act, 1935. A special leave petition is not a right that is guaranteed to the citizens of India, but it is a privilege that is granted to the Supreme Court by the Constitution of India.

Article 136 applies to both final and intermediary orders. Special Leave Petition (SLP) can also be filed if the high court refuses to grant a certificate of fitness for appeal to the Supreme Court of India, within 60 days (Not any time) against the order of a high court refusing to grant the certificate of fitness for appeal to supreme court. **So, Statement 4 is not correct.**

7. Which of the following best describes the concept of Constitutionalism ?
   (a) The unrestricted and arbitrary exercise of governmental authority
   (b) The nature of a government with defined and limited powers
   (c) The power to suspend or violate the supreme law of the Constitution
   (d) The imposition of undue constraints on the freedoms and rights of citizens

EXPLANATION:

Constitutionalism recognizes the need for a government with power but, at the same time, insists that limitations should be placed on those powers. Unlimited power may lead to an authoritarian, oppressive government, which jeopardizes the freedom of the people.
Only when the Constitution of a country imposes limitations on governmental power does the country possess not just a 'constitution' but also 'constitutionalism'.

- The concept of constitutionalism is that of a polity governed by or under a constitution that ordains essentially limited government and rule of law as opposed to arbitrary, despotic, authoritarian or totalitarian rule. A constitutional government should necessarily be a democratic government. Arbitrary power in the hands of any individual or institution - even if conferred by a constitutional document - is a negation of the concept of constitutionalism.
- Constitutionalism desires a political order in which the powers of the government are limited. It is another name for the concept of a limited, and for this reason, a "civilized" government. The real justification of the Constitution finds a place in having a "limited government" and requiring those who govern to conform to laws and rules. **So, Option (b) is correct.**

8. In India, what are the provisions included for those who avail of free legal aid ?
   1. Drafting of legal documents.
   2. Preparation of pleadings and memo of appeal, including printing.
   3. Representation by an Advocate in legal proceedings.
   4. Supply of certified copies of judgments in legal proceedings.

   Select the correct answer using the codes given below :
   (a) 1 and 3 only
   (b) 2, 3 and 4 only
   (c) 1, 2 and 3 only
   (d) 1, 2, 3 and 4

EXPLANATION:

Article 39A of the Constitution of India provides for free legal aid to the poor and weaker sections of society and ensures justice for all. Articles 14 and 22(1) of the Constitution also make it obligatory for the State to ensure equality before the law and a legal system which promotes justice on the basis of equal opportunity for all.

- In the year 1987, the Legal Services Authorities Act was enacted by the Parliament, which came into force on 9th November 1995 to establish a nationwide uniform network for providing free and competent legal services to the weaker sections of society on the basis of equal opportunity.
- The National Legal Services Authority (NALSA) has been constituted under the Legal Services Authorities Act, 1987 to monitor and evaluate the implementation of legal aid programmes and to lay down policies and principles for making legal services available under the Act.
- In every State, a State Legal Services Authority has been constituted, and in every High Court, a High Court Legal Services Committee have been constituted. District Legal Services Authorities Taluk Legal Services Committees have been constituted in the Districts and most of the Taluks to give effect to the policies and directions of the NALSA and to provide free legal services to the people and conduct Lok Adalats in the State.
- The Free Legal Services include:-
  - Representation by an advocate in legal proceedings. **So, Statement 3 is correct.**
  - Payment of process fees, witness expenses and other charges associated with legal proceedings in appropriate cases.
  - Preparation of pleadings, appeals, and paper books, including document translation and printing. **So, Statement 2 is correct.**

- Drafting legal documents and special leave petitions. **So, Statement 1 is correct.**
- Providing advice on legal matters.
- Obtaining and supplying certified copies of orders and other documents in legal proceedings. **So, Statement 4 is correct.**

9. With reference to the Inner Line Permit, consider the following statements :
   1. A travel document is mandatory for Indian citizens from outside states to enter the protected state for a limited period.
   2. NRIs and OCI cardholders are eligible for the Inner Line Permit.
   3. The Citizenship Amendment Act 2019 does not apply to the states under the Inner Line area.

   Which of the statements given above is/are correct ?
   (a) 2 only
   (b) 1 and 2 only
   (c) 2 and 3 only
   (d) **1 and 3 only**

EXPLANATION:

An Inner Line Permit (ILP) is an official travel document issued by the Government of India to allow Indian citizens to travel inward into a protected area for a limited period. It is obligatory for Indian citizens from outside those states to obtain a permit to enter the protected state.
The document is an effort by the government to regulate movement to certain areas located near the international border of India. The British originally created ILP to safeguard their commercial interests; it continues to be used in India, officially to protect tribal cultures in northeastern India. **So, Statement 1 is correct.**

Even Indian Citizens who are not residents of those areas require an Inner Line Permit (ILP) to enter these places. The Inner Line Permit (ILP) is significantly easier to get. However, NRIs (Indians who have been staying abroad for more than 6 months), Persons of Indian origin (PIO) card holders, and overseas citizens of India (OCI) holders are not eligible for an inner line permit. They will have to apply for a regular protected/ Restricted Area Permit. **So, Statement 2 is not correct.**

The Citizenship (Amendment) Act of 2019 is not applicable to the tribal area of Assam, Meghalaya, Mizoram or Tripura as included in the Sixth Schedule to the Constitution and the area covered under "The Inner Line" notified under the Bengal Eastern Frontier Regulation, 1873. **So, Statement 3 is correct.**

10. As per the Constitution of India, which of the following provisions should be contained in a bill to be deemed as a Money Bill ?
    1. A bill dealing with the imposition of taxes and fines.
    2. A bill dealing with the emoluments and allowances of the President.
    3. A bill dealing with the salaries and allowances of the Chairman of the Council of States.
    4. A bill dealing with debt charges liable by the Government of India

    Select the correct answer using the codes given below :
    (a) 1, 2 and 3 only
    (b) 3 and 4 only
    (c) 2 only
    (d) 2, 3 and 4 only

EXPLANATION:

Article 110 of the Constitution deals with the Money bills. A bill is deemed to be a money bill if it contains 'only' provisions dealing with all or any of the following matters:

- The imposition, abolition, remission, alteration or regulation of any tax, but not fines. **So, Statement 1 is not correct.**

- The regulation of the borrowing of money by the Union government;
- The custody of the Consolidated Fund of India or the contingency fund of India, the payment of money into or the withdrawal of money from any such fund;
  Under Article 112(3) in the constitution of India, the following expenditure shall be expenditure charged to the Consolidated Fund of India--
  - The emoluments and allowances of the President and other expenditures relating to his office. **So, Statement 2 is correct.**
  - The salaries and allowances of the Chairman and the Deputy Chairman of the Council of States and the Speaker and the Deputy Speaker of the House of the People. **So, Statement 3 is correct.**
  - Debt charges for which the Government of India is liable, including interest, sinking fund charges and redemption charges, and other expenditures relating to the raising of loans and the service and redemption of debt. **So, Statement 4 is correct.**
- The appropriation of money out of the Consolidated Fund of India;
- Declaration of any expenditure charged on the Consolidated Fund of India or increasing the amount of any such expenditure;
- The receipt of money on account of the Consolidated Fund of India or the public account of India or the custody or issue of such money, or the audit of the accounts of the Union or of a state; or
- Any matter is incidental to any of the matters specified above.

11. With reference to Plastic Ice VII, consider the following statements :
    1. It has a solid structure but allows molecular rotation of water.
    2. It is formed under high pressure and low temperature.

    Which of the above statements is/are correct ?
    (a) **1 only**
    (b) 2 only
    (c) Both 1 and 2
    (d) Neither 1 nor 2

EXPLANATION:

Plastic Ice VII is a rare and unusual form of water that has properties of both liquid water and solid ice, and it occurs under extreme conditions. This ice differs from the ice that we usually encounter, as it requires massive temperature and pressure, i.e., high temperature and high pressure. **So, Statement 2 is not correct.**

- Plastic Ice VII is the fourth form of ice. This rare phase allows water molecules to rotate freely while staying in a solid structure. It has a unique interwoven structure where the hydrogen atoms are somewhat disordered. **So, Statement 1 is correct.**

12. With reference to India's Artificial Intelligence (AI) initiatives, consider the following information :

Sl. No.	***Initiative***		***Description***
1.	AIKosha	-	An AI-powered personalised content recommendation system for government officials
2.	Manus AI	-	AI-powered models for early detection of breast cancer.
3.	iGOT-AI	-	A unified portal for datasets, models, and use cases to promote AI innovation in India.

How many of the above pairs are correctly matched ?

(a) Only one
(b) Only two
(c) All three
(d) None

EXPLANATION:

AIKosha: IndiaAI Datasets Platform: to provide a unified portal for seamless access to datasets, tools and AI models. AIKosha is a secured platform that provides a repository of datasets, models and use cases to enable AI innovation.

- It also features AI sandbox capabilities through an integrated development environment along with tools and tutorials.
- The platform is equipped with the features like content discoverability; AI readiness scoring of datasets, permission based access & security mechanisms like data encryption at rest and in motion, secure API, and firewalls for real-time filtering of malicious traffic. **So, Pair 1 is not correct.**

A Chinese start up, Monica, has released its artificial intelligence (AI) agent called Manus. Manus is being dubbed as the world's first truly general AI agent. Reportedly, the AI agent has demonstrated its capabilities, such as thinking, planning, and executing tasks independently, delivering complete results, etc.

Manus AI has been designed to autonomously perform complex tasks across various industries. Its distinct features are autonomous operations and asynchronous cloud-based functionality, which allows users to assign it tasks and disconnect their devices.

- iBRISK (intelligent-augmented breast cancer risk calculator) is an AI tool, that could accurately predict whether abnormal tissue flagged by doctors was more likely to be benign or cancerous. **So, Pair 2 is not correct.**

AI-Powered personalized learning for Government Officials iGOT-AI is an advanced AI-powered personalized content recommendation system, developed to enhance the learning experience for government officials on the iGOT Karmayogi platform.

It will provide 'anytime-anywhere-any device' learning to train around 2.0 crores users which was so far unachievable through traditional measures. **So, Pair 3 is not correct.**

13. With reference to the Acquired Immune Deficiency Syndrome (AIDS), consider the following statements :
    1. The virus that causes AIDS can survive outside the human body.
    2. Anti-Retroviral Treatment can be used to treat AIDS.

    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

EXPLANATION:

AIDS (acquired immune deficiency syndrome) is the name used to describe a number of potentially life-threatening infections and illnesses that happen when the immune system has been severely damaged by the Human Immunodeficiency Virus (HIV). While AIDS cannot be transmitted from one person to another, HIV can. There's currently no cure for HIV, but there are very effective drug treatments that enable most people with the virus to live a long and healthy life.

- HIV is found in the body fluids of an infected person.
- This includes semen, vaginal and anal fluids, blood and breast milk.

- It's a fragile virus and does not survive outside the body for long.
- HIV cannot be transmitted through sweat, urine or saliva. **So, Statement 1 is not correct.**

The Treatment for Human Immunodeficiency virus (HIV) is called antiretroviral therapy (ART). ART involves taking a combination of HIV medicines (called an HIV treatment regimen) on a regular schedule, usually every day (pills) or once a month/every two months (injections). ART is recommended for everyone who has HIV. ART cannot cure HIV, but these HIV medicines help people with HIV live long, healthy lives. ART also reduces the risk of HIV transmission. **So, Statement 2 is correct.**

14. With reference to the hyperloop technology, consider the following statements :
    1. It enables hyperloop capsules to reach a speed of more than 1000 km/h.
    2. The train moves inside a near-vacuum tube using this technology.
    3. It utilises the electric vertical takeoff and landing technology.
    4. It is expected to exhibit better energy efficiency than existing transportation modes.

    How many of the above statements is/are ***not*** correct ?

    (a) Only one
    (b) Only two
    (c) Only three
    (d) All four

EXPLANATION:

A high-speed transportation system called the Hyperloop has the potential to drastically cut down on journey time. This new mode of ground transportation allows passengers to travel at speeds of up to 700 miles per hour, or 1,100 kilometres per hour, in a floating pod that glides through enormous tunnels or tubes with minimal pressure.

- These capsules can travel up to 1,207 km/h since the majority of the air is removed from the tubes to reduce friction.
- The Hyperloop's track can be either underground or above ground.
- The pods are designed to float on air skis or employ magnetic levitation (maglev) technology to reduce friction, in contrast to trains or cars that have wheels.
- The technical and safety parameters of the Hyperloop are yet to be framed worldwide. Hyperloop is expected to be faster, more energy-efficient and sustainable than other transportation modes. **So, Statements 1 and 4 are correct.**

The hyperloop system functions by propelling electromagnetically levitated pods within a vacuum tube, significantly reducing friction and air resistance. This design allows for exceptionally high speeds, making it a viable alternative to conventional rail and road transportation.

- The Hyperloop can travel at speeds up to Mach 1 (1,224.71 km/h) using maglev technology inside low-pressure tubes, eliminating air drag and friction from traditional rails.
- Unlike conventional rail systems, Hyperloop does not use wheels, tracks, or overhead power lines. Electromagnetic forces lift and propel the pod, reducing energy use. The absence of rolling resistance and air turbulence boosts its speed and efficiency. **So, Statement 2 is correct.**

Hyperloop is essentially a maglev train system technology. using one set of magnets to lift the pod and another to propel it forward through low-pressure tubes with built-in vacuums.
While eVTOL (electric vertical takeoff and landing) refers to vehicles that take off and land vertically like helicopters, Hyperloop does not use eVTOL technology. **So, Statement 3 is not correct.**

15. Consider the following information about gaseous fuels :

S. No	***Fuel***	***Primary Composition***	***Characteristics***
1.	LPG	Propane and Butane	Natural gas is compressed to less than 1% of its volume at standard atmospheric pressure.
2.	CNG	Methane	The density is less than that of air
3.	LNG	Ethane	Highest calorific value per kilogram

How many of the above information are correctly matched ?

(a) **Only one**
(b) Only two
(c) All three
(d) None

EXPLANATION:

LPG (Liquefied Petroleum Gas) is a colourless, low carbon, and highly efficient fuel which is supplied in two main forms – propane and butane.

- LPG at atmospheric pressure and temperature is a gas which is 1.5 to 2.0 times heavier than air. It is readily liquefied under moderate pressures.
- The pressure inside a LPG storage vessel/ cylinder will be equal to the vapour pressure corresponding to the temperature of LPG in the storage vessel.
- LPG has an explosive range of 1.8% to 9.5% volume of gas in air.
- LPG is colourless both in liquid and vapour phase. It has only a very faint smell, and consequently, it is necessary to add some odourant, so that any escaping gas can easily be detected.
- LPG (Liquefied Petroleum Gas) is converted into liquid form through a combination of compression and cooling, which significantly reduces its volume. This makes it easier to store and transport in cylinders under moderate pressure.
- CNG (Compressed Natural Gas), on the other hand, is compressed to less than 1% of its volume at standard atmospheric pressure. **So, Row 1 is not correct.**

Compressed Natural Gas (CNG) is a gasoline and diesel fuel alternative consisting primarily of methane. The gas is associated with other fossil fuels (coal or oil) and is created by methanogenic organisms in landfills. The gas is extracted from the source and compressed to a high pressure where it can be stored in a vehicle fuel tank.

CNG is produced by compressing natural gas to less than 1% of its volume at standard atmospheric pressure. CNG is used in light-, medium-, and heavy-duty applications. CNG is colourless, non-carcinogenic, non-toxic, inflammable and lighter density than air. **So, Row 2 is correct.**

Liquefied natural gas (LNG) is natural gas that has been reduced to a liquid state, through a process of cooling.

- Clear, odourless and colourless, LNG is typically 85-95% methane, which contains less carbon than other forms of fossil fuels. It can contain low amounts of ethane, propane, butane and nitrogen; the exact composition varying depending on its source and processing.

- The amount of heat energy produced on complete combustion of 1 kg of a fuel is called its calorific value. Hydrogen is the highest calorific value per kilogram (150000kJ/kg) and Calorific value of LNG is 52,358kJ/kg. **So, Row 3 is not correct.**

Fuel	Calorific Value (kJ/kg)
Cow dung cake	6000-8000
Wood	17000-22000
Coal	25000-33000
Petrol	45000
Kerosene	45000
Diesel	45000
Methane	50000
CNG	50000
LPG	55000
Biogas	35000-40000
Hydrogen	150000

16. Consider the following appliances :
    1. Incandescent bulbs
    2. Microwave oven
    3. LED bulb
    4. Fuse wires
    5. Refrigerator

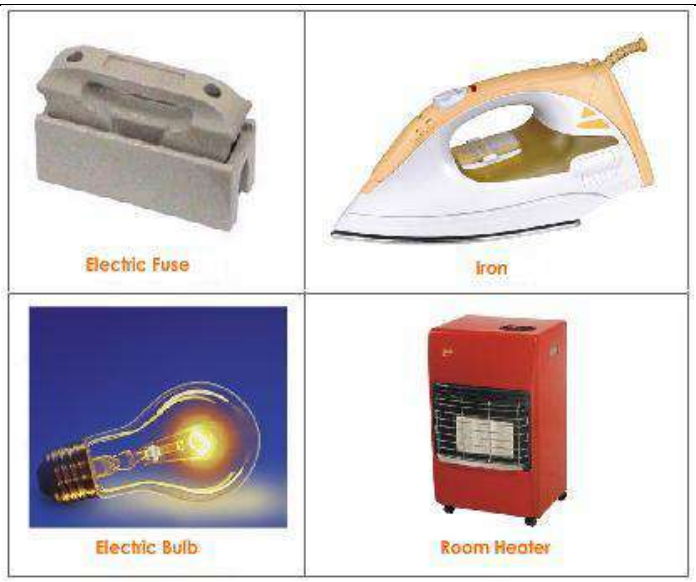
    Which of the following works is/are based on the resistive heating of current ?
    (a) 1 only
    (b) **1 and 4 only**
    (c) 2, 3 and 4 only
    (d) 1, 2, 3 and 4

EXPLANATION:

Joule heating, known as resistive heating or ohmic heating, is the phenomenon where electrical energy is transformed into thermal energy as an electric current passes through a conductive material. The method of electrical resistance heating involves using electric currents to generate heat in conductive materials within a reservoir, effectively warming it.

- Electric kettles, heaters, geysers, toasters, and iron boxes are just some of the daily applications of Joule's heat effect.
- An incandescent light bulb operates by passing an electric current through the thin tungsten filament housed within a glass bulb. The electric current encounters resistance in the filament, generating intense heat. This high temperature causes the filament to glow and emit visible light.

Thus, Incandescent bulbs are works based on resistive heating of current. **So, Statement 1 is correct.**



Microwave ovens heat food using microwaves, a form of electromagnetic radiation similar to radio waves. A device called a magnetron inside the oven produces microwaves. The microwaves reflect off the metal interior of the oven and cause the water molecules in food to vibrate. This vibration results in friction between molecules, which produces heat that cooks the food.
It shows that the microwave ovens are not works based on resistive heating of current. **So, Statement 2 is not correct.**

LED light bulbs are an eco-friendly, energy-efficient and long-lasting alternative to incandescent light bulbs. Through the electroluminescence principle, LED light bulbs have the ability to emit light by passing electricity through semiconducting materials that are known as diodes, which encourage the emittance of photons - which essentially means light.
LED light bulbs are works on electroluminescence principle not based on resistive heating of current. **So, Statement 3 is not correct.**

Fuse wire is a protection method used in electric circuits to isolate critical sections during high circuit flow. The wires are made of materials with high resistance and a low melting point.
When an excessive current flows through the circuit due to Joule heating, the fuse wire melts and disconnects the circuit from the supply. The critical sections of electric circuits are protected from short circuits by fuse wire. Usually, the alloy of tin and lead is used as fuse wire.
Fuse wire is works based on Joule heating, known as resistive heating. **So, Statement 4 is correct.**

Refrigerators work by causing the refrigerant circulating inside them to change from a liquid into a gas. This process, called evaporation, cools the surrounding area and produces the desired effect. This Refrigerators in not in the working principle of resistive heating of current. **So, Statement 5 is not correct.**

17. Consider the following statements about nucleic acids :
    1. DNA contains a five-carbon sugar molecule.
    2. DNA is a Nucleotide while RNA is a Nucleoside.
    3. Mitochondrial DNA in humans is circular in structure, while nuclear DNA is linear.

    How many of the above-given statements is/are correct ?
    (a) Only one
    (b) **Only two**
    (c) All three
    (d) None

EXPLANATION:

Nucleic acids are large biomolecules that play essential roles in all cells and viruses. A major function of nucleic acids involves the storage and expression of genomic information.

- Deoxyribonucleic acid, or DNA, encodes the information cells need to make proteins.
- A related type of nucleic acid, called ribonucleic acid (RNA), comes in different molecular forms that play multiple cellular roles, including protein synthesis.

DNA contains a five-carbon sugar component called Deoxyribose, where it alternates with phosphate groups to form the "backbone" of the DNA polymer and binds to nitrogenous bases. The presence of deoxyribose instead of ribose is one difference between DNA and RNA (ribonucleic acid). **So, Statement 1 is correct.**

Living organisms have a number of carbon compounds in which heterocyclic rings can be found. Some of these are nitrogen bases – adenine, guanine, cytosine, uracil, and thymine.

A nucleotide consists of a nitrogenous base, sugar, and phosphate, while a nucleoside is comprised of a base and sugar.

A nucleotide is the basic building block of nucleic acids (RNA and DNA). A nucleotide consists of a sugar molecule (either ribose in RNA or deoxyribose in DNA) attached to a phosphate group and a nitrogen-containing base. The bases used in DNA are adenine (A), cytosine (C), guanine (G) and thymine (T). In RNA, the base uracil (U) takes the place of thymine. DNA and RNA molecules are polymers made up of long chains of nucleotides.

Nucleic acids like DNA and RNA consist of nucleotides only. DNA and RNA function as genetic material. **So, Statement 2 is not correct.**

Mitochondrial DNA, found in the mitochondria of eukaryotic cells, also typically has a circular structure. The circular structure provides stability and efficient replication in rapidly dividing prokaryotic cells. Nuclear DNA is linear in shape and located on chromosomes.

Mitochondrial DNA is very tiny and contains only a few genes while the nuclear DNA is comparatively very huge and contains thousands of important genes. **So, Statement 3 is correct.**

18. Consider the following :
    1. Eddington limit
    2. Hayflick limit
    3. TOV limit
    4. Chandrasekhar limit
    5. Buchdahl Limit
    6. Roche Limit

    How many of the limits are related to astronomical objects ?

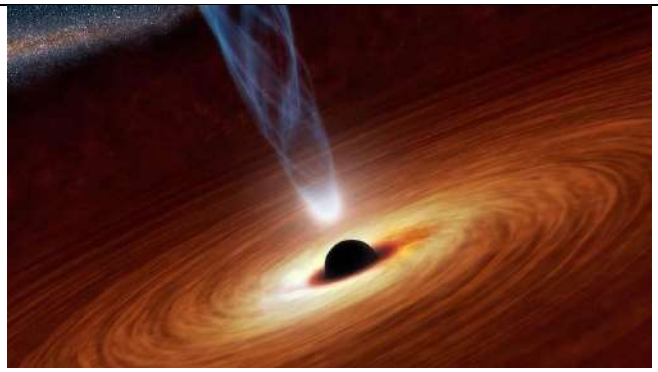
    (a) Only three
    (b) Only four
    (c) **Only five**
    (d) All six

EXPLANATION:

An astronomical object or celestial object is a naturally occurring physical entity, association, or structure that exists in the observable universe.

The Eddington mass limit is a theoretical upper limit to the mass of a star or an accretion disk, which is related to astronomical objects.

At the Eddington mass limit, the outward pressure of the star's radiation balances the inward gravitational force. If a star exceeds this limit, its luminosity would be so high that it would blow off the outer layers of the star. Sometimes astronomical objects have luminosities that exceed those set by the Eddington mass limit. **So, Statement 1 is correct.**



Hayflick limit is that there is an in-built cellular clock in the human body (and that of other organisms) which determines how long one can live. This "ultimate Hayflick limit", as scientists have termed it, is around 125 years for humans, beyond which no amount of diet, exercise, or even genetic tweaking against diseases can extend the human lifespan.
Thus, Hayflick limit is not related to astronomical objects. **So, Statement 2 is not correct.**

The Tolman-Oppenheimer-Volkoff limit (TOV limit) is presently considered to be the maximum mass a neutron star can support. It is also a lower limit of mass of a stellar black hole.
The TOV limit calculated based on the equation derived in this paper is around 2.928 times the solar mass. Theoretically, the TOV limit is the least mass of a stellar black hole. At and below this mass limit, only neutron stars are formed.
Thus, TOV limit is related to astronomical objects. **So, Statement 3 is correct.**

Chandrasekhar limit, in astrophysics, maximum mass theoretically possible for a stable white dwarf star. Using Albert Einstein's special theory of relativity and the principles of quantum physics, Indian-born astrophysicist Chandrasekhar showed that it is impossible for a white dwarf star, which is supported solely by a degenerate gas of electrons, to be stable if its mass is greater than 1.44 times the mass of the Sun. If such a star does not completely exhaust its thermonuclear fuel, then this limiting mass may be slightly larger.
Thus, Chandrasekhar limit is related to astronomical objects. **So, Statement 4 is correct.**

The Buchdahl limit is important because it defines the densest possible object that can still avoid becoming a black hole. Below that, the blob of material must always become a black hole, at least in the theory of relativity.
Thus, Buchdahl limit is related to astronomical objects. **So, Statement 5 is correct.**

The Roche limit is the point at which the tidal effects of a large body on a smaller one become powerful enough to overcome that second body's own internal gravity, causing it to disintegrate.

- Nearly all known planetary ring systems exist within their host planet's Roche limit, whereas nearly all natural satellites (moons) exist outside it.
- The Earth-Moon Roche limit, according to NASA, is about 19,900km, meaning that, were the Moon to drift that close to Earth, it would start to break up. Even at the closest point in its orbit, the Moon is 363,104 km (225,623 miles) from Earth, so there's no danger of it breaking up (and, as it happens, the Moon is slowly drifting away from Earth).

Thus, Roche limit is related to astronomical objects. **So, Statement 6 is correct.**

19. Consider the following locations :
    1. Gauribidanur, Karnataka
    2. Ooty, Tamil Nadu
    3. Kodaikanal, Tamilnadu
    4. Pune, Maharashtra
    5. Hanle, Ladakh

Which of the places mentioned above has a radio telescope establishment in India ?

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

EXPLANATION:

A Radio telescope is an astronomical instrument consisting of a radio receiver and an antenna system that is used to detect radio-frequency radiation between wavelengths of about 10 metres (30 megahertz [MHz]) and 1 mm (300 gigahertz [GHz]) emitted by extraterrestrial sources, such as stars, galaxies, and quasars.

Gauribidanur Radio Observatory is operated by the Indian Institute of Astrophysics (IIA) and it is situated in Gauribidanur, Karnataka. This observatory hosts a range of radio telescopes. It enables studies of radio emissions from celestial objects, including radio galaxies, pulsars, and quasars. It houses several antennas and plays a crucial role in studying radio sources in the Universe. **So, Statement 1 is correct.**

Ooty Radio Telescope is operated by the Bharatiya Chitra Sankalan Akademi (BCSA-TIFR) and it is situated in Ooty, Tamil Nadu. This radio telescope focuses on radio astronomy studies, including pulsars, radio galaxies, and interstellar medium research. **So, Statement 2 is correct.**

The Kodaikanal Tower Tunnel Telescope (KTT) is a three-mirror Coelostat-based Solar telescope located in Kodaikanal, India.

This, telescope utilizes three mirrors to reflect and direct sunlight, with a primary mirror (M1) rotating to track the Sun, a secondary mirror (M2) to redirect the sunlight downwards, and a tertiary mirror (M3) to make the beam horizontal. This kind of setup, where the primary mirror is rotated to track a moving object in the sky is called a Coelostat.

Solar observations at this observatory over the last 100+ years provide one of the longest continuous series of solar data. Apart from that, simultaneous observations in different wavelengths make this data unique and suitable for multi-wavelength studies. Thus, Kodaikanal Observatory is not a radio telescope. **So, Statement 3 is not correct.**

The Giant Metrewave Radio Telescope (GMRT) is a radio telescope. It is located near Narayangaon, Pune, and is India's largest radio telescope. The GMRT is operated by the National Centre for Radio Astrophysics (NCRA).

GMRT is a very versatile instrument for investigating a variety of radio astrophysical problems ranging from nearby Solar system to the edge of observable Universe.

The GMRT is an indigenous project that features a unique design for lightweight and cost-effective antenna dishes, based on the 'SMART' concept — Stretch Mesh Attached to Rope Trusses. **So, Statement 4 is correct.**

Indian Astronomical Observatory (IAO), Hanle, Ladakh is situated at an altitude of about 4,500 meters (14,764 feet).

Operated by the Indian Institute of Astrophysics (IIA), it boasts pristine atmospheric conditions ideal for optical and infrared observations.

IIA had installed Himalayan Chandra Telescope (HCT) a 2-meter optical-infrared telescope at the Indian Astronomical Observatory (IAO), Hanle, in 2000.

The HCT is used to observe a variety of astronomical phenomena, including stellar explosions, comets, asteroids, and exoplanets. IAO, Hanle is not a radio telescope observatory. **So, Statement 5 is not correct.**

20. Consider the following pairs :

Sl. No.	*Program*		*Purpose*
1.	e-vikrAI	-	Vision Language Model for e-Commerce
2.	Airavata	-	Large Language Model for Hindi
3.	Bhashini	-	AI-driven language technology solutions in all 22 Scheduled Indian Languages

How many of the pairs given above are correctly matched ?

(a) Only one
(b) Only two
(c) **All three**
(d) None

EXPLANATION:

BharatGen is the first AI government sponsored project of India that works with various forms of technology. They introduced e-vikrAI, a new product that employs Vision Language Model technology for Indian e-commerce product images.
e-vikrAI automates listing by sellers without human interference. Sellers can upload an image of the product and get autogenerated titles, descriptions, features, and price suggestions with Indian cultural nuances. **So, Pair (1) is correct.**

AI4Bharat – Airavata is a Large-Scale Multilingual Model for Indic Languages. Airavata is a Text-to-Speech (TTS) model developed to convert textual input into natural-sounding speech across multiple Indian languages.
It aims to enhance accessibility and provide voice-enabled applications for users who prefer or require auditory content in their native languages. Airavata is a powerful AI model that's specifically designed to understand and respond to instructions in Hindi. **So, Pair (2) is correct.**

Government of India through MeitY implemented the Digital India Bhashini initiative to provide Artificial Intelligence (AI) driven language technology solutions through the Bhashini platform for all 22 Scheduled Indian Languages including Marathi, providing voice-based access, and to assist in the creation of content in Indian languages.
The mission of Bhashini is to bridge the digital, literacy, and language divides by creating innovative, voice-first multilingual solutions that enable seamless communication and access to digital services in multiple Indian languages.
Digital India Bhashini aims to build speech-to-speech machine translation systems for various Indian languages and dialects and to evolve a Unified Language Interface (ULI).
So, Pair (3) is correct.

21. With reference to the regulations of online games in India, consider the following statements:
1. The income tax payment on net winnings of online games is regulated under the Income Tax Act 1961.
2. Online gaming was removed from the purview of Goods and Services Tax .
3. State Legislatures have the power to legislate on matters related to betting and gambling as per the provisions in the Constitution.

Which of the above statements is/are correct?

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

EXPLANATION:

Under the Income Tax Act, 1961, any income earned through winnings such as lotteries, horse races, or card games is taxed at a fixed rate. This is provided under Section 115BB, while Section 194B ensures that tax is deducted at source (TDS) on such winnings if they exceed a certain amount.
With the rise of online gaming, the government recognized the need for separate rules to handle this new form of income. As a result, the Finance Bill, 2023 introduced two new sections:

- Section 194BA: Requires TDS on net winnings from online games, helping the government track and collect tax from digital gaming platforms.
- Section 115BBJ: Specifies how income from online games should be taxed separately from other types of income.

These new provisions aim to make the taxation system more relevant and effective in dealing with the growing online gaming industry. **So, Statement 1 is correct.**

Government has introduced GST at the rate of 28% in online gaming from 1st October, 2023. The supplier of online money gaming shall obtain a single registration under the Simplified Registration Scheme referred to in the Integrated Good and Services Tax Act, 2017 ("IGST Act").
The suppliers of offshore online money gaming are also being regulated under IGST Act.
The Directorate General of GST Intelligence Headquarters is empowered as appropriate government/agency under the Information Technology Act, 2000 ("IT Act") and the IGST Act to direct intermediaries to block unregistered online money gaming platforms including offshore online money gaming platforms violating the IGST Act. **So, Statement 2 is not correct.**

"Betting and gambling" is a state subject under entry 34 of the List II (State List) of the Seventh Schedule of the Indian Constitution and state legislations defines betting and gambling related offences. Therefore, as per the provisions of article 246 read with article 162 of the Constitution, State Legislatures have power to legislate on matters related to betting and gambling. **So, Statement 3 is correct.**

22. With reference to the Indian Climate, consider the following statements :
    1. North India experiences a relatively high daily and annual range of temperature compared to South India.
    2. Western cyclones occur during the winter season.
    3. The easterly jet stream over India plays an important role in the onset of the monsoon.

    Which of the above statements is/are correct?
    (a) 1 only
    (b) 1 and 2 only
    (c) 2 and 3 only
    (d) 1, 2 and 3

EXPLANATION:

Tropic of Cancer passes through the central part of India in east-west direction. Thus, northern part of the India lies in sub-tropical and temperate zone and the part lying south of the Tropic of Cancer falls in the tropical zone (South India).
The tropical zone being nearer to the equator, experiences high temperatures throughout the year with small daily and annual range. Area north of the Tropic of Cancer being away from the equator, experiences extreme climate with high daily and annual range of temperature.
Thus, it shows compared to South India North India experiences a relatively high daily and annual range of temperature. **So, Statement 1 is correct.**

Cyclonic precipitation is typically associated with frontal regions in the mid-latitudes, where warm air is forced to rise above a wedge of cooler air. This phenomenon occurs when warm westerly winds are undercut by cooler polar air. As the warm air ascends and cools, clouds form, leading to widespread precipitation.

In India, this type of precipitation occurs in the north-western region during winter and is known as a western disturbance.
A characteristic feature of the cold weather season over the northern plains is the inflow of these cyclonic disturbances from the west and northwest. These low-pressure systems originate over the Mediterranean Sea and western Asia, and they move into India carried by the westerly flow.
They bring winter rainfall to the northern plains and snowfall to the Himalayan mountains. Although the total rainfall, locally called 'mahawat', is relatively small, it is extremely important for the cultivation of rabi crops such as wheat and mustard. **So, Statement 2 is correct.**

During April and May, when the sun shines vertically over the Tropic of Cancer, the large landmass to the north of the Indian Ocean heats up intensely, leading to the formation of a strong low-pressure area in the northwestern part of the Indian subcontinent.
In contrast, the Indian Ocean to the south remains relatively cooler, maintaining a higher pressure. This pressure difference draws the southeast trade winds across the Equator toward the subcontinent.
As these winds cross the Equator (between 40°E and 60°E longitudes), they are deflected due to the Coriolis effect, becoming the southwest monsoon winds.
These conditions also lead to a northward shift of the Inter Tropical Convergence Zone (ITCZ).
The shift in the ITCZ is linked to the withdrawal of the westerly jet stream from over the north Indian plains, south of the Himalayas.
Once this westerly jet retreats, the easterly jet stream sets in around 15°N latitude, and this easterly jet is held responsible for the sudden burst of the Indian monsoon. Thus, in the onset of the monsoon the Easterly jet stream plays an important role. **So, Statement 3 is correct.**

23. Consider the following statements :

Assertion (A) :

Deltas and Coastal Plains have a higher proportion of population than the interior districts of southern and central Indian States.

Reason (R) :

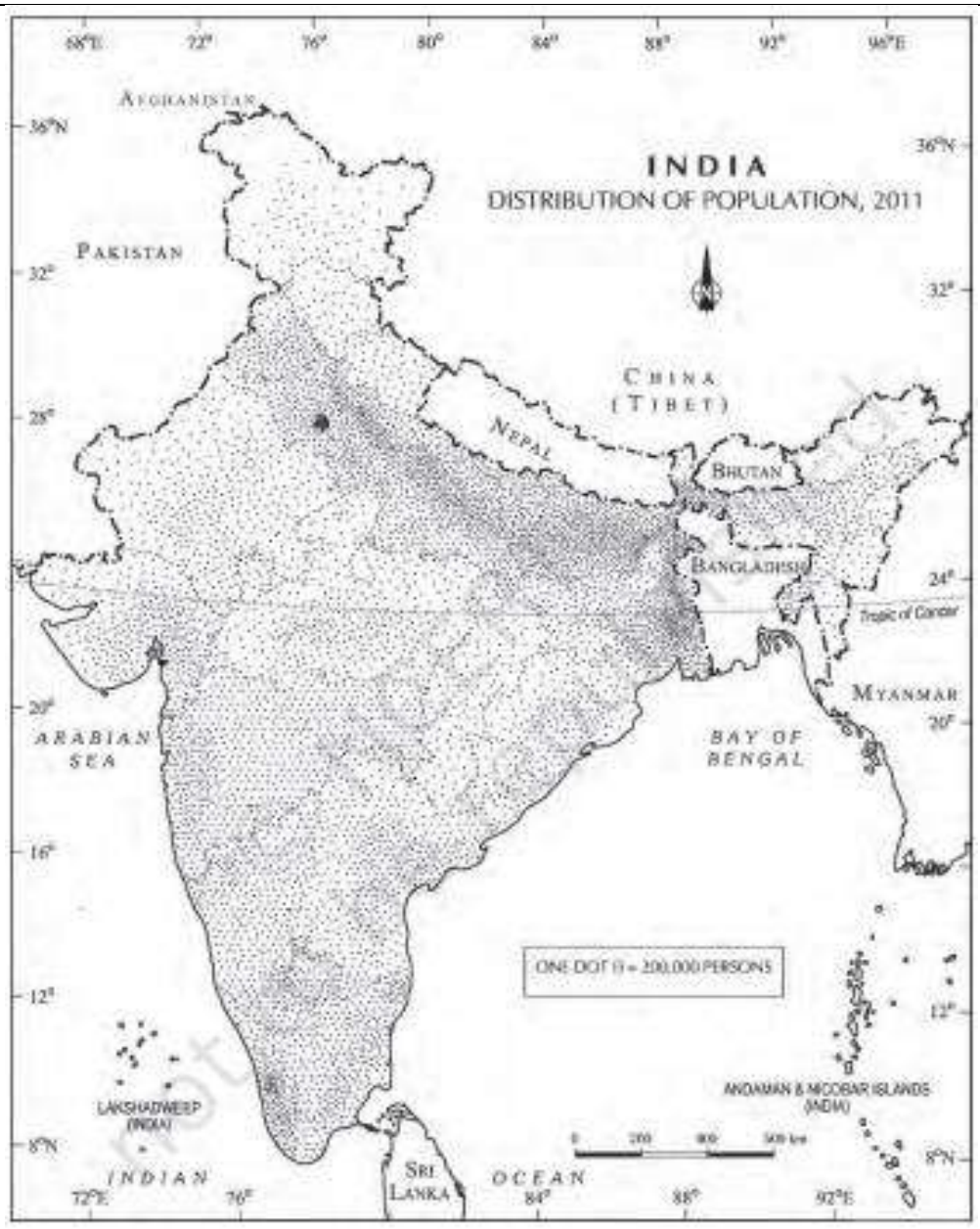
Climate, along with terrain and availability of water, largely determines the pattern of population distribution.

Which one of the following is correct with respect to the above statements ?

(a) **Both A and R are individually true and R is the correct explanation of A**
(b) Both A and R are individually true but R is not the correct explanation of A
(c) A is true but R is false
(d) A is false but R is true

EXPLANATION:

In India, the spread of population is highly uneven, showing significant regional variations influenced by both physical and socio-economic factors.
As far as the physical factors are concerned, climate, along with terrain and availability of water largely determines the pattern of the population distribution.
Regions such as the deltas and coastal plains of the Ganga, Mahanadi, Godavari, Krishna, and Cauvery rivers are densely populated due to their fertile alluvial soils, flat terrain, abundant water resources, and suitability for intensive agriculture and urbanization. Additionally, the humid tropical climate of these regions supports year-round farming and human habitation.
In contrast, the interior districts of southern and central India, especially those forming the Deccan Plateau, have undulating terrain, less fertile soils, and more variable rainfall, making them less conducive to dense human settlement compared to the coastal areas.
So, Both A and R are individually true and R is the correct explanation of A.



24. Consider the following pairs :

Sl.No.	*Element*		*Country with Largest Reserves*
1.	Lithium	-	Chile
2.	Cobalt	-	Democratic Republic of Congo
3.	Graphite	-	China
4.	Rare Earth Elements	-	Australia
5.	Nickel	-	Indonesia

How many of the above pairs are correctly matched ?

(a) Only two
(b) Only three
(c) Only four
(d) All five

EXPLANATION:

Lithium is widely used in rechargeable batteries for electronic devices, electric vehicles, and renewable energy storage systems, as well as in ceramics, glass, and pharmaceutical applications.
Lithium is currently extracted from two primary sources: hard rock mines or as brine from salt flats and lakes, from where it is recovered using evaporation tanks.

- Half of the world's lithium resources are concentrated in Latin America (mostly Bolivia, Chile, and Argentina), Australia, and China.
- In 2021, almost 90% of lithium mining happened in Chile, China, and Australia, with Australia leading production.
- Chile holds the largest lithium reserves in the world at 9.3 million metric tons. The country reportedly hosts most of the world's "economically extractable" lithium reserves, and its Salar de Atacama region houses approximately 33 percent of the world's lithium reserve base. **So, Pair 1 is correct.**

Cobalt is a critical material for the energy transition, with increased demand in recent years due to its essential role in lithium-ion batteries for electric vehicles (EVs), energy storage and other technologies.
Cobalt is an important component in the popular nickel-manganese-cobalt (NMC) battery. The Democratic Republic of the Congo is the country with the largest cobalt reserves by far, with 6,000,000 metric tons (MT) of the battery metal in the ground. **So, Pair 2 is correct.**

Graphite is an excellent conductor of heat and electricity and also has the highest strength of any natural material. Graphite is found in metamorphic and igneous rock in many regions of the world, but especially Asia and East Africa.
In 2024, China had the world's largest reserves of natural graphite, at approximately 81 million metric tons. **So, Pair 3 is correct.**

Rare-earth elements (REEs) are some of the most valuable resources on Earth. Even though these are elements that occur naturally, they are rarely found in quantities large enough to mine. Therefore, when they are uncovered in suitable quantities, they are immediately valuable. There are seventeen rare earth elements in total, all of which are chemically metallic.
Some of the most common examples of rare-earth elements include cerium, yttrium, and lanthanum.

- China has the largest amount, with around 44 million metric tons, and is actively mining them.
- Vietnam and Brazil also have large reserves—each has about half as much as China—and are beginning to extract them.
- Other countries like Russia, India, and Australia also have some rare earth metals, while the United States has about 1.5 million metric tons. **So, Pair 4 is not correct.**

Nickel is a metallic element with a silvery-white, shiny appearance. It is the fifth-most common element on Earth and occurs extensively in the Earth's crust and core. Nickel, along with iron, is also a common element in meteorites. Nickel occurs naturally in soil and water. It is also an essential nutrient for plants. Indonesia has the highest nickel reserves in the world, coming in at 55 million metric tons, and it also takes the top spot for nickel production, with 1.8 million MT. **So, Pair 5 is correct.**

25. Consider the following statements :

Statement 1 :

Some rivers originate from north of the Himalayas and flow through the gorges in the Himalayan ranges.

Statement 2 :

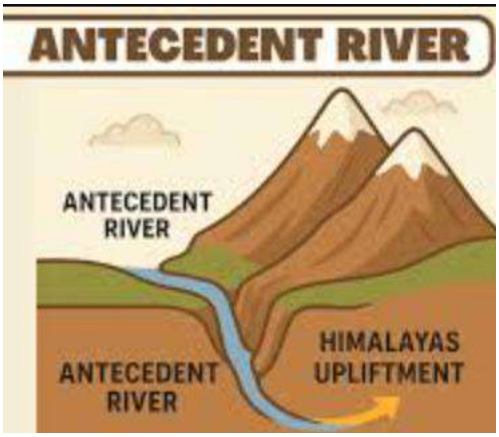
Antecedent rivers are older than the mountain ranges of the region, which maintain their course by erosion.

Which one of the following is correct with respect to the above statements ?

(a) Both Statement-I and Statement-II are correct and Statement II explains Statement-I.
(b) Both Statement-I and Statement-II are correct, but Statement II does not explain Statement-I.
(c) Statement-I is correct, but Statement-II is incorrect.
(d) Statement-I is incorrect, but Statement-II is correct.

EXPLANATION:

The Himalayan rivers, the Indus, the Brahmaputra, Sutlej and Kosi originate from the north of the mountain ranges. They have cut through the mountains making gorges and flow through these gorges in the Himalayan regions. These Himalayan rivers have long courses from their source to the sea.
Such rivers are called antecedent rivers. They maintain their original course despite the rising mountains by vertical erosion (downcutting), which is faster than the rate of uplift. As a result, deep gorges are formed.
This type of river pattern is usually found at youth stage. They continued to flow throughout the building phase of the Himalayas; their banks rising steeply while the beds went lower and lower due to vertical erosion (Vertical down cutting was significant and was occurring at a rate faster than the rising of Himalayas), thus cutting deep gorges. The deep gorges of the Indus, the Satluj, the Brahmaputra etc. clearly indicate that these rivers are older than the Himalayas.
Thus, the antecedent rivers of the Himalayas are older than the mountain ranges that maintain their course by erosion and form gorges due to erosional activities (vertical downcutting). **Both Statement-I and Statement-II are correct and Statement II explains Statement-I.**



26. This National Park contains a Ramsar Site at its core, where artificial islands planted with Acacia nilotica are found. It is recognised as an Important Bird Area and has a significant waterbird breeding colony. The globally threatened species, such as Egyptian vulture, Saker falcon, Pallas's fish eagle and black-bellied tern, are found here. There is no large wild mammal of conservation concern in this Park. It is the nearest National Park to the National Capital Region. Which one of the following could be this ?
    (a) Sundarbans National Park
    (b) Keoladeo National Park
    (c) Dudhwa National Park
    (d) **Sultanpur National Park**

EXPLANATION:

Sultanpur National Park, an intermittent freshwater wetland, is located about 45 km southwest of Delhi, along the Gurugram-Farrukhnagar Road in Gurugram District, Haryana. It is the closest National Park to the National Capital Region.

- Sultanpur was declared a bird sanctuary in 1972 and as a national Park in 1991.
- In May 2021, Sultanpur National Park was designated as a wetland of international importance (Ramsar site) under the Ramsar Convention.
- The wetland has seasonal aquatic vegetation and open grasslands, dotted with artificial islands planted with Acacia nilotica.

- Sultanpur is an "Important Bird Area". It first received protection on the instructions of Prime Minister Indira Gandhi.
- The wetland also supports globally threatened species, such critically endangered Sociable Lapwing, the Endangered species Egyptian Vulture, Saker Falcon, Pallas's Fish Eagle, and Black-bellied Tern, and Vulnerable species such as Greater spotted Eagle,
  Eastern Imperial Eagle, Indian Spotted Eagle, Asian Woollyneck, Common Pochard, Lesser White-fronted Goose, Sarus Crane, Lesser Adjutant, Kashmir Flycatcher, and Asian Woollyneck.
- Sultanpur National Park in Haryana supports more than 220 species of resident, winter migratory and local migratory waterbirds at critical stages of their life cycles.
- More than ten of these are globally threatened, including the critically endangered sociable lapwing, and the endangered Egyptian Vulture, Saker Falcon, Pallas's Fish Eagle and Black-bellied Tern are found here.
- There is no large wild mammal of conservation concern in this Park. **So, Option (d) is correct.**

27. Which one of the following best describes the term "Airshed" ?
    (a) **A geographical area within which the accumulation of air pollutants occurs.**
    (b) An enclosed area designed for controlling indoor air quality.
    (c) A geographical feature which obstructs and diverts the flowing air.
    (d) A layer in the atmosphere above which the concentration of oxygen decreases rapidly.

EXPLANATION:

An airshed can be defined as a region of the atmosphere that shares a common flow of air, which can become uniformly polluted and stagnant depending on the sources of pollution within it. It behaves as a coherent unit for the dispersion of emissions, making it a crucial concept in Air Quality (AQ) monitoring. The airshed approach integrates meteorology, climatology, topography, and landscape features across a defined geographical boundary to assess air quality at local, regional, or global levels.
According to an analysis by the World Bank, South Asia comprises six major airsheds, of which four lie within India. These include:

- West/Central Indo-Gangetic Plain – covering Punjab (Pakistan), Punjab (India), Haryana, parts of Rajasthan, Chandigarh, Delhi, and Uttar Pradesh.
- Central/Eastern Indo-Gangetic Plain – comprising Bihar, West Bengal, Jharkhand, and Bangladesh.
- Middle India 1 – including Odisha and Chhattisgarh.
- Middle India 2 – covering eastern Gujarat and western Maharashtra. **Option (a) is correct.**

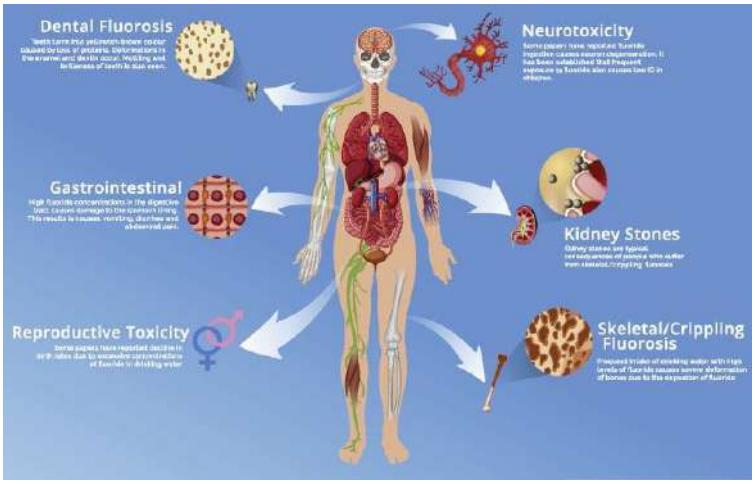
28. Which of the following are the effects of Fluorosis ?
    1. Osteoporosis
    2. Arthritis
    3. Endocrine Destruction
    4. Formation of Kidney Stones
    5. Blackfoot disease

    Select the correct answer using the codes given below :
    (a) 1, 2 and 3 only
    (b) 2, 4 and 5 only
    (c) 1, 2, 3 and 4 only
    (d) 1, 2, 3, 4 and 5

EXPLANATION:

Fluorosis is a condition that happens because of fluoride overexposure. Fluoride is a naturally occurring mineral. In small quantities, it helps prevent tooth decay. In large quantities, it's harmful to human health. Following are the effects of Fluorosis:

- Dental fluorosis affects teeth.
- Non-skeletal fluorosis is early-stage skeletal fluorosis. It affects gastrointestinal tract and may cause symptoms like abdominal pain, constipation, diarrhea, bloating or loss of appetite.
- Skeletal (bone) fluorosis affects bones and joints. It can have a negative impact on overall health, resulting in osteoporosis (bones thinner and less dense), arthritis (disease that causes damage in joints) and chronic joint pain. **So, Statement 1 and 2 are correct.**
- The National Research Council (NRC) has identified fluoride as an "endocrine disrupter". Fluoride induces e.g. oxidative stress, apoptosis and inflammation in endocrine tissue. Fluoride causes changes in the level of hormones released from endocrine tissues. Fluoride causes changes in the morphology of endocrine tissues. **So, Statement 3 is correct.**
- Fluoride may behave as a mild promoter of urinary stone (kidney stones) formation by (a) excretion of insoluble calcium fluoride, (b) increasing oxalate excretion and (c) mildly increasing the oxidative burden." **So, Statement 4 is correct.**



Blackfoot disease is a characteristic vascular disease associated with long-term exposure to inorganic arsenic in drinking water. It is characterized by a range of symptoms, including gangrene, ulcers, and in severe cases, amputation. It primarily affects the lower limbs, leading to tissue damage and reduced blood flow.

The specific toxins responsible for causing Blackfoot disease are thought to be arsenic and cadmium (not fluoride), both of which are heavy metals that can accumulate in the body over time. These metals are released into the groundwater through natural geological processes, and when individuals consume contaminated water over extended periods, it can lead to the development of vascular issues, skin lesions, and other related symptoms. **So, Statement 5 is not correct.**

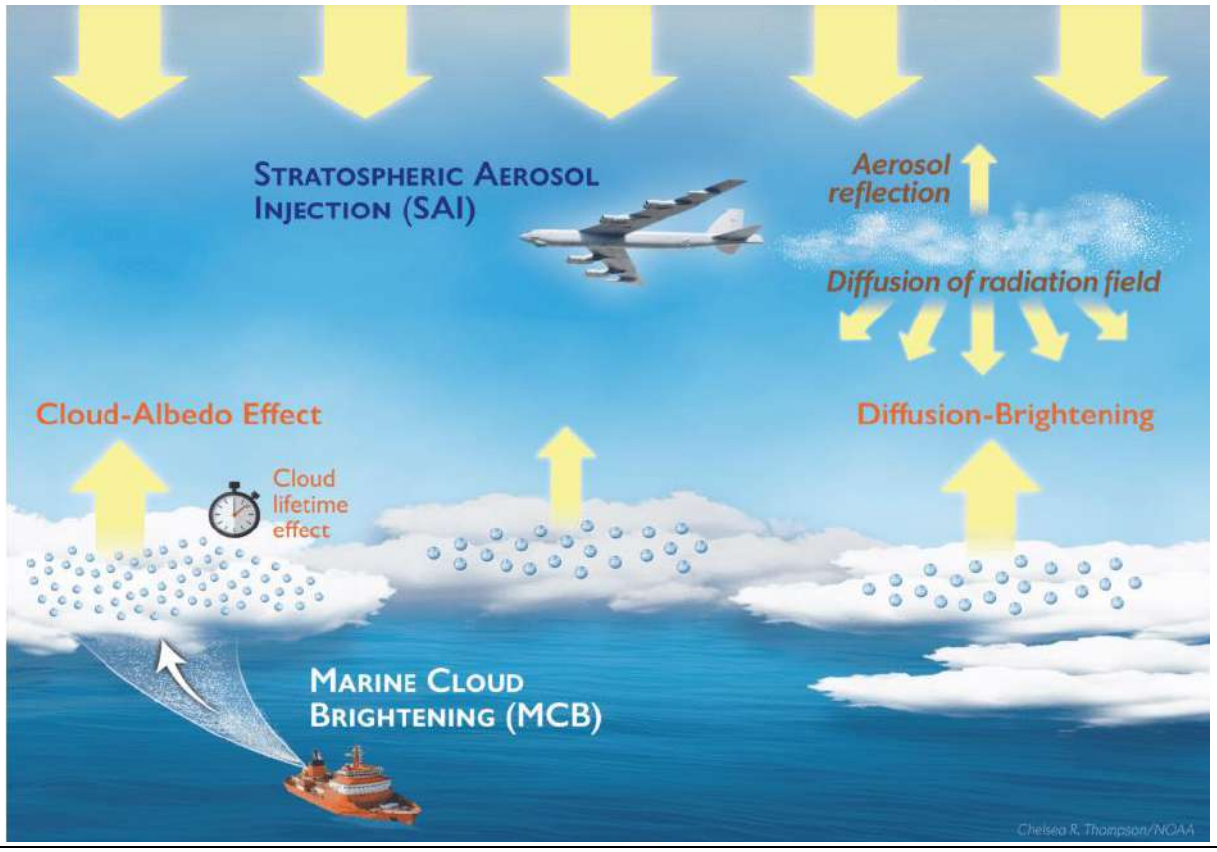
29. Which of the following chemicals is used in the Marine Cloud Brightening Method of Solar Radiation Management ?
    (a) Silver iodide
    (b) **Sodium Chloride**
    (c) Calcium carbonate
    (d) All the Above

EXPLANATION:

Marine Cloud Brightening (MCB) is a proposed geoengineering method aimed at reducing the effects of global warming by increasing the reflectivity of marine clouds.

It involves spraying fine sea salt (mainly sodium chloride, NaCl) particles into the atmosphere, specifically into the marine boundary layer beneath low-level clouds.

These particles act as cloud condensation nuclei (CCN), leading to the formation of clouds with more and smaller droplets.
Such clouds reflect more sunlight and last longer, reducing the amount of solar radiation reaching the ocean surface.
MCB is considered one of the main solar radiation modification strategies to temporarily counteract climate change impacts while global decarbonization progresses. **So, Option (b) is correct.**



30. Consider the following statements :

Statement-I :

Despite frequent fire destruction, the grasses of the Savanna regrow automatically during the next wet season.

Statement-II :

Most grass species in the savannas are perennials.

Statement-III :

The underground organs of the grasses are not damaged by the fire.

Which one of the following is correct in respect of the above statements ?

(a) **Both Statement-II and Statement-III are correct and both of them explain Statement-I**
(b) Both Statement-II and Statement-III are correct, but only one of them explains Statement-I
(c) Only one of the Statements II and III is correct and that explains Statement-I
(d) Neither Statement-II nor Statement-III is correct

EXPLANATION:

Savanna is a vegetation type found in tropical regions between 8° to 20° latitude from the Equator, characterized by a scattered tree canopy over a continuous grass understory.

- It grows in hot, seasonally dry climates, with significant rainfall limited to a few months: October to March in the Southern Hemisphere and April to September in the Northern Hemisphere.

- Most savanna grasses are perennials that regrow from underground organs like roots and rhizomes, which survive seasonal fires.
- These structures store starch and respond quickly when moisture returns during the wet season. Scattered shrubs also persist using food reserves stored underground.
- Fires play a crucial ecological role. While shoots are destroyed, many plants survive and regenerate from buds located underground or protected by thick bark.
- Some species, like eucalyptus, thrive post-fire due to effective seed dispersal, while fire-sensitive trees like the cypress pine would dominate if fires were less frequent.
- This explains how, despite frequent fire events, Savanna grasses regrow naturally during the next wet season. **Both Statement-II and Statement-III are correct and both of them explain Statement-I**

31. With reference to the Critical Mineral Regulations in India, consider the following statements :
    1. Revenue generated from the mineral auctions is allotted to the concerned State Governments as per the Mines and Minerals (Development and Regulation) Amendment Act 2023.
    2. The government of India has increased customs duties on the majority of critical minerals in the Union budget for 2024-25.

    Which of the above statements is/are correct ?

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

EXPLANATION:

Critical minerals are essential for a country's economic development and national security, and their lack of availability or concentration in a few geographical locations can lead to supply chain vulnerabilities.
The Mines and Minerals (Development and Regulation) Act, 1957, was amended in 2023 to increase exploration and mining of critical minerals. Consequently, the Ministry of Mines has auctioned 24 blocks of strategic minerals. Further, the Geological Survey of India (GSI) has undertaken 368 exploration projects for critical minerals over the past three years, with 195 projects currently underway in FS 2024-25. Further, for FY 2025-26, GSI is going to take up 227 projects for various critical minerals. **So, Statement 1 is correct.**

The Government of India has eliminated customs duties on the majority of critical minerals in the Union Budget 2024-25. This will increase the availability of critical minerals in the country and will encourage the industry to set up processing facilities in Indqia. **So, Statement 2 is not correct.**

32. Consider the following statements with reference to Khor Kalmat Lagoon :
    1. It is a tidal lagoon that fully forms only at low tide, when waters from the Arabian Sea run through a narrow channel carved into the coastline.
    2. In India, it is located only in the state of Gujarat.

    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

EXPLANATION:

Khor Kalmat is a tidal lagoon that fully forms only at high tide, when waters from the Arabian Sea run through a narrow channel carved into the coastline. At low tide, it almost completely empties, leaving behind exposed mudflats. **So, Statement 1 is not correct.**

- The saltwater lagoon, is located along the Makran Coast in Pakistan's Balochistan province, around 180 miles (290 km) west of Karachi. **So, Statement 2 is not correct.**
- Pakistan's Khor Kalmat lagoon shows how the tidal body of water helps to sustain an intricate ecosystem in the surrounding desert environment.
- At low tide, the mudflats also provide a great hunting ground for wading birds to scour the exposed lagoon floor for small insects and fish buried beneath the muck. Most of these birds reside in the Buzi Makola Wildlife Sanctuary, which lies west of the lagoon.

33. Consider the following statements with reference to Nafithromycin :
    1. It is India's first Indigenous Antibiotic designed to treat both typical and atypical drug-resistant bacteria.
    2. Nafithromycin is less effective than azithromycin.
    3. It is developed by the Biotechnology Industry Research Assistance Council (BIRAC) under the Biotech Industry Program.

    How many of the above statements is/are correct ?
    (a) Only one
    (b) Only two
    (c) All three
    (d) None

EXPLANATION:

Nafithromycin, India's first indigenous Macrolide antibiotic is designed to treat both typical and atypical drug-resistant bacteria, making it a crucial tool in addressing the global health crisis of AMR (antimicrobial resistance).

- Typical drug-resistant bacteria are those that have developed resistance to commonly used antibiotics, making infections more challenging and costly to treat.
- Atypical drug-resistant bacteria refer to those that are less commonly encountered or are resistant to a broader range of antibiotics, making them particularly difficult to treat.

Antimicrobial Resistance (AMR) occurs when bacteria, viruses, fungi and parasites no longer respond to antimicrobial medicines.

As a result of drug resistance, antibiotics and other antimicrobial medicines become ineffective and infections become difficult or impossible to treat, increasing the risk of disease spread, severe illness, disability and death. **So, Statement 1 is correct.**

Nafithromycin antibiotic is ten times more effective than current treatments like azithromycin and offers a three-day treatment regimen, significantly shortening the recovery time while improving patient outcomes. **So, Statement 2 is not correct.**

Antimicrobial resistance (AMR) has become a major global health issue, with around 6 lakh lives lost in India each year due to resistant infections.

However, India is making significant strides in addressing AMR, particularly through the development of new drugs.

Nafithromycin is developed under the Biotechnology Industry Research Assistance Council (BIRAC) Biotech Industry Program for Phase 3 clinical trials, is a key milestone in this effort.

Since India carries a large share of the global pneumonia burden, introducing Nafithromycin is especially important, as there have been no new antibiotics in recent years. Nafithromycin offers improved patient compliance and is a vital step in combating AMR. **So, Statement 3 is correct.**

34. Consider the following pairs :

Sl.No.	***Lake in the News***		***State/UT***
1.	Tamulidoba	-	Assam
2.	Pangong	-	Jammu and Kashmir
3.	Ana Sagar	-	Rajasthan
4.	Wular	-	Ladakh

How many of the above pairs are correctly matched ?

(a) Only one
(b) Only two
(c) Only three
(d) All four

EXPLANATION:

Recently, the migratory birds have left the Tamulidoba Beel earlier than the season this year due to a lack of water. The Tamulidoba beel in Assam is one of the largest wetlands in the Pobitora wildlife sanctuary, and it also attracts a large number of water birds. Located within a 30-kilometre radius of Guwahati, Pobitora Wildlife Sanctuary is also the rhino habitat with the world's highest rhino density. Covering an area of 38.85 km² only, the wildlife sanctuary is home to 107 rhinos and other wildlife. **So, Pair (1) is correct.**

Recently, the Indian Army installed a statue of Maratha warrior Chhatrapati Shivaji on the bank of Pangong Lake in Ladakh at an altitude of 14,300 feet, a region that is close to the Line of Actual Control (LAC) with China in the eastern Ladakh sector.

Pangong Lake, situated in Ladakh at a height of almost 4,350m, is the world's highest saltwater lake. It's water, which seems to be dyed blue, stands in stark contrast to the arid mountains surrounding it. Extending to almost 160km, one-third of the Pangong Lake lies in India and the other two-thirds in China. The lake is one of the most famous lakes in Leh Ladakh, deriving its name from the Tibetan word "Pangong Tso", which means "high grassland lake". **So, Pair (2) is not correct.**

Recently, the Supreme Court accepted the Ajmer district administration's proposal to create two additional wetlands as a compensatory measure for preserving the ecological balance of the Ana Sagar Lake region. Ana Sagar Lake is an artificial lake. It is one of Ajmer's most popular lakes in Rajasthan and one of India's largest lakes. Named after its founder, King Anaji Chauhan (grandfather of Prithviraj Chauhan), the lake was founded during the 12th century, after a dam was built across the Luni River. Ana Sagar Lake is surrounded by Daulat Bagh Gardens and Khobra Behroon temple, two popular attractions of Ajmer. **So, Pair 3 is correct.**

The suspension of the Indus Waters Treaty (IWT) has revived hopes for the completion of a stalled project to rejuvenate the Jhelum-fed Wular lake, one of India's largest freshwater lakes in Jammu and Kashmir's Bandipora district.
Wular Lake is the largest freshwater lake in India and the second-largest freshwater lake of Asia, situated on the foothills of Haramuk Mountain. The main source of water for Wular Lake is the River Jhelum. This lake also has a small island in its centre called the 'Zaina Lank'. **So, Pair (4) is not correct.**

35. Consider the following statements :
    1. India's first vertical lift railway sea bridge is located in Tamil Nadu.
    2. India's first semiconductor fab facility is located in Assam.
    3. North India's first nuclear power project will be built in Haryana.

    Which of the statements given above are correct ?
    (a) 1 and 2 only
    (b) 2 and 3 only
    (c) 1 and 3 only
    (d) 1, 2 and 3

EXPLANATION:

The Pamban Rail Bridge is India's first vertical lift railway sea bridge, which commenced its operations in the southern Tamil Nadu region. It is strategically situated just 16 km from the northernmost regions of neighbouring Sri Lanka. It is located in an area prone to cyclones and high winds. The new bridge features a vertical lift span that can be raised in just five minutes to allow ships to pass. It is a 2.07-kilometre-long marvel spanning the Palk Strait in Tamil Nadu.
The New Pamban Bridge was constructed by Rail Vikas Nigam Limited (RVNL), a Navratna PSU under the Ministry of Railways. This advanced infrastructure project replaces the iconic 1914 bridge. It aims to enhance connectivity between the mainland and Rameswaram Island, a pilgrimage centre with a centuries-old temple featuring the longest corridors in the country. The bridge has been constructed with stainless steel reinforcement, high-grade protective paint, and fully welded joints. Special polysiloxane coating protects it from corrosion, ensuring longevity in the harsh marine environment. **So, Statement 1 is correct.**

The semiconductor fabrication facility at the Dholera Special Investment Region (DSIR) in Gujarat will be set up by Tata Electronics Private Limited (TEPL) under the Modified Scheme for setting up semiconductor fabs in India. With a total investment of over Rs. 91,000 crore, this will be the first commercial semiconductor fab in the country. The fab will be situated in Dholera, a key industrial zone within the Delhi-Mumbai Industrial Corridor. The plant will feature AI-enabled systems and next-gen factory automation tools, focusing on microchip production for sectors like automotive, AI, data storage, and wireless communications. It will manufacture semiconductors with transistor sizes from 110nm to 28nm. **So, Statement 2 is not correct.**

North India's first Nuclear project will be established in Haryana's small town, Gorakhpur. The project is a significant milestone in India's nuclear energy expansion and a crucial step toward the country's clean energy goals. With India targeting net-zero emissions by 2070, the Gorakhpur project is expected to play a crucial role in the country's clean energy transition. **So, Statement 3 is correct.**

36. Consider the following statements regarding the World Energy Council :
    1. It is a specialized agency of the United Nations.
    2. Its primary focus is to promote sustainable supply and use of energy for the greatest benefit of all people.

    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

EXPLANATION:

The World Energy Council is the oldest independent and impartial energy community, connecting leaders, industries, governments and innovators across the world. The World Energy Council is UN-accredited body and it is not the specialized agency of United Nation.
The World Energy Council was created in 1923, when visionary Daniel Dunlop brought together 40 countries to discuss the problems facing the global energy industry.
Ever since, the council have been non-governmental and non-commercial. The World Energy Council has a presence in over 100 countries. **So, Statement 1 is not correct.**

The World Energy Council (WEC) is a registered charity with a trading subsidiary. Its work is coordinated through a secretariat based in London.
The Council's mission is to promote the sustainable supply and use of energy for the benefit of all people. **So, Statement 2 correct**.
India is a member of WEC, and WEC India covers the entire energy spectrum, from conventional to renewable sources. It is one of the earliest country members of the Council.
WEC India operates under the patronage of the Ministry of Power, with support from other energy-related ministries and leading organizations in the sector. Its members include top energy companies, associations, institutions, government bodies, and regulators.

37. Which of the following conventions contains international treaties that aim to set rules for the conduct of war, require humane treatment of detainees and mandate the search for missing persons ?
    (a) **Geneva Convention**
    (b) Vienna Convention
    (c) Berne Convention
    (d) Paris Convention

EXPLANATION:

Geneva Conventions, a series of international treaties concluded in Geneva between 1864 and 1949 for the purpose of ameliorating the effects of war on soldiers and civilians. Recently, Geneva has Commemorated the 75th anniversary.
The conventions, with roots dating to the 19th century, aims to set rules around the conduct of war: They ban torture and sexual violence, require humane treatment of detainees and mandate searches for missing persons. **So, Option (a) is correct.**

The Vienna Convention refers to several international treaties signed in Vienna, primarily focused on the harmonization and formalization of international diplomatic procedures. Key Vienna Conventions include:

- Vienna Convention on Diplomatic Relations (1961): Establishes the framework for diplomatic relations between independent countries.
- Vienna Convention on Consular Relations (1963): Governs the functions and privileges of consular officials.
- Vienna Convention on the Law of Treaties (1969): Codifies the rules regarding the creation, interpretation, and termination of treaties.
- Vienna Convention for the Protection of the Ozone Layer (1985): Provides a framework for international cooperation in protecting the ozone layer. **So, Option (b) is not correct.**

The Berne Convention, adopted in 1886, deals with the protection of works and the rights of their authors. It provides creators such as authors, musicians, poets, painters etc. with the means to control how their works are used, by whom, and on what terms.
It is based on three basic principles and contains a series of provisions determining the minimum protection to be granted, as well as special provisions available to developing countries that want to make use of them. **So, Option (c) is not correct.**

The Paris Convention, adopted in 1883, applies to industrial property in the widest sense, including patents, trademarks, industrial designs, utility models, service marks, trade names, geographical indications and the repression of unfair competition. This international agreement was the first major step taken to help creators ensure that their intellectual works were protected in other countries. **So, Option (d) is not correct.**

38. India is a full-time member of which of the following organizations ?
    1. International Criminal Court
    2. International Energy Agency
    3. Association of South East Nations
    4. North Atlantic Treaty Organization

    Select the correct answer using the codes given below :
    (a) 3 only
    (b) 1 and 3 only
    (c) 2, 3 and 4 only
    (d) **None**

EXPLANATION:

The International Criminal Court, headquartered in The Hague, Netherlands, was established under a 1998 treaty called the "Rome Statute".
It "investigates and, where warranted, tries individuals charged with the gravest crimes of concern to the international community: genocide, war crimes, crimes against humanity and the crime of aggression."

- Presently, 123 countries, including Britain, Japan, Afghanistan, and Germany, are parties to the Rome Statute. However, the USA has kept its distance, maintaining that the ICC should not exercise jurisdiction over citizens of countries that are not parties to it.
- India is not a member, nor are China and the US.
- Palestine became the 123rd member of the Rome Treaty on April 1, 2015.
- Israel is not a Party to the Rome Statute. However, the ICC does have jurisdiction over crimes committed by nationals of both State Parties and non-state Parties (such as Israel) on the territory of a State Party (such as Palestine). **So, Statement 1 is not correct.**

The International Energy Agency (IEA) is an international intergovernmental organization based in Paris that was established in 1974. Its stated mandate is to maintain the stability of the international oil supply, although its mission has expanded in recent years to emphasize the promotion of renewable energy sources.

- The IEA is made up of 32 Member countries.

- The IEA family also includes thirteen Association countries. Four countries are currently seeking IEA membership: Chile, Colombia, Israel and Costa Rica.
- India, which joined the IEA Family as an Association country in 2017, sent a formal request for full membership to IEA ministers in October 2023.

India becoming an IEA member would mark a huge, consequential change in international energy governance. As the world's most populous country, India is set to play an increasingly central role in efforts to safeguard energy security, drive inclusive energy transitions, and combat climate change. India is yet to get full-time membership in the International Energy Agency (IEA). **So, Statement 2 is not correct.**

The Association of South East Asian Nations (ASEAN) had been formed in 1967 by 5 countries, Thailand, Malaysia, Singapore, the Phillipines and Indonesia. Brunei joined it when it became independent in 1984. Laos, Myanmar and Vietnam joined in 1997 and Cambodia in 1999, bringing its total membership to its current strength of 10.

- ASEAN was formed to promote social, economic and cultural cooperation as well as regional peace and security.
- The members of ASEAN opened their economies steadily to trade and investment with each other as well as with other countries, especially the West.
- India became a Sectoral Dialogue Partner of ASEAN in 1992. In 1996, it became a Full Dialogue Partner and also a member of the ASEAN Regional Forum (ARF).
- India is not a member of ASEAN primarily due to its geographical location. **So, Statement 3 is not correct.**

North Atlantic Treaty Organization (NATO), military alliance established in 1949 that sought to create a counterweight to Soviet armies stationed in central and eastern Europe after World War II.

Following the end of the Cold War, NATO was reconceived as a "cooperative-security" organization. It has 32 member states, and India is not a member of NATO.

- NATO's original members in 1949 were Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States.
- The countries that joined NATO after its founding are Greece and Turkey (1952); West Germany (1955; from 1990 as Germany); Spain (1982); the Czech Republic, Hungary, and Poland (1999); Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia, and Slovenia (2004); Albania and Croatia (2009); Montenegro (2017); North Macedonia (2020); Finland (2023); and Sweden (2024). **So, Statement 4 is not correct.**

39. With reference to recent initiatives relating to International Relations, consider the following statements :
    1. The Indo-Pacific Ocean initiative builds upon the Security and Growth for All in the Region (SAGAR) initiative which promotes maritime trade and security.
    2. The Common Pledge initiative was launched by the United Nations to ensure the equal participation of women in peace processes.

    Which of the above statements is/are correct ?
    (a) 1 only
    (b) 2 only
    (c) **Both 1 and 2**
    (d) Neither 1 nor 2

EXPLANATION:

The Indo-Pacific is a large maritime space encompassing the Indian and the Pacific Oceans. Indo-Pacific Oceans Initiative is an initiative of the Government of India and builds upon the "Security and Growth for All in the Region" (SAGAR) initiative which encourages maritime trade and security.

SAGAR encourages States to cooperate and synergise efforts towards a safe, secure and stable maritime domain as also take meaningful steps for the conservation and sustainable use of the maritime domain.
The Indo-Pacific Oceans Initiative (IPOI) is based on seven pillars, which are:

- Maritime Security
- Maritime Ecology
- Maritime Resources
- Capacity Building and Resource Sharing
- Disaster Risk Reduction and Management
- Science, Technology, and Academic Cooperation
- Trade, Connectivity, and Maritime Transport

So, Statement 1 is correct.

The United Nations launched the "Common Pledge" initiative to bring together mediators, governments, and civil society in support of the full, equal, and meaningful participation of women in peace processes. Aligned with the landmark UN Security Council Resolution 1325 (2000) on Women, Peace, and Security, this initiative aims to accelerate women's direct involvement in formal peace talks and enhance their participation at all levels of peacebuilding.
By signing the Common Pledge of the Secretary-General, global mediation actors—including UN Member States, Regional Organizations, and other stakeholders—commit to taking concrete steps to support women's inclusion in all peace processes they are involved in. **So, Statement 2 is correct.**

40. With reference to the Colombo process, consider the following statements :
    1. India is a founding member of the process.
    2. It is a regional consultative process with a primary focus on migrant workers and employment.
    3. The Secretariat of the Colombo Process is hosted by the International Organisation for Migration.

    Which of the statements given above is/are correct ?
    (a) 2 and 3 only
    (b) 2 only
    (c) 1 and 3 only
    (d) **1, 2 and 3**

EXPLANATION:

The Colombo Process is a regional consultative process on the management of overseas employment and contractual labour for countries of origin in Asia. **So, Statement 2 is correct.**

- The eleven member countries for the Process are Afghanistan, Bangladesh, China, India, Indonesia, Nepal, Pakistan, the Philippines, Sri Lanka, Thailand and Vietnam, and eight destination country participants are Bahrain, Italy, Kuwait, Malaysia, Qatar, Republic of Korea, Saudi Arabia and the United Arab Emirates.
- India being one of the founding members assumed the chair of the Colombo Process for the first time since its inception in 2003. **So, Statement 1 is correct.**

The Secretariat of the Colombo Process is hosted by the International Organization for Migration (IOM) in Geneva. As the Secretariat, the IOM facilitates this regional consultative process, which focuses on the management of overseas employment and contractual labor migration.
The main aim of the Colombo Process is to provide a forum for Asian Labour sending countries to:

- Share experiences, lessons learned and best practices on overseas employment.
- Consult on issues regarding overseas workers, labour sending and receiving states, and propose practical solutions for the well-being of vulnerable overseas workers.
- Optimize development benefits from organized overseas employment, and enhance dialogue with countries of destination.

- Review and monitor the implementation of the recommendations and identify further steps for action.

So, Statement 3 is correct.

41. Consider the following statements regarding the Biological Diversity Amendment Act 2023 :
    1. Biological resources include genetic material of plants, animals, humans, their derivatives, and value-added products.
    2. The prior approval of the National Biodiversity Authority is required if the results of research on Indian biological resources are used for commercial purposes or to obtain intellectual property rights (IPR), whether within or outside 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

EXPLANATION:

The Biological Diversity (Amendment) Bill, 2023, introduces significant changes to the existing Biological Diversity Act, 2002.
These amendments aim to streamline regulations, promote ease of doing business, and address concerns raised by various stakeholders, including practitioners of Indian systems of medicine and the industry sector.
According to the Biological Diversity Amendment Act 2023, "biological resources" include plants, animals, micro-organisms or parts of their genetic material and derivatives (excluding value added products), with actual or potential use or value for humanity, but does not include human genetic material. **So, Statement 1 is not correct.**

The Biological Diversity (Amendment) Act, 2023 requires prior approval from the National Biodiversity Authority (NBA) if the results of research on Indian biological resources or associated traditional knowledge are used for commercial purposes or to obtain intellectual property rights (IPR), whether within or outside India.
This ensures the fair and equitable sharing of benefits arising from the utilization of India's biological resources and associated traditional knowledge. **So, Statement 2 is correct.**

42. Consider the following statements :
    Statement 1 *:*
    Nitrous oxide is responsible for approximately 10% of net global warming since the Industrial Revolution.
    Statement 2 *:*
    Nitrous oxide is the third most significant greenhouse gas and the top ozone-depleting substance released into the atmosphere.
    Statement 3 *:*
    Nitrous oxide is primarily emitted from agricultural practices like the use of synthetic fertilisers and manure.

    Which one of the following is correct in respect of the above statements ?
    (a) Both Statement 2 and Statement 3 are correct and Statement 2 explains Statement 1
    (b) Both Statement 2 and Statement 3 are correct and Statement 3 explains Statement 1
    (c) **Both Statement 2 and Statement 3 are correct but none of them explains Statement 1**
    (d) Neither of the statements are correct

EXPLANATION:

A new United Nations Global Nitrous Oxide Assessment is warning that nitrous oxide (N_2O), a potent greenhouse gas, is rapidly accelerating climate change and damaging the ozone layer.

Launched at the 2024 UN Climate Change Conference (COP29) in Baku, Azerbaijan, the assessment signals that emissions are rising faster than expected, and that immediate action is required to curb the environmental and health impacts of this super pollutant.
Nitrous oxide has been responsible for approximately 10% of net global warming since the Industrial Revolution because it is approximately 270 times more potent than carbon dioxide in terms of warming the planet. Nitrous oxide contributes more to the global warming potential. **So, Statement 1 is correct.**
Primarily emitted from agricultural practices such as the use of synthetic fertilisers and manure, N_2O is the third most significant greenhouse gas and the top ozone-depleting substance still being released into the atmosphere. **Both Statement 2 and Statement 3 are correct but none of them explains Statement 1.**

43. Which of the following statements is/are correct with reference to the Phytoplanktons ?
    1. The presence of phytoplankton increases the carbon sink capacity of the ocean.
    2. Phytoplanktons can form harmful algal blooms due to the abundance of nutrients.
    3. The pyramid of biomass is often inverted in aquatic food chains, as phytoplankton represent a smaller biomass compared to the higher trophic levels.

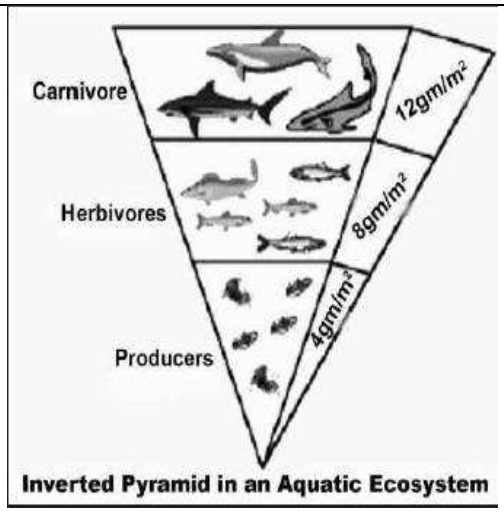
    Select the correct answer using the codes given below :
    (a) 1 and 2 only
    (b) **1, 2 and 3**
    (c) 3 only
    (d) 2 and 3 only

EXPLANATION:

Phytoplankton, also known as microalgae, are similar to terrestrial plants in that they contain chlorophyll and require sunlight in order to live and grow. Most phytoplankton are buoyant and float in the upper part of the ocean, where sunlight penetrates the water. Phytoplankton also requires inorganic nutrients such as nitrates, phosphates, and sulfur, which they convert into proteins, fats, and carbohydrates.
Phytoplankton is the main reason for the ocean being one of the biggest carbon sinks. These microscopic marine algae and bacteria play a huge role in the world's carbon cycle, absorbing about as much carbon as all the plants and trees on land combined. Thus, the presence of phytoplankton increases the ability of carbon sink of the ocean. **So, Statement 1 is correct.**

In a balanced ecosystem, phytoplankton provide food for a wide range of sea creatures, including shrimp, snails, and jellyfish. When too many nutrients are available, phytoplankton may grow out of control and form harmful algal blooms (HAB). These blooms can produce extremely toxic compounds that have harmful effects on fish, shellfish, mammals, birds, and even people. **So, Statement 2 is correct.**

Biomass represents the total dry weight of species present in each trophic level at a particular time. It is measured by taking the dry weight of all the organisms occupying one trophic level. The biomass of producers is generally much higher than that of herbivores. The biomass of herbivores is greater than the biomass of carnivores, and so on.
In an aquatic ecosystem, such as lakes and oceans, the pyramid of biomass is inverted. Since microscopic phytoplanktonic algae are primary producers in the aquatic system, they have a short life span and thus reproduce rapidly. Being single-celled organisms, they do not accumulate much biomass, and they are eaten up faster by organisms like zooplankton, fish, etc. The consumers in these ecosystems range from small microscopic zooplanktons to large organisms like whales. The weight or the standing crop of phytoplankton is less than that of herbivores or other consumers. Hence, the pyramid of biomass is inverted in an aquatic ecosystem. **So, Statement 3 is correct.**



Inverted Pyramid in an Aquatic Ecosystem

44. How many of the following are considered as ecosystem services provided by biodiversity ?
    1. Nutrient cycling
    2. Climate Regulation
    3. Soil and water quality maintenance
    4. Religious recreation
    5. Disaster risk reduction

    Select the correct answer using the codes given below :

    (a) Only three
    (b) Only four
    (c) **All five**
    (d) None

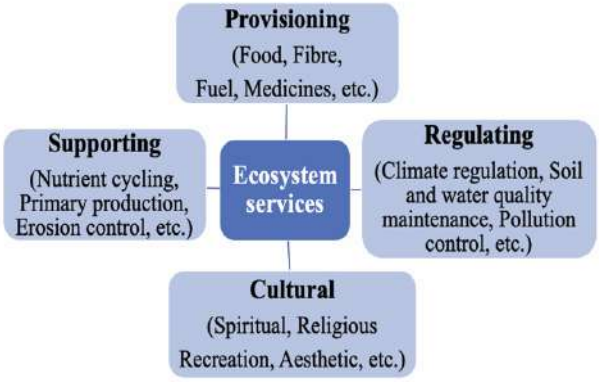
EXPLANATION:

Ecosystem Services (ESS) are the conditions and processes through which natural ecosystems and their component biodiversity contribute to the survival of life on Earth and the fulfilment of human needs.
The basic ESS provided by natural ecosystems are primary productivity, biogeochemical cycling, waste decomposition, soil formation and erosion control, climate extremes moderation, flood control, pollution mitigation, biological control of insect pests, water, air, and soil quality protection and maintenance, and crop pollination. Various types of ecosystem services provided by biodiversity are as follows:

- Provisioning Ecosystem Service: Biodiversity provides various provisioning services including food, fibre, fuel, water, drugs and medicines, wood, and other goods.
- Regulating Services: Regulating services are often invisible, but when they are damaged, the resulting losses can be substantial and difficult to restore. These are the advantages derived from ecological processes and biodiversity that control climate, diseases, waste, various other disasters, and the quality of the soil, water, and air. Additionally, ecosystems provide regulating functions such as carbon sequestration and storage, limiting the occurrence of severe events, wastewater treatment, controlling river flow, biological control, or pollinating crops. Therefore, regulatory services provide climate regulation, soil and water quality maintenance, and disaster risk reduction. **So, Statements 2, 3 and 5 are correct.**
- Supporting Services: Services that are necessary for all other ESS to be produced, including soil formation, erosion control, photosynthesis, nutrient cycling, etc., are referred to as supporting services. Supporting services have an indirect impact on people, whereas changes to the other ESS have a more direct and instant impact on people. Humans, for instance, do not directly rely on soil formation services, but alterations to these would have an indirect effect on humans due to their impact on the provisioning of food supply services. Another important supporting service of natural ecosystems is the preservation of genetic variation, which serves as a basis for locally well-adapted cultivars and a gene pool for the development of commercial crops and livestock. Therefore, supporting

services provide Nutrient cycling, which is necessary for all other ESS to be produced. **So, Statement 1 is correct.**

- Cultural services: Cultural services refer to non-material advantages provided by ecosystems, including ecotourism, and spiritual and ethical values. These are the intangible advantages that humans gain from ecosystems, such as mental improvement, introspection, leisure, and aesthetic pleasures. For example, Ocimum sanctum (Tulsi) provides both a cultural service through religious uses and a provisioning service in terms of medicine. Therefore, Cultural Services provides religious and recreational services. **So, Statement 4 is correct.**



45. Consider the following pairs :

Sl. No.	***Type of Forests***		***Areas***
1.	Tropical Evergreen Forest	-	Found in heavy rainfall areas of the Western Ghats and upper parts of Assam and Tamil Nadu.
2.	Dry Deciduous Forest	-	Found in the rainier parts of the Peninsular plateau and the plains of Bihar and Uttar Pradesh.
3.	Montane forest	-	Found in the southern slopes of the Himalayas and in high-altitude regions of southern and northeastern India.

Which of the pairs given above are correct ?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) **1, 2 and 3**

EXPLANATION:

On the basis of certain common features such as predominant vegetation type and climatic regions, Indian forests can be divided into the following groups: (i) Tropical Evergreen Forests (ii) Tropical Deciduous Forests (iii) Tropical Thorn Forests and Scrubs (iv) Montane Forests (v) Mangrove Forests

Tropical Evergreen Forests:

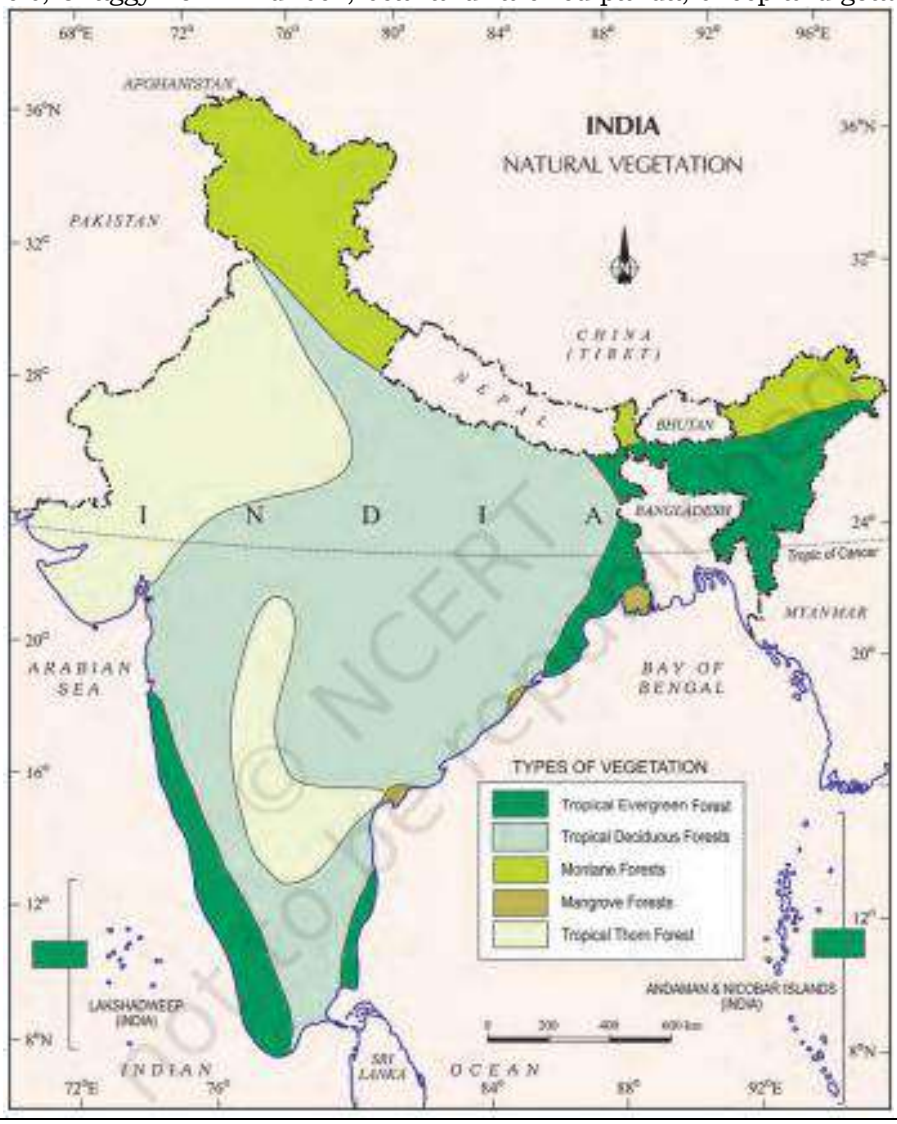
- These forests are restricted to heavy rainfall areas of the Western Ghats and the island groups of Lakshadweep, Andaman and Nicobar, upper parts of Assam and Tamil Nadu coast. They are having more than 200 cm of rainfall with a short dry season and trees reach great heights up to 60 metres or even above. **So, Statement 1 is correct.**
- Since the region is warm and wet throughout the year, it has a luxuriant vegetation of all kinds, trees, shrubs and creepers giving it a multilayered structure.
- There is no definite time for trees to shed their leaves. As such, these forests appear green all the year round.
- Some of the commercially important trees of this forest are ebony, mahogany, rosewood, rubber and cinchona. The common animals found in these forests are elephant, monkey, lemur and deer. One-horned rhinoceroses are found in the jungles of Assam and West Bengal. Besides these animals, plenty of birds, bats, sloth, scorpions and snails are also found in these jungles.

Dry Deciduous Forest:

- The dry deciduous forests are found in the rainier parts of the peninsular plateau and the plains of Bihar and Uttar Pradesh. These forests are found in areas having rainfall between 100 cm and 70 cm. **So, Statement 2 is correct.**
- There are open stretches, in which teak, sal, peepal and neem grow. A large part of this region has been cleared for cultivation and some parts are used for grazing.
- In these forests, the common animals found are lion, tiger, pig, deer and elephant. A huge variety of birds, lizards, snakes and tortoises are also found here.

Montane Forests:

- In mountainous areas, the decrease in temperature with increasing altitude leads to the corresponding change in natural vegetation. Montane forests cover mostly the southern slopes of the Himalayas, places having high altitude in southern and north-east India. **So, Statement 3 is correct.**
- At higher elevations, temperate grasslands are common. At high altitudes, generally, more than 3,600 metres above the sea level, temperate forests and grasslands give way to the Alpine vegetation. Silver fir, junipers, pines and birches are the common trees of these forests.
- However, they get progressively stunted as they approach the snow-line. Ultimately, through shrubs and scrubs, they merge into the Alpine grasslands. These are used extensively for grazing by nomadic tribes, like the Gujjars and the Bakarwals.
- At higher altitudes, mosses and lichens form part of tundra vegetation. The common animals found in these forests are Kashmir stag, spotted dear, wild sheep, jack rabbit, Tibetan antelope, yak, snow leopard, squirrels, Shaggy horn wild ibex, bear and rare red panda, sheep and goats with thick hair.

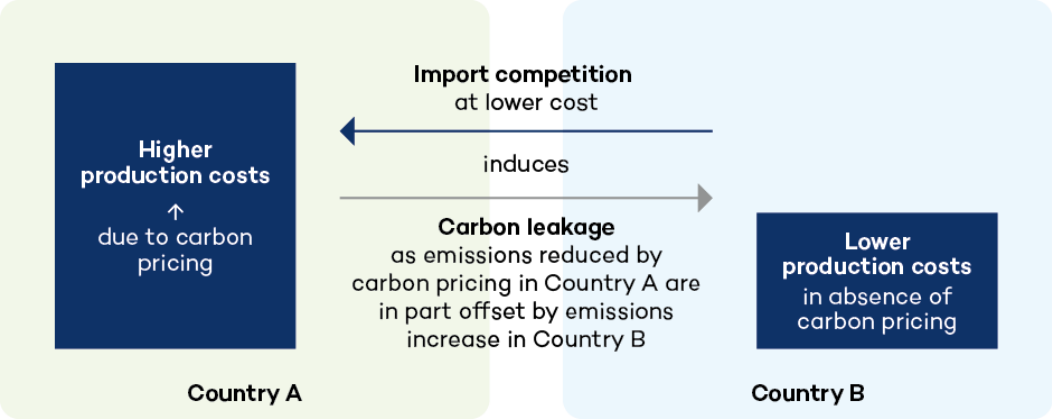


46. Which of the following best describes the term Carbon Leakage ?
    (a) Carbon leakage from the carbon cycle is caused by actions such as Direct Carbon Capture and various carbon sequestration methods.
    (b) **The increase in CO2 emissions outside the countries taking domestic mitigation action is divided by the reduction in the emissions of these countries.**
    (c) The leakage of carbon-based materials into the marine ecosystems.
    (d) The gradual reduction of atmospheric carbon through the afforestation and reforestation initiatives.

EXPLANATION:

Carbon leakage is defined as the increase in CO2 emissions outside the countries taking domestic mitigation action divided by the reduction in the emissions of these countries. It has been demonstrated that an increase in local fossil fuel prices resulting, for example, from mitigation policies may lead to the re-allocation of production to regions with less stringent mitigation rules (or with no rules at all), leading to higher emissions in those regions and therefore to carbon leakage.

- Furthermore, a decrease in global fossil fuel demand and resulting lower fossil fuel prices may lead to increased fossil fuel consumption in non-mitigating countries and therefore to carbon leakage as well.
- However, the investment climate in many developing countries may be such that they are not ready yet to take advantage of such leakage. Different emission constraints in different regions may also affect the technology choice and emission profiles in regions with fewer or no constraints because of the spill-over of learning. **So, Option (b) is correct.**



47. Which of the following covers its snout with marine sponges to prevent damage during bottom-dwelling ?
    (a) Shark
    (b) **Dolphin**
    (c) Porpoise
    (d) Whales

EXPLANATION:

Dolphins can use marine sponges as tools to snag food they could not otherwise grab. This is the first direct evidence that dolphins can use tools to carve out unique places in the food chain.

- Indo-Pacific bottlenose dolphins in Shark Bay off the coast of Australia apparently use tools in the wild.
- The sponges may help protect dolphin beaks from sharp rocks, stingray barbs and other painful experiences as they probe the seafloor for food. The spongers mostly eat bottom-dwelling fish which cannot be normally hunted by dolphins using their instinctive echolocation techniques.

Thus, Dolphin covers its snout with marine sponges to prevent damage during bottom-dwelling. **So, Option (b) is correct.**

48. Consider the following statements :

Statement-I :

The dark peppered moth acts as the Indicator Species.

Statement-II :

The Industrial Pollution gets deposited on the body of the light peppered moth and makes them dark.

Which one of the following is correct in respect of the above statements ?

(a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I

(b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I

(c) Statement-I is correct, but Statement-II is incorrect

(d) Statement-I is incorrect, but Statement-II is correct

EXPLANATION:

Certain species can reflect the state of the ecosystem they inhabit through their presence, abundance, or behavior. These are called indicator species. One such example is the peppered moth (Biston betularia), which has been extensively studied in relation to environmental pollution and natural selection.

- Biston betularia, commonly known as the peppered moth, exhibits adaptations that help it survive in polluted environments. This adaptation involves changes in coloration, which makes it better camouflaged in its surroundings. **So, Statement-I is correct**.

The shift from predominantly light-colored to dark-colored moths in industrial areas is known as industrial melanism. Importantly:

- This shift was not because pollution directly changed the moths' coloration
- The dark variant existed before industrialization in low numbers due to genetic variation.
- As the environment changed due to industrial pollution (soot darkening tree bark), natural selection favored the dark morph, giving it a survival advantage through better camouflage from predators.

Thus, the dark phenotype arose from genetic variation, and its increase in frequency in polluted areas was a classic example of natural selection responding to environmental change—not direct mutation caused by pollution. **So, Statement-II is incorrect.**

49. "Myrmecophily" is a unique symbiotic relationship that exists with which of the following ?

(a) Ant
(b) Butterfly
(c) Bees
(d) Wasp

EXPLANATION:

Myrmecophily, also known as myrmecophilous organisms, refers to plants and animals that have a symbiotic relationship with ants.

The term "Myrmecophily" originates from the Greek words "myrmex," meaning ant, and "philia," meaning love or friendship. This unique relationship is often mutualistic, where both the ants and the myrmecophilous organisms benefit from each other's presence.

- Myrmecophilous plants, such as certain species of acacia trees, provide ants with food and shelter in the form of nectar, pollen, or other nutrients. In return, the ants protect the plants from herbivores and other predators, as well as provide nutrients through their waste.
- Myrmecophilous animals, on the other hand, often live among ants and feed on their eggs, larvae, or food scraps. Examples of myrmecophilous animals include certain species of beetles, such as the genus Myrmecophilus, which are specialized to live among ants and have evolved unique adaptations to avoid being attacked by their hosts.

For example, the species Myrmecophilus acervorum is a small, wingless beetle that lives among ants and feeds on their food scraps. Another example is the species Myrmecophilus pergandei, which is found in association with the leafcutter ant Atta cephalotes. **So, Option (a) is correct.**

50. Consider the following pairs :

Sl. No.	***Protected Area***		***State***
1.	Shendurney Wildlife Sanctuary	-	Kerala
2.	Kanger Valley National Park	-	Chhattisgarh
3.	Sri Lankamalleswara Wildlife Sanctuary	-	Andhra Pradesh
4.	Orans Sacred groves	-	Rajasthan

How many of the above pairs are correctly matched ?

(a) Only one
(b) Only two
(c) Only three
(d) All four

EXPLANATION:

Shendurney Wildlife Sanctuary owes its name to a tree, locally called "Chenkurinji"(Gluta travancorica), an endemic tree which is confined to this tract. The Sanctuary is located in Kerala state, Kollam district.

- Shendurney Wildlife Sanctuary has well-defined natural boundaries. The reserve forests of Thenmala, Thiruvananthapuram, Punalur Forest Division and Thirunelveli Forest Division of Tamil Nadu surround the sanctuary from all 4 sides.
- Shendurney Wildlife Sanctuary, situated at Thenmala, is a part of Agasthyamalai Biosphere Reserve and is one of the richest areas of biodiversity in the Western Ghats. **So, Pair 1 is correct.**

The Kanger Valley National Park (KVNP), located in Jagdalpur within the Bastar District of Chhattisgarh. The park draws its name from the Kanger River, meandering from the northwest to the southeast.
The entire National Park is full of seasonal and perennial streams which joins the Kanger River. The National Park represents the best example of moist Peninsular Valley Sal Forests of India and considered as one of the densest National Parks in India. **So, Pair 2 is correct.**

Sri Lankamalleswara Wildlife Sanctuary is located in the Kadapa District of Andhra Pradesh State being the hill ranges of Lankamallai in the Deccan Plateau of Kadapa District.
It is the only home for one of the most endangered and least known birds in the World, the Jerdon's Double Banded Courser (Cursorius bitorquatus) (Kalivi Kodi), which is endemic to the State of Andhra Pradesh. **So, Pair 3 is correct.**

Sacred groves are community-regulated and conserved patches of forest land. They are created and managed traditionally by communities in various ways, deeply rooted in their identity. India is estimated to have 1-10 lakh sacred groves of this nature the highest in the world.

- They are called 'devara kadu' in Karnataka, 'devban' in Himachal Pradesh, 'kavu' and 'sarpa kavu' in Kerala, 'sarna' in the Chota Nagpur Plateau region, 'devbani' in Chhattisgarh, 'jahera' or 'thakuramma' in Odisha, 'devgudi' by the Muria, the Madia, and the Gond adivasis of Maharashtra and Chhattisgarh, 'ki law lyngdoh', 'ki law kyntang' or 'ki law niam' in Meghalaya, 'sabarkantha', 'dahod' or 'banaskantha' in Gujarat, and so forth.
- The sacred groves of Rajasthan, also known as 'orans', 'malvan', 'deo ghat', and 'baugh', number around 25,000 and cover about six lakh hectares of the State. **So, Pair 4 is correct.**

51. With reference to the Bhopal Gas tragedy, which of the following poisonous chemicals was released from the Union Carbide plant ?

(a) **Methyl Isocyanate**
(b) Chlorine Gas
(c) Phosgene
(d) Hydrogen Cyanide

EXPLANATION:

The Bhopal gas tragedy, which occurred on December 3, 1984, is recognized as one of the worst industrial disasters in history. A toxic gas leak from a pesticide plant owned by Union Carbide Corporation in Bhopal, India, released methyl isocyanate (C_2H_3NO), a highly toxic chemical. Within hours, thousands of residents were dead, with estimates of the death toll ranging from 2,500 to 10,000, alongside tens of thousands more suffering severe injuries and disabilities.

- After 40 years of the Bhopal gas tragedy, toxic waste from the defunct Union Carbide India Ltd factory in Madhya Pradesh finally left the site on January 1, 2025, reaching the Pithampur industrial area in Dhar district for disposal.
- The waste, totalling 337 metric tonnes, was packed under stringent security over two days, supervised by the Madhya Pradesh Pollution Control Board.
- The 337 metric tonnes of hazardous waste will be incinerated.

In 2015, 10 metric tonnes of toxic waste were destroyed as part of a pilot project under Supreme Court directions. This time, 337 metric tonnes will be incinerated at 1,200 degrees Celsius. **So, Option (a) is correct.**

52. With reference to the 'Social Stock Exchange (SSE)' in India, consider the following statements :
    1. Only non-profit organizations are allowed to list on SSE.
    2. The funding mechanism for SSE includes Zero Coupon Zero Principal bonds.
    3. The Securities and Exchange Board of India regulates the SSE framework.

    Which of the statements given above is/are correct ?

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

EXPLANATION:

Social Stock Exchange (SSE) is a separate segment of the existing Stock Exchange, which can help Social Enterprise(s) to raise funds from the public through the stock exchange mechanism.

SSE is an electronic fund-raising platform under the regulatory ambit of the Securities and Exchange Board of India (SEBI) for listing For-Profit Social Enterprises (FPSES) and Not-for-Profit Organizations working for the social welfare to raise capital as equity, debt or as units like a Mutual Fund.

- Not-for-Profit Organization (NPO): This type of entity mainly operates without any intention to make a profit from the operations. So, the primary objective is to perform social welfare activities.
- For-Profit Social Enterprise (FPE): A major focus of this entity is on performing social activities. But the FPEs also give importance to maximizing their own profits. So, these entities are likely to take up social projects that offer a good Return on Investment (Rol).

The objective of SSE is to bridge the financing gap by providing alternative fund-raising instrument for achieving Socio-development goals. **So, Statement 1 is not correct and Statement 3 is correct.**

Social Stock Exchange (SSE) can obtain funds through three main streams of capital that are mentioned below:

- Social venture funds are given mainly by groups of social venture capitalists to profitable social ventures; hence, these investors gain profits while doing well for society.
- Mutual funds are strategies for joining other investors to buy stocks, shares, or bonds
- The Zero Coupon Zero Principal Bonds a special type of instrument that can be used by Not-for-Profit Organizations (NPOs) to raise funds. Zero Coupon Zero Principal Bonds basically means that an investor can buy coupons on this exchange just like others however they do not get interest on this annually, they only get the profits at the maturity stage. They can be issued through the Social Stock Exchange (SSE), or through a private placement. However, the For-Profit Social Enterprises (FPEs) cannot raise capital by issuing ZCZPs. **So, Statement 2 is correct.**

53. Consider the following statements about the latest National Multidimensional Poverty Index (NMPI) :
    1. It is released by the National Statistical Office .
    2. Per capita income, Literacy rate, and Life expectancy are the top three indicators in the NMPI.
    3. According to the latest index, rural areas indicate a faster reduction in their MPI value, compared to urban areas.

    How many of the above statements is/are correct ?

    (a) **Only one**
    (b) Only two
    (c) All three
    (d) None

EXPLANATION:

NITI Aayog in collaboration with United Nations Development Programme (UNDP), and Oxford Poverty and Human Development Initiative (OPHI) developed the National Multidimensional Poverty Index (MPI) that offers a multi-dimensional perspective on poverty.

It complements income-based poverty measures by directly assessing and comparing deprivations across several key indicators.

The National MPI is a robust and nuanced public policy tool that can be used monitor multidimensional poverty at the national, state, and district levels in India.

Thus, in India, the National Multidimensional Poverty Index (MPI) is released by NITI Aayog not by the National Statistical Office (NSO). **So, Statement 1 is not correct.**

India's National Multidimensional Poverty Index (MPI) is based on the globally recognized Alkire-Foster (AF) methodology, which uses a dual-cutoff approach to identify and measure poverty.

This approach captures the overlapping deprivations individuals face across multiple dimensions, offering a more comprehensive picture than traditional income-based measures.

The MPI evaluates poverty across three key dimensions:

- Health
- Education
- Standard of Living

Each dimension includes specific indicators that reflect qualitative aspects of people's lives. While the national MPI largely follows the global methodology, India has adapted it to its unique context by retaining 10 core indicators from the Global MPI and adding 2 country-specific indicators:

- Maternal Health (under Health)
- Bank Account (under Standard of Living)

These additions align the index more closely with India's development priorities and enhance its usefulness for targeted policymaking.

Per capita income, Literacy rate, and Life expectancy are the three indicators in Human Development Index not in Multidimensional Poverty Index. The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and having a decent standard of living. **So, Statement 2 is not correct.**

The MPI Value in the Multidimensional Poverty Index (MPI) is a measure that combines the prevalence and the intensity of multidimensional poverty on a scale from 0 to 1.

While disparities in multidimensional poverty still exist between rural and urban areas, with the proportion of multidimensional poor in 2019-21 being 19.28% in rural areas compared to 5.27% in urban areas, the reduction in the MPI value has been pro-poor in absolute terms.

- The estimates indicate that rural areas saw a faster reduction in their MPI value, compared to urban areas.
- The incidence of poverty fell from 32.59% to 19.28% in rural areas compared to a decline from 8.65% to 5.27% in urban areas between 2015-16 and 2019-21. **So, Statement 3 is correct.**

Year	Rural			Urban		
	MPI	Headcount Ratio (H)	Intensity of Poverty (A)	MPI	Headcount Ratio (H)	Intensity of Poverty (A)
2019-21	0.086	19.28%	44.55%	0.023	5.27%	43.10%
2015-16	0.154	32.59%	47.38%	0.039	8.65%	45.27%

54. "An unadjusted weighted average rate at which one country's currency is exchanged for a basket of multiple foreign currencies."
The above statement refers to which of the following ?
(a) Nominal Exchange Rate
(b) Real Effective Exchange Rate
(c) **Nominal Effective Exchange Rate**
(d) Purchasing Power Parity based Exchange Rate

EXPLANATION:

The nominal exchange rate is the amount of domestic currency needed to purchase foreign currency. A decrease in this variable is termed nominal appreciation of the currency. An increase in this variable is termed nominal depreciation of the currency. **So, Option (a) is not correct.**

The real effective exchange rate (REER) is the weighted average of a country's currency in relation to an index or basket of other major currencies.
The weights are determined by comparing the relative trade balance of a country's currency against that of each country in the index.
An increase in a nation's REER is an indication that its exports are becoming more expensive and its imports are becoming cheaper, reducing its trade competitiveness.
So, Option (b) is not correct.

The nominal effective exchange rate (NEER) is an unadjusted weighted average rate at which one country's currency is exchanged for a basket of multiple foreign currencies.
The NEER can be adjusted to compensate for the inflation rate of the home country relative to the inflation rate of its trading partners. The resulting figure is the real effective exchange rate (REER). NEER isn't determined for each currency separately, unlike the relationships in a nominal exchange rate. One individual number, typically an index, instead expresses how a domestic currency's value compares against multiple foreign currencies at once.
The NEER is an economic indicator of a country's international competitiveness in terms of the foreign exchange (forex) market. Forex traders sometimes refer to the NEER as the trade-weighted currency index.
So, Option (c) is correct.

A Purchasing Power Parity (PPP)-based exchange rate is the rate at which one country's currency needs to be converted into another to purchase the same amount of goods and services in both countries. It essentially provides a more accurate measure of living standards across countries than market exchange rates, which can be distorted by price differences. **So, Option (d) is not correct.**

55. Which of the following best describes a reciprocal tariff ?
(a) A tariff imposed to discourage domestic consumption of imported goods.
(b) **A tariff imposed by a country in response to high import duties imposed on its exports by another country.**
(c) A tariff designed to compensate domestic producers for losses due to imports.
(d) A tariff that applies only to non-WTO member countries.

EXPLANATION:

Reciprocal tariffs refer to the practice of imposing tariffs on imports from other countries at a rate that matches the tariffs those countries impose on imports from the country imposing the reciprocal tariff. **So, Option (b) is correct.**

- A reciprocal tariff is a tax or trade restriction that one country places on another in response to similar actions taken by that country.
- The idea behind reciprocal tariffs is to create a balance in trade between nations. If one country raises tariffs on goods from another, the affected country might respond by imposing its tariffs on imports

from the first country. This response is meant to protect local businesses, preserve jobs, and fix trade imbalances.
- Reciprocal tariffs aim to promote fair trade practices by ensuring that countries do not face unfair advantages or disadvantages in terms of tariffs applied to their goods in different markets.
- It can be used as a negotiating tool in trade disputes or to incentivize other countries to reduce or eliminate tariffs on the country's exports.

It can protect domestic industries by making imported goods less competitive in the local market.

56. Consider the following transactions:
    1. Expenditure of a foreign resident in India while touring the country.
    2. Remittances of a Non-Resident Indian to a relative in India.
    3. Expenditure made in India by an Indian resident out of remittances received from abroad.

    Which of the above transactions will be recorded in India's Balance of Payments?
    (a) **1 and 2 only**
    (b) 2 and 3 only
    (c) 1 and 3 only
    (d) 1, 2, and 3

EXPLANATION:

Balance of Payments (BoP) is a statistical statement that records all economic transactions between a country and the rest of the world during a specific time period.
The BOP shows how much money went out of the country and how much money came in.
In the Balance of Payments (BoP), all inflows of funds from foreign sources are recorded as credits, while outflows of funds from the country are recorded as debits.
The BoP can be broadly divided into Current Accounts, Capital account:
Current Account: It measures the transfer of real resources (goods, services, income and transfers) between an economy and the rest of the world.
The current account is classified into Merchandise Account and Invisible Account
- Merchandise Account records exports and imports of tangible goods. Example: Export of machinery, import of oil.
- Invisibles Account covers non-physical transactions, which is divided into the following
    - Non-factor services: It includes travel, transportation, insurance, IT and other business services. Example: A foreign tourist spending in India. **So, Statement 1 is correct.**
    - Transfers: It refers to transactions where money or resources move from one country to another without any exchange of goods or services in return. These are called unilateral transfers or one-way flows. Example: NRI remittances to relatives in India. **So, Statement 2 is correct.**
    - Income: It includes compensation of employees and investment income (like interest and dividends). Example: An Indian investing abroad and earning returns.

Capital account: It captures financial flows and reflects net changes in financial claims between residents and non-residents. The following are Categories of Capital and Financial Account
- Non-debt creating flows which involves Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI). These are ownership-based capital inflows.
- Debt creating flows which includes external assistance, commercial borrowings, non-resident deposits, and more. These must be repaid with interest.

An expenditure made by an Indian resident in India out of remittances received from abroad does not come under India's Balance of Payment (BOP). For example, a Non-Resident of India sends some money to his family in India. This remittance comes under the Current Account of the Balance of Payment. Meanwhile, the Indian resident who spends out of the remittance received from abroad does not come under the BOP but rather is classified as a domestic transaction. **So, Statement 3 is not correct.**

57. Which of the following can be the advantages of De-Dollarisation combined with Internationalisation of Rupees in the Indian Economy?
    1. Reduction of Sovereign External Debt
    2. Increased Exchange rate volatility
    3. Possibility of reduced risk in the exchange rate
    4. Increased need for maintenance of Forex Reserves

    Select the correct answer using the codes given below:
    (a) 1 and 2 only
    (b) 3 only
    (c) 1 and 3 only
    (d) 1 and 4 only

EXPLANATION:

De-Dollarisation describes a process of moving away from the world's reliance on the US dollar (USD) as the chief reserve currency. Internationalisation of rupee is a process that involves increasing the use of the rupee in cross-border transactions.

- For developing countries like India, De-Dollarisation offers potential benefits such as reduced vulnerability to US monetary policy fluctuations, enhanced monetary autonomy, and improved financial stability through the diversification of reserves.
- If more international trade and financial transactions are conducted in Rupees, India's reliance on borrowing in foreign currencies (like the US dollar) would likely decrease. This could lead to a reduction of sovereign external debt denominated in foreign currencies, making the economy less vulnerable to exchange rate fluctuations and external economic shocks. **So, Statement 1 is correct.**
- De-Dollarization entails a mix of macroeconomic and microeconomic policies to enhance the attractiveness of the local currency in economic transactions and to raise awareness of the exchange-risk related costs of dollarization. As the Indian rupee becomes more widely used internationally, India would face less exchange rate risk in its international transactions. The country would be able to conduct more of its trade and financial dealings in its own currency, reducing exposure to dollar exchange rate fluctuations. **So, Statement 3 is correct.**

Internationalisation of rupee involves promoting the rupee for import and export trade and then other current account transactions, followed by its use in capital account transactions.
Significances of internationalization of rupee:

- Reduce forex dependences – Internationalisation of the rupee reduces the need for holding foreign exchange reserves. While reserves help manage exchange rate volatility and project external stability, they impose a cost on the economy. **So, Statement 4 is not correct.**
- Increased exchange rate Volatility-It is generally considered a disadvantage, not an advantage. De-dollarization and rupee internationalization would actually aim to reduce, not increase, exchange rate volatility by decreasing dependence on the dollar's fluctuations. **So, Statement 2 is not correct.**

58. Consider the following statements:
    1. The GDP of Germany has been continuously contracting for the past two years.
    2. India has surpassed Germany in the GDP contribution of the countries in the Global Economy.

    Which one of the following is correct in respect of the above statements?
    (a) Both statements 1 and 2 are correct and 2 is the correct explanation of 1.
    (b) Both statements 1 and 2 are correct and 1 is the correct explanation of 2.
    (c) Both statements 1 and 2 are individually correct and one does not explain the other.
    (d) Either of the statements is incorrect.

EXPLANATION:

The German economy contracted by 0.2% year-on-year (YoY) in 2024, following a contraction of 0.3% YoY in 2023. When adjusted for working days, the economy registered a 0.2% decline in 2024 and a 0.1% decline in 2023.

This marks the first instance since the early 2000s that Germany has experienced a contraction in GDP for two consecutive years, highlighting persistent economic challenges within the country.
Weak domestic and foreign demand for manufacturing goods, combined with high uncertainty, impacted investment in equipment. In addition, the construction sector was dragged down by labour shortages and weak domestic demand. **So, Statement 1 is correct.**

According to a recent report, India's global economic ranking has improved significantly, moving from the 12th largest economy in the world in 1990 to the 13th in 2000, and then rising to 9th in 2020 and 5th in 2023, respectively, only behind the US, China, Germany and Japan.
The report highlights that India is poised to become the third-largest economy in the world by 2028, driven by its emergence as the most sought-after consumer market and an increased share of global output, facilitated by stable macroeconomic policies and improved infrastructure.
The Indian economy, valued at USD 3.5 trillion in 2023, is projected to expand to USD 5.7 trillion by 2028.
This will position India as the fourth-largest in the world, surpassing Germany. **So, Statement 2 is not correct.**

59. Consider the following pairs :

S. No	***Terms***		***Definition***
1.	Transfer price	-	The price that would be agreed upon by independent, unrelated parties in an open market transaction.
2.	Arm's length price	-	The actual price charged in transactions between related entities within a multinational enterprise group.
3.	Safe harbour	-	Circumstances where tax authorities accept the transfer price declared by the taxpayer, avoiding further scrutiny.

How many of the above pairs are correctly matched ?

(a) Only one
(b) Only two
(c) All three
(d) None

EXPLANATION:

Transfer pricing is the process of determining prices for transactions between related entities within a multinational enterprise (MNE). These transactions may include tangible goods, services, intellectual property rights, loans, or financial arrangements.
Transfer pricing accounting occurs when goods or services are exchanged between divisions of the same company. A transfer price is based on market prices in charging another division, subsidiary, or holding company for services rendered.
Companies use transfer pricing to reduce the overall tax burden of the parent company. Companies charge a higher price to divisions in high-tax countries (reducing profit) while charging a lower price (increasing profits) for divisions in low-tax countries**. So, Pair (1) is not correct.**

An arm's length transaction refers to a business deal in which the involved parties act voluntarily and independently of one another. Arm's length transactions occur when all parties act in their own self-interest and are not subject to pressure from any party. They ensure that there is no collusion between the buyer and seller. In the interest of fairness, both parties usually have equal access to information related to the deal. **So, Pair (2) is not correct.**

The term "Safe Harbour" refers to conditions under which tax authorities will accept transfer pricing declared by a taxpayer without detailed scrutiny. The Safe Harbour Rules provide a structured process for businesses to simplify transfer pricing in international transactions. These rules help companies avoid disputes with tax authorities by allowing them to declare transfer prices within predefined acceptable limits. **So, Pair (3) is correct.**

60. Consider the following statements about Green GDP :
    1. It aims to provide a more accurate picture of economic growth that considers the environmental impact of economic activities.
    2. It is annually published by the National Statistics Office under the Ministry of Statistics and Programme Implementation.

    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

EXPLANATION:

Gross Domestic Product (GDP) is the most widely used indicator to measure a nation's economic performance and growth. It calculates the total monetary value of goods and services produced within a country in a given year. However, GDP does not account for environmental costs, such as pollution, resource depletion, or ecosystem degradation.

To address this limitation, the concept of Green GDP was introduced in the late 1980s. Green GDP aims to assess economic growth while considering its environmental impact. It is derived from the Net Domestic Product (NDP)—which subtracts depreciation of man-made assets from GDP—by further deducting the costs associated with natural resource depletion and environmental degradation.

Thus, Green GDP offers a more accurate and sustainable measure of economic progress, promoting a balance between economic development and environmental conservation. **So, Statement 1 is correct.**

Green GDP is not officially published annually by the National Statistics Office (NSO) in India. While the NSO is responsible for calculating and publishing India's Gross Domestic Product (GDP), it does not currently include green GDP metrics in its official reports. Several institutions and researchers have attempted to estimate India's Green GDP, including a notable study by the Reserve Bank of India (RBI). **So, Statement 2 is not correct.**

61. The "Fiscal health index" of India is released by :
    (a) Reserve bank of India
    (b) Ministry of Finance
    (c) **NITI Aayog**
    (d) National institute of public finance and policy

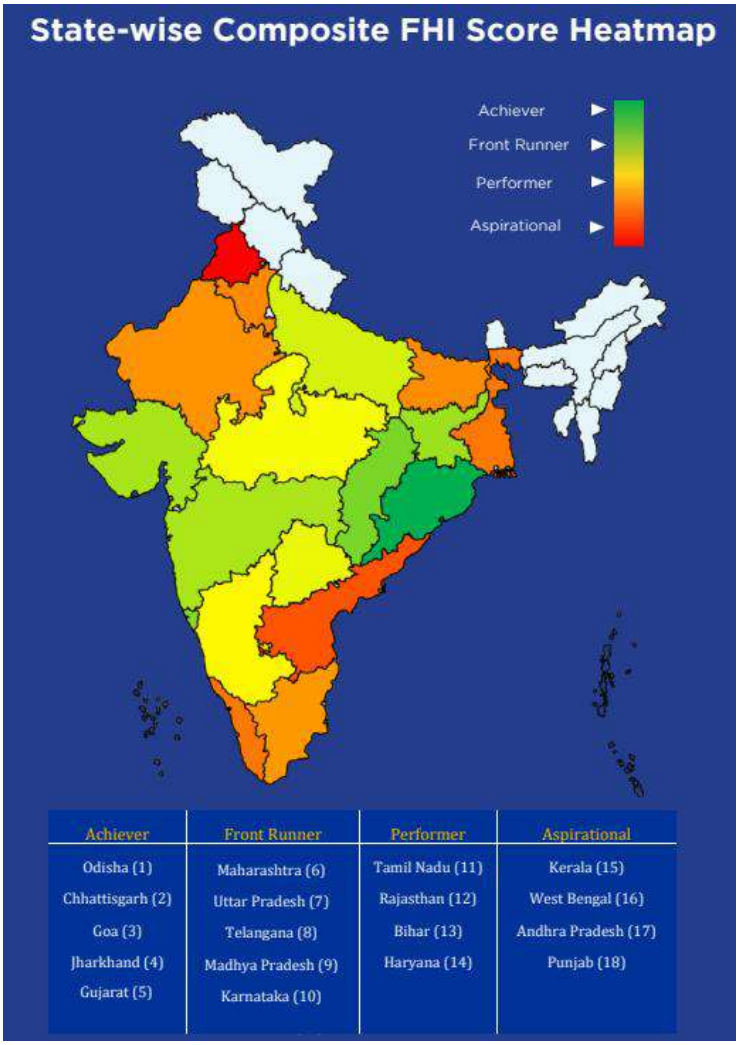
EXPLANATION:

The Fiscal Health Index (FHI) was recently released by NITI Aayog that provides a comprehensive assessment of the fiscal health of 18 major States.

The FHI is an initiative by NITI Aayog aimed to evolve an understanding of the fiscal health of states in India. The FHI analysis covers eighteen major states that drive the Indian economy in terms of their contribution to India's GDP, demography, total public expenditure, revenues, and overall fiscal stability.

- The composite FHI has been developed using data from the Comptroller and Auditor General (CAG), focusing on five sub-indices: Quality of Expenditure, Revenue Mobilization, Fiscal Prudence, Debt Index, and Debt Sustainability.

- The top five high-performing states are Odisha, Chhattisgarh, Goa, Jharkhand, and Gujarat, while the aspirational five are Haryana, Kerala, West Bengal, Andhra Pradesh, and Punjab. However, the states' performance varies across the five sub-categories.
- For instance, Uttar Pradesh and Bihar have a good score under Quality of Expenditure, but they rank lower with regard to Revenue Mobilization.
- Karnataka performs well across most indices but it ranks amongst the three aspirational states in Debt Sustainability.
- Odisha and Chhattisgarh have performed well under Revenue Mobilization, with their Own Non-Tax Revenue growing significantly due to high revenue collection from mining. However, regarding Debt Sustainability, Chhattisgarh ranks lower compared to some other states. **So, Option (c) is correct.**



62. Which of the following can occur on the action of the RBI in cutting the "basis points" in repo rate :
    1. Increased private consumption expenditure
    2. Increased private and corporate investments
    3. Appreciation in the Rupee Value

    Select the correct answer using the codes given below :

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

EXPLANATION:

Recently, RBI's Monetary Policy Committee (MPC) had reduced the repo rate by 25 basis points to 6 per cent.

The repo rate is the interest rate at which the Reserve Bank of India (RBI) lends money to commercial banks. A Basis Points (BPS) are the commonly used metric to gauge changes in interest rates. A basis point is 1/100th of one percent. It is a term that is often used when tracking macroeconomic indicators, such as inflation and interest rates.

When the RBI cuts the repo rate by a certain number of basis points, it means that it lowers the repo rate by that amount.

Which eventually leads to lower interest rates on loans offered by banks. This makes borrowing cheaper for individuals. As a result, people have more disposable income and are encouraged to spend more on goods and services, boosting private consumption.

Similarly, businesses benefit from lower borrowing costs, which reduces the cost of financing new projects, leading to increased investment in infrastructure, technology, and manpower.

Overall, the benchmark interest rate reduction will bolster private consumption and support a revival in private corporate investment. **So, Statement 1 and 2 are correct.**

A lower repo rate reduces interest rates in the economy, making investments in India less attractive to foreign investors. This can lead to capital outflows, where investors exchange rupees for foreign currency, causing the rupee to weaken or depreciate. A weaker rupee makes imports more expensive but helps Indian exports become cheaper and more competitive in global markets. **So, Statement 3 is not correct.**

63. Consider the following statements:
    1. Article 43 directs the state to secure a living wage, decent working conditions, and leisure and social opportunities for workers.
    2. India currently follows the 'minimum wages' principle, which is different from that of the 'living wages' principle.

    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

EXPLANATION:

Article 43 states that the State shall endeavour, by suitable legislation or economic organization or in any other way, to give all workers, agricultural, industrial or otherwise, work, a living wage, conditions of work ensuring a decent standard of life and full enjoyment of leisure, and social and cultural opportunities and, in particular, the State shall endeavour to promote cottage industries on an individual or co-operative basis in rural areas. **So, Statement 1 is correct.**

The Committee on Fair Wage was set up in 1948 to provide guidelines for wage structures in the country. The report of this Committee was a major landmark in the history of the formulation of wage policy in India. Its recommendations set out the key concepts of the 'living wage', "minimum wages" and "fair wage" besides setting out guidelines for wage fixation.

- A living wage considers essential expenses such as housing, clothing, food, education, healthcare, and overall standard of living.
- In contrast, minimum wages are based on labour productivity and skill levels, making living wages higher.

India currently follows the 'minimum wages' principle and aims to transition from the minimum wage to the living wage by 2025. **So, Statement 2 is correct.**

64. Which of the following best describes 'Anticipatory bail', often seen in the news?
(a) Release of the person in detention on suspicion of committing an offence.
(b) **Bail granted to a person in advance of an arrest on suspicion of non-bailable offence.**
(c) Bail granted to a person if the police fail to finish an investigation of the person in judicial custody within a time frame.
(d) Bail granted to a person for a short period of time before the hearing.

EXPLANATION:

Bail denotes the provisional release of the accused in a Criminal Case in which the trial is pending and the Court has yet to announce judgment.

- Regular Bail is the legal mechanism by which a court can order the release of someone in detention on suspicion of committing an offence, generally on the condition that the person does not leave or otherwise hinder the course of justice. These requirements may require the execution of a "personal bond", or a court may compel the execution of a bond with sureties.
- When a person is detained on suspicion of committing a bailable offence, Bail becomes a right, and the person may be released in accordance with the procedures outlined in Section 479 of the Bhartiya Nagarik Suraksha Sanhita (BNSS).

Whereas, when a person is taken to prison on suspicion of committing a non-bailable offence, Bail is discretionary, and the individual may be freed only if a good case is made out. **So, Option (a) is not correct.**

The offences in which an individual can be granted Bail as a right are known as bailable offences. A non-bailable offence is defined in Section 2(1) (c) of Bharatiya Nagarik Suraksha Sanhita (BNSS). Any offence that is not a bailable is known as a non-bailable offence. An individual's right to claim Bail does not apply in case of a non-bailable offence. The officer in charge or the Magistrate decides whether the accused should be granted Bail or not when it comes to a non-bailable offence. In very rare circumstances, Bail is granted in non-bailable cases.

- In case an FIR is lodged for a non-bailable offence, the person who apprehends an arrest should immediately apply for Anticipatory Bail. Anticipatory Bail is a way to release a person on Bail, issued even before the person is arrested.
- Section 482 of the Bharatiya Nagarik Suraksha Sanhita (BNSS) deals with the concept of Anticipatory Bail. It provides that when any person has reason to believe that he may be arrested on an accusation of having committed a non-bailable offence, he may apply to the High Court or the Court of Session for a direction under this section and that Court may if it thinks fit, direct that in the event of such arrest, he shall be released on Bail.

So, Option (b) is correct.

Default bail, also known as statutory Bail, is a right to bail that accrues when the police fail to complete the investigation within a specified period with respect to a person in judicial custody.

- This is enshrined in Section 187 of the Bharatiya Nagarik Suraksha Sanhita (BNSS), where it is not possible for the police to complete an investigation in 24 hours, the police produce the suspect in Court and seek orders for either police or judicial custody. This section concerns the total period up to which a person may be remanded in custody prior to the filing of a charge sheet.
- For most offences, the police have 60 days to complete the investigation and file a final report before the Court. However, where the offence attracts a death sentence or, life imprisonment or a jail term of not less than 10 years, the period available is 90 days. In other words, a magistrate cannot authorise a person's judicial remand beyond the 60- or 90-day limit.

At the end of this period, if the investigation is not complete, the Court shall release the person "if he is prepared to and does furnish bail". **So, Option (c) is not correct.**

Interim Bail is basically for a short duration and before the hearing or final disposal of a regular or anticipatory bail application.

- Interim Bail is important as when an application for regular or anticipatory Bail goes to Court, certain documents are required, like a charge sheet or case diary, etc. So that they can judiciously decide the application, but this process requires time, and the accused has to remain in legal custody until the Court gets the documents and can decide the bail application. But according to interim Bail, an accused can apply for it to avoid jail till the Court gets the documents, etc.

Thus, interim Bail is a temporary bail for a shorter time period, during which the Court can call the documents to make a final decision on the regular or anticipatory bail application. It is granted on some condition. Granting of interim Bail is the discretion of the Court, but decisions should be sound and guided by law. **So, Option (d) is not correct.**

65. Consider the following statements with reference to the arrest:
    1. The term 'arrest' is defined in the Indian Constitution.
    2. It is mandatory to restrict the arrest of women after sunset and before sunrise.
    3. A person accused of committing a non-cognizable offence can be arrested if they refuse to give their name and residence to a police officer.

    Which of the statements given above are ***not*** correct?

    (a) **1 and 2 only**
    (b) 2 and 3 only
    (c) 1 and 3 only
    (d) 1, 2 and 3

EXPLANATION:

The term "arrest" is not defined in the Indian Constitution. However, the term arrest is mentioned in Article 22 of Part III of the Constitution under the Fundamental Rights. Article 22 grants protection to persons who are arrested or detained. Article 22 has two parts–the first part deals with the arrest of the cases of ordinary law, and the second part deals with the cases of preventive detention law. **So, Statement 1 is not correct.**

Recently, the Madurai Bench of the Madras High Court in Deepa versus S. Vijayalakshmi and Others held that Section 43(5) of Bharatiya Nagarik Suraksha Sanhita (BNSS) (which corresponds to Section 46(4) of CrPC), which prohibits the arrest of women before sunrise and after sunset hours without prior permission from the judicial magistrate, is directory and not mandatory.

Two safeguards are provided under Section 43(5) of BNSS for the arrest of a woman by the police. First, no arrest of a woman shall be made after sunset and before sunrise except in exceptional circumstances. Second, even in exceptional circumstances, the prior permission of the jurisdictional magistrate must be sought by a woman police officer by making a written report.

The court also directed the police department to issue further guidelines clarifying what would constitute exceptional situations under the section. **So, Statement 2 is not correct.**

The word 'cognizable' stands for 'a police officer can arrest without warrant, and the word 'non-cognizable' stands for 'a police officer cannot arrest without warrant'."

According to the Bharatiya Nagarik Suraksha Sanhita (BNSS), section 39 provides that When any person who, in the presence of a police officer, has committed or has been accused of committing a non-cognizable offence refuses on demand of such officer to give his name and residence or gives a name or residence which such officer has reason to believe to be false, he may be arrested by such officer in order that his name or residence may be ascertained. **So, Statement 3 is correct.**

66. With reference to the minority educational institutions, consider the followings :
    1. The Supreme Court has laid down specific parameters to determine the minority status of any such religious or linguistic educational institution.
    2. Reservations in favour of Scheduled Castes and Scheduled Tribes (SC/ST) done under Article 15 does not apply to minority educational institutions.

    Which of the above statements is/are correct?

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

EXPLANATION:

Under Article 30 of the Indian Constitution, all minorities shall have the right to establish and administer educational institutions of their choice.

The protection under Article 30 is confined only to minorities (religious or linguistic) and does not extend to any section of citizens (as under Article 29). However, the term 'minority' has not been defined anywhere in the Constitution.

Recently Supreme court laid down the following factors as indicators to determine whether an institution is a minority institution:

- Establishment: The courts must find out who originally had the idea to set up the institution. The idea must come from a person or group belonging to the minority community.
- Purpose of Establishment: The institution must be mainly created for the benefit of the minority community, though it can also serve others. Evidence like letters, documents, or records showing the intent to serve a minority group can be used.
- Implementation: Courts will look at who provided the funds, who bought the land, and who built the institution. If the State gave aid after the institution was set up, it will not affect the minority status.
- Administration: Administration is a result of establishment, not a requirement at the start. The key is whether the administrative setup continues to show the minority character. For institutions created before the Constitution, their administration will be judged based on how it was when the Constitution came into force.

So, Statement 1 is correct.

Though reservation was made applicable to the socially and educationally Backward Classes of citizens, Scheduled Castes and Scheduled Tribes (SC/ST) for admission, from the educational institutions, the minority educational institutions were consciously excluded from the operation of Article 15(5) of the Constitution of India.

In the case of Ashoka Kumar Thakur v/s Union of India, the Supreme Court ruled that minority educational institutions are not required to follow reservation policies mandated for State-run or general institutions.

This protects the autonomy of minority institutions, ensuring they are not compelled to implement reservation policies that may contradict their own principles or constitutional rights.

A minority institution was permitted to admit 50 per cent of the students from a minority community and the remaining 50 per cent from other communities.

Thus, reservation in favour of Scheduled Castes and Scheduled Tribes (SC/ST) under Article 15 does not apply to minority educational institutions.

So, Statement 2 is correct.

67. Which of the following best describes the term "Doctrine of Occupied Field" ?
(a) It is a legal principle used to determine the true nature of a law when there is a conflict between the Parliament and the State Legislature in a federal system.
(b) It is applied when Parliament enacts a comprehensive law on a subject within the Concurrent List, the State Legislature cannot legislate on the same subject.
(c) It is used to determine questions of competency to enact a law when a legislature oversteps its conferred power and legislates upon something indirectly, which it cannot do in a direct manner.
(d) It is applied to remove certain parts of a statute or provisions of law when declared invalid.

EXPLANATION:

The Parliament or a State Legislature should make laws within their respective jurisdictions and should not encroach upon the other's sphere. If it encroaches, then the validity of the law enacted by it is determined by applying the doctrine of pith and substance. "True nature and character" is what the phrase "pith and substance" signifies.
The doctrine of pith and substance has been relevant in a number of cases when there is a conflict between the Parliament and State Legislature in a federal system. Because the Centre has more clout in India than the states, several of the subjects on the Union List are extremely important. States are only obligated to legislate on things that affect them. Even yet, overlaps may exist merely because one legislation is linked to another, either directly or indirectly. It is, therefore important that the courts carry out their responsibilities without error.
In the Indian Constitution, this doctrine is firmly supported by Article 246 and the seventh schedule through which the constitution of India clearly divides the scope of legislative powers between the Centre and states. **So, Option (a) is not correct.**

The term occupied field refers to a field that is already occupied. The Doctrine of Occupied Field is a legal principle in Constitutional Law that deals with the distribution of powers to the government at different levels within a federal system.

- It essentially means that if a particular subject matter or field is exclusively occupied by legislation at one level of government, i.e., either central or state, then the other level of government cannot legislate on the same subject matter. This doctrine helps avoid conflicts and overlaps in legislative authority.
- When there is a disagreement between a law passed by the national or central government and a law passed by a state government, and both laws are related to subjects listed in the Concurrent List of the Constitution, the national law usually prevails.
- The doctrine is supported by Article 256 of the Indian constitution, which deals with the concept of inconsistency between laws made by the central government and the state government on the matters that are in the concurrent list of the seventh schedule of the constitution. **So, Option (b) is correct.**

The constitution (under Article 246) provides for the division of legislative powers between the Parliament and the State Legislatures, namely, the Union List, the State and the Concurrent List under the Seventh Schedule. Both are required to operate within their respective legislative competence. But, sometimes, a legislature makes a law which, though in form appears to be within its competence, in effect and substance lies beyond its ambit. Then, the law would be declared void. In other words, the different colour given to the law (by the legislature so as to bring it within its ambit) would not save it from being declared invalid. Such a law is called colourable legislation.

- The Doctrine of Colourable legislation would emerge only when a legislature had no power to legislate on an item either because it was not included in the list assigned to it under the respective entries in the Seventh Schedule or on account of limitations imposed whether under Part III of the Constitution (relating to the Fundamental rights) or any other power under the constitution.
- The doctrine of Colourable legislation is based upon the maxim that "you cannot do indirectly what you cannot do directly" (i.e., what cannot be done directly cannot also be done indirectly). This means that the use of the expression 'colourable legislation' conveys that by enacting the legislation in question, the legislature is seeking to do indirectly what it cannot do directly. **So, Option (c) is not correct.**

The doctrine of severability is also known as the doctrine of separability. The doctrine of severability can be applied to invalidate the unconstitutional portion of a provision that is not related to the overall object of the statute.

- According to this doctrine, if the offending provision of the law can be separated, only that part of the law, which is offending is to be declared as void and not the whole of the law. In other words, if the invalid part of the law can be separated from the rest, then the rest may continue to be valid and operative.
- However, if it is not possible to separate the valid part of the law from the invalid part, then the whole of the law is declared void. This process of omitting an unconstitutional portion does not amount to judicial legislation. **So, Option (d) is not correct.**

68. Consider the following statements :
(a) State governments have the power to create sub-classification within the reserved Scheduled Caste (SC) category but not within that of the Scheduled Tribe (ST).
(b) Haryana was the first state to provide a 'sub-quota' for deprived SCs in government jobs.
Which of the above statements is/are correct ?
(a) 1 only
(b) **2 only**
(c) Both 1 and 2
(d) Neither 1 nor 2

EXPLANATION:

Recently, a seven-judge Constitution Bench of the Supreme Court upheld the validity of sub-classification within Scheduled Castes and Scheduled Tribes (SC/ST) for reservation purposes.
This 6:1 majority decision overruled the 2004 judgment in E.V. Chinnaiah v. State of Andhra Pradesh, which had previously held that SCs and STs form homogeneous groups and could not be sub-classified for reservations.

- Articles 341 and 342 of the Indian Constitution empower the President to specify the castes, races, or tribes that shall be deemed as Scheduled Castes and Scheduled Tribes in relation to a state or union territory.
- The Supreme Court clarified that while Articles 341 and 342 allow for the identification of SCs and STs, it does not preclude the state from making sub-classifications within this category to ensure equitable distribution of reservation benefits.
- The court clarified that sub-classification would not violate Articles 341 and 342 as long as it doesn't provide exclusive benefits to certain castes over all reserved seats.

Therefore, according to the ruling, State governments have the power to create sub-classification within the reserved Scheduled Caste (SC) and Scheduled Tribe (ST) category. **So, Statement 1 is not correct.**

Haryana was the first state to notify sub-categorization of schedules castes following a Supreme Court ruling that allowed for the division to ensure equitable distribution of reservation benefits.
The state has divided the Scheduled Castes into two groups: Deprived Scheduled Castes (DSC) and Other Scheduled Castes (OSC), with each group receiving 50% of the 20% SC quota in government jobs. **So, Statement 2 is correct.**

69. Consider the following pairs :

Sl. No.	***Celebratory Day***		***Date***
1.	Pravasi Bharatiya Diwas	-	9th January
2.	Veer Bal Diwas	-	26th December
3.	Jan Jati Gaurav Diwas	-	15th November
4.	Parakram Diwas	-	23rd January

Which of the above are correctly matched ?
(a) 1 only
(b) 2 and 3 only
(c) 3 and 4 only
(d) 1, 2, 3 and 4

EXPLANATION:

Pravasi Bharatiya Divas (PBD) is celebrated on 9 January every year to mark the contribution of the Overseas Indian community in the development of India.
January 9 was chosen as the day to celebrate this occasion since it was on this day in 1915 that Mahatma Gandhi, the greatest Pravasi, returned to India from South Africa, led India's freedom struggle and changed the lives of Indians forever. Pravasi Bharatiya Divas conventions have been held every year since 2003. **So, Pair (1) is correct.**

Veer Bal Diwas is observed annually on December 26 in India to commemorate the extraordinary sacrifices made by the four sons of Guru Gobind Singh Ji.
In particular, this day honors the unmatched bravery and martyrdom of the younger sons, Baba Zorawar Singh and Baba Fateh Singh, who stood firm in their faith despite facing brutal persecution.
The Government of India declared Veer Bal Diwas as a national observance in 2022, aiming to honor the courage, dedication, and sacrifice of these young martyrs, known as the Sahibzades.
To mark the occasion, participatory programmes are organized across the country to inform and educate citizens, especially young children, about the inspiring story of the Sahibzades' valor and commitment to righteousness. **So, Pair (2) is correct.**

The Government of India has declared 15th November as Janjatiya Gaurav Divas, dedicated to the memory of brave tribal freedom fighters. The declaration was made in 2021 to honor the birth anniversary of Bhagwan Birsa Munda, an iconic leader in India's tribal freedom movement.

- India's freedom struggle was strengthened by several movements by tribal communities such as Santhals, Tamars, Kols, Bhils, Khasis and Mizos to name a few.
- The revolutionary movements and struggles organized by the tribal communities were marked by their immense courage and supreme sacrifice.
- Tribal movements in different regions of the country against the British colonial rule got linked with the national freedom struggle and inspired Indians all over the country. However, the public at large is not much aware about these tribal heroes.
- To make the coming generations aware about their sacrifices to the country, Government has declared 15th November as Janjatiya Gaurav Divas. **So, Pair (3) is correct.**

The Government of India celebrated the 125th Birth Anniversary year of Netaji Subhas Chandra Bose at the national and international levels, beginning from 23rd January 2021.

- Government announces 23rd January to be celebrated as "Parakram Diwas' every year in order to honour and remember Netaji's indomitable spirit and selfless service to the nation.
- To inspire people of the country, especially the youth, to act with fortitude in the face of adversity as Netaji did, and to infuse in them a spirit of patriotic fervour. **So, Pair (4) is correct.**

70. Consider the following statements with reference to the National Investigation Agency (Amendment) Act, 2019 :
1. This amendment empowered the NIA to investigate scheduled offences involving Indian citizens that are committed outside India.
2. Human trafficking, counterfeit currency or bank notes-related cases are exempted from the purview of the NIA mandate.
3. It only grants the central government the power to appoint Sessions Courts as Special Courts for the adjudication of specified offences.

Which of the statements given above is/are correct ?

(a) **1 only**
(b) 2 only
(c) 3 only
(d) 1 and 3 only

EXPLANATION:

The National Investigation Agency (NIA) was set up under the National Investigation Agency Act, 2008 as a Central Counter Terrorism Law Enforcement Agency in the wake of the 26/11 Mumbai attacks.
The Agency investigates and prosecutes offences affecting the sovereignty, security and integrity of India, security of State, friendly relations with foreign States, matters relating to international treaties etc. specified in the Schedule to the NIA Act, 2008.
The Government has empowered the NIA through NIA (Amendment) Act, 2019 to investigate scheduled offences involving Indian citizens or Indian interests that are committed outside India. **So, Statement 1 is correct.**

The Act allows for the creation of Special Courts for the trial of scheduled offences.
The schedule to the Act specifies a list of offences which are to be investigated and prosecuted by the NIA. These include offences under Acts such as the Atomic Energy Act, 1962, and the Unlawful Activities Prevention Act, 1967.
The Amendment Act allow the NIA to investigate the following offences, in addition:

- human trafficking,
- offences related to counterfeit currency or bank notes,
- manufacture or sale of prohibited arms,
- cyber-terrorism, and
- offences under the Explosive Substances Act, 1908. **So, Statement 2 is not correct.**

The Act allows the central government to constitute Special Courts for the trial of scheduled offences. The Amendment Act made changes that the central government may designate Sessions Courts as Special Courts for the trial of scheduled offences.
The central government is required to consult the Chief Justice of the High Court under which the Sessions Court is functioning, before designating it as a Special Court.
When more than one Special Court has been designated for any area, the senior-most judge will distribute cases among the courts.
Further, state governments may also designate Sessions Courts as Special Courts for the trial of scheduled offences. **So, Statement 3 is not correct.**

71. With reference to the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PMJAY) scheme, consider the following statements :
    1. Senior citizens aged 70 and above and belonging to below poverty line background will be offered a health cover of up to Rs 10 lakh annually.
    2. Free healthcare and cashless treatments will be provided to senior citizens in both government and private hospitals.
    3. All diagnostic tests and health check-ups are provided free of cost.

    Which of the statements given above is/are correct ?

    (a) 1 only
    (b) **2 and 3 only**
    (c) 3 only
    (d) 1 and 3 only

EXPLANATION:

Recently, the Union Cabinet approved a significant expansion of the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY). This decision aims to extend health coverage to all senior citizens aged 70 years and above, regardless of their income or socio-economic status.

This expansion is expected to benefit approximately 4.5 crore families, covering around 6 crore senior citizens, by providing free health insurance coverage of up to ₹5 lakh per family per year. (not ₹10 lakh) **So, Statement 1 is not correct.**

- As part of this initiative Every senior citizen in the 70+ age group will receive a distinct AB PM-JAY card to access scheme benefits.
- Senior citizens already enrolled in families covered by AB PM-JAY will receive an additional ₹5 lakh top-up cover per year, exclusively for their use, separate from the family's existing coverage.
- Senior citizens not yet covered under the scheme will be provided ₹5 lakh of annual family coverage upon enrolment.
- Moreover, those already covered under other public health insurance schemes such as Central Government Health Scheme (CGHS), Ex-Servicemen Contributory Health Scheme (ECHS), or Ayushman CAPF will have the option to either continue with their current plan or switch to AB PM-JAY.
- Senior citizens covered under private health insurance or the Employees' State Insurance (ESI) scheme will also be eligible to access AB PM-JAY benefits.
- This expansion reflects a major step toward inclusive healthcare and reinforces the government's commitment to ensuring the well-being of India's elderly population.

Key Features of Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (PM-JAY) are as follows:

- It is the largest health assurance initiative globally, fully funded by the Government of India.
- Each eligible family is entitled to ₹5 lakh per year for secondary and tertiary care hospitalisation in empanelled public and private hospitals across India.
- Beneficiaries receive cashless treatment, eliminating the need for out-of-pocket payments at the time of hospitalisation.
- The scheme includes 3 days of pre-hospitalisation and 15 days of post-hospitalisation expenses, covering diagnostics and prescribed medications.
- There are no restrictions on the number of family members, their age, or gender, ensuring inclusivity.
- All pre-existing conditions are covered from the day of enrolment, ensuring uninterrupted access to healthcare.
- Beneficiaries can avail of cashless treatment at any empanelled hospital across the country, offering flexibility and accessibility regardless of location.
- PM-JAY covers 1,949 treatment procedures across 27 medical specialities, including General Medicine, Surgery, Oncology, and Cardiology.
- All diagnostic tests and health check-ups are provided free of cost. It also includes:
  - Free medicines (up to 15 days post-discharge)
  - Free diagnostics (up to 3 days pre-admission)
  - Free food and lodging during hospital stay
- Public hospitals are reimbursed at the same rates as private hospitals, promoting equitable service delivery across healthcare providers. **So, Statements 2 and 3 are correct.**

72. Consider the following information :

S.No	***Ocean current***	***Ocean***	***Type***
1.	Falkland Current	Pacific Ocean	Cold
2.	Agulhas Current	Indian Ocean	Cold
3.	Canaries Current	Atlantic Ocean	Warm

How many of the above information are correctly matched ?

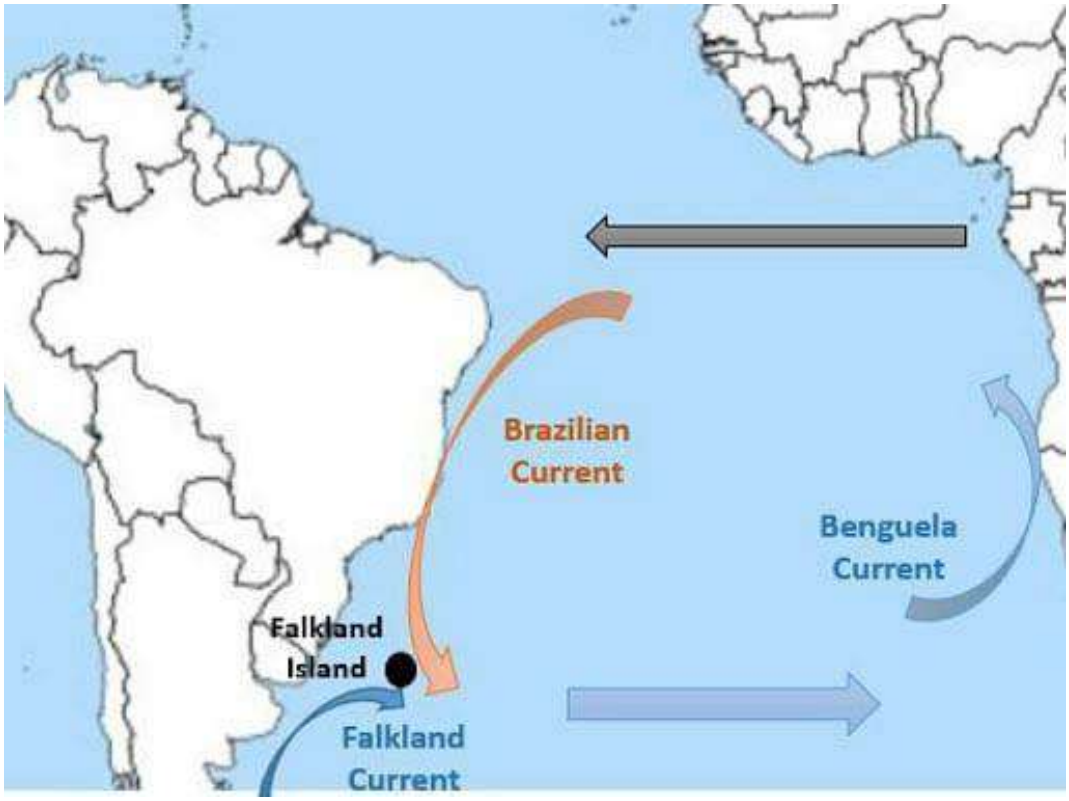
(a) All Rows are correctly matched
(b) Only one row is correctly matched
(c) Two rows are correctly matched
(d) No row is correctly matched

EXPLANATION:

Ocean currents are continuous, predictable movements of ocean water driven by gravity, wind (Coriolis force), and water density. Horizontal movements are referred to as currents, while vertical movements are known as upwelling or downwelling.

Warm currents carry water from tropical regions to colder areas, while cold currents transport water from colder regions to warmer ones.

The Falkland current, also known as the Malvinas Current is a cold current originates from the Antarctic Circumpolar Current and flows northward along Patagonia's coast, transporting nutrient-rich cold water to the Brazilian Current. These current results from the movement of water from the Atlantic Drift as it rounds Cape Horn. Thus, Falkland Current is a cold current in South Atlantic Ocean (not in Pacific Ocean). **So, Row 1 is not correct.**

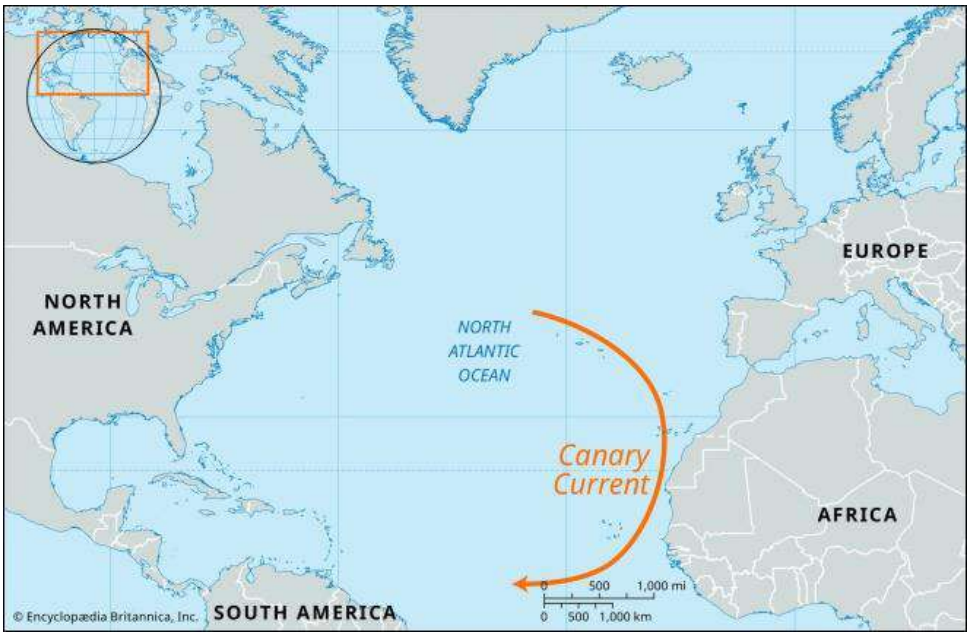


The Agulhas Current forms the western boundary current of the Southern Indian Ocean, flowing southward along the coast of Mozambique and South Africa. It then turns eastward, joining the flow from Africa to Australia. The sources of the Agulhas Current include the East Madagascar Current and the Mozambique Current. The Agulhas Current is a warm current (not a cold current).

The Agulhas Current acts as a convergence zone where warm water from the Indian Ocean meets cold water from the Antarctic Circumpolar Current, resulting in an upwelling zone that supports productive marine life. The interaction between the Agulhas Current and the Benguela Current aids in thermohaline circulation, mixing warm and cold waters. Due to wind velocities and interactions with the Antarctic Circumpolar Current, the Agulhas Current retroflects, re-entering the Indian Ocean and feeding into the South Atlantic Gyre, a process called Agulhas Leakage. **So, Row 2 is not correct.**

The Gulf Stream originates in the Gulf of Mexico, flows along the eastern margins of North America, and continues near Newfoundland, Canada.

As the Gulf Stream continues, it splits into the Canary Current (cold) and the North Atlantic Drift (warm). The Canary Current flows along the western coast of North Africa, while the North Atlantic Drift moves northward, reaching the British Isles and Norway. The Canary Current plays a significant role in upwelling, interacting with the Equatorial Counter current. Thus, Canary Current is a cold current in North Atlantic Ocean. **So, Row 3 is not correct.**



73. The terms "Hunza", "Gasting" and "Shigar" are related to which one of the following ?

(a) Himalayan drainage
(b) Arabian Sea Islands
(c) Protected animals
(d) Defence establishments

EXPLANATION:

Hunza, Gasting, and Shigar are all names of rivers that are tributaries of the Indus River, which flows through the Himalayan drainage.

- The Indus River, also known as the Sindhu, is the westernmost of the Himalayan rivers in India. Originating from a glacier near Bokhar Chu in the Tibetan region at an altitude of 4,164 m in the Kailash Mountain range, it flows through the Himalayan drainage.
- The Indus receives several Himalayan tributaries, including the Shyok, Gilgit, Zaskar, Hunza, Nubra, Shigar, Gasting, and Dras. It emerges from the hills near Attock, where it receives the Kabul River on its right bank.
- Other major right-bank tributaries, originating in the Sulaiman ranges, include the Khurram, Tochi, Gomal, Viboa, and Sangar.
- The river flows southward, receiving the Panjnad River (formed by the confluence of the Satluj, Beas, Ravi, Chenab, and Jhelum rivers) just above Mithankot.
- The Indus eventually discharges into the Arabian Sea, east of Karachi. It flows through the Indian Union Territories of Ladakh and Jammu & Kashmir. **So, Option (a) is correct.**

74. Consider the following statements with reference to tungsten :
    1. India holds two-thirds of the world's reserves of tungsten.
    2. It is a rare, refractory metal found naturally on Earth.
    3. Pure tungsten is a silver-white metal, and when made into a fine powder, can be combustible and can spontaneously ignite.
    4. Occurring as a free metal, it has the highest melting point of all metals.

    How many of the above statements are correct?
    (a) Only one
    (b) **Only two**
    (c) Only three
    (d) All four

EXPLANATION:

World tungsten resources are geographically widespread. China ranks first in the world in terms of tungsten resources and reserves and has some of the largest deposits. The world reserves of tungsten in terms of metal content are about 3.8 million tonnes, distributed broadly amongst China (47%), Russia (11%), Vietnam (3%) and Spain (1%).

The world mine production of tungsten in terms of metal content in 2021 increased marginally by 9% from 2020. China was the leading producer (75%), followed by Vietnam (15%), Russia (3%) and Austria, Bolivia, & Rwanda (1% each).

Therefore, India is not the largest producer of tungsten in the world and does not hold 2/3rd of the world's reserves. **So, Statement 1 is not correct.**

Tungsten, also known as wolfram, is a dense, lustrous, greyish white to steel-grey metal that belongs to the group of refractory metals. Refractory metals are a group of metallic elements that are highly resistant to heat and wear.

Tungsten stands out for having the highest density and the highest melting point among all metals. It is also the most abundant of the refractory metals. However, it is inherently brittle, which makes it more difficult to work with compared to other metals.

Tungsten is considered a strategically important metal, playing a vital role in the country's industrial development.

It occurs naturally, often in combination with other elements. The main sources of tungsten are the minerals scheelite (calcium tungstate, $CaWO_4$) and wolframite [a mixture of ferrous tungstate and

manganous tungstate, (Fe,Mn)WO_4]. These minerals are predominantly of hydrothermal origin. **So, Statement 2 is correct.**

Pure tungsten is a shiny, silvery-white metal, and when made into a fine powder, it can be combustible and can spontaneously ignite. It has the highest melting point of 3,422 °c of all metals and is alloyed with other metals to strengthen them. Tungsten and its alloys are used in many high-temperature applications, such as arc-welding electrodes and heating elements in high-temperature furnaces.
Tungsten does not occur as a free metal but is found along with other elements. **So, Statement 3 is correct and Statement 4 is not correct.**

75. With reference to the different burial practices of Harappan sites, consider the following statements :
    1. A symbolic burial with only pots and no bones was found at Lothal.
    2. The three joint burials with male and female bodies together were found at Kalibangan.

    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**

EXPLANATION:

The burial practices and the rituals related to them have been a very important aspect of religion in any culture. However, in this context, Harappan sites have not yielded any monuments, such as the Pyramids of Egypt or the Royal Cemetery at Ur in Mesopotamia.

- At burials in Harappan sites, the dead were generally laid in pits. Sometimes, there were differences in the way the burial pit was made – in some instances, the hollowed-out spaces were lined with bricks.
- At Lothal, three joint or double burials with male and female bodies together were discovered.
- Kalibangan has yielded evidence of a symbolic burial, i.e., a burial that contains pots but no bones or skeleton. These different practices in different regions of Harappan civilization may reflect diversity in religious beliefs. **So, Option (d) is correct.**

76. Consider the following statements :

Statement 1 :

Koshala and Magadha emerged as powerful states among other Mahajanapadas during 5th Century BCE.

Statement 2 :

Koshala and Magadha were ruled by hereditary monarchs belonging to the Kshatriya varna.

Which one of the following is correct in respect of the above statements ?
(a) Both Statement I and Statement II are correct, and Statement II is the correct explanation of Statement I
(b) Both Statement I and Statement II are correct, but Statement II is not the correct explanation of Statement I
(c) Statement I is correct, but Statement II is incorrect
(d) Statement I is incorrect, but Statement II is correct

EXPLANATION:

Among the 16 mahajanapadas, Kasi was initially powerful. However, Kosala became dominant later. A power struggle broke out between Magadha, Kosala, Vrijji and Avanti.
Eventually Magadha emerged as the dominant mahajanapada during 5th century BCE and established the first Indian empire.

- The first known ruler of Magadha was Bimbisara of the Haryanka dynasty. Bimbisara ruled for 52 years from 544 BC to 492 BC. He extended the territory of Magadhan Empire by matrimonial alliances and conquests. By marrying off his sister to Prasenajit, ruler of Kosala, he received Kasi as dowry. He also married the princesses of Lichchhavis and Madra. He maintained friendly relations with Avanti but annexed Anga by military might. Thus, Magadha became a powerful and prominent among other Mahajanapadas during 5th Century BCE. **So, Statement 1 is not correct.**
- Most of the kingdom of sixth century BCE of which Kosala and Magadha were the most powerful, were ruled by hereditary monarchs belonging to Ksatriya varna. The king enjoyed the highest social status in society. **So, Statement 2 is correct.**
- But some of the states, followed an oligarcharical system of governance called ganasangha. In this system unlike monarchies, where a hereditary king rules, administration was run by an elected king with the help of a large council or assemblies comprising heads of all important clans and families.

77. Who among the following accepted Buddha's doctrines and became his disciples ?
    1. Bimbisara
    2. Ajatasatru
    3. Prasenajita
    4. Udayana

    Select the correct answer using the code given below
    (a) 1 only
    (b) 1 and 2 only
    (c) 1, 2 and 3 only
    (d) 1, 2, 3 and 4

EXPLANATION:

Asvajit, Upali, Mogallana, Sari-putra and Ananda were the first five disciples of the Buddha. The Buddha laid the foundations of the Buddhist Sangha. He preached most of his sermons at Shravasti. Anathapindika, the rich merchant of Shravasti, became his follower and made liberal donations to the Buddhist order.
Soon, Buddha started visiting places to propagate his sermons. He visited Sarnath, Mathura, Rajgir, Gaya and Pataliputra. Kings like Bimbisara, Ajatasatru (Magadha), Prasenajita (Kosala) and Udayana (Kausambi) accepted his doctrines and became his disciples. He also visited Kapilavastu and converted his foster mother and his son Rahula to his faith. At the age of 80 (486 B.C.), he died at Kusinagara (Kasia in Deoria district in Uttar Pradesh), the capital of the Mallas. **So, Option (d) is correct.**

78. Consider the following pairs :

S. No	***Temples***		***Built by***
1.	Adityesvara temple	-	Parantaka I
2.	Panchavanmadeviswaram	-	Rajaraja I
3.	Arinjaya Choleeshwaram	-	Rajendra I

How many of the above pairs are correctly matched ?
(a) Only one
(b) Only two
(c) All three
(d) None

EXPLANATION:

Kodandaramesvara Swamy Temple (Adityeswara Temple) is located in Bokkasampalem, Andhra Pradesh. Bokkasampalem is situated at a distance of 2 km away from Tondamanadu in Sri Kalahasti Mandal. The

village contains a temple dedicated to Siva under the name Kodandaramesvara alias Adityesvara. The Adityesvara temple is said to be a pallipadai built in honour of Chola king Aditya I by his son Parantaka I in or before A.D.940-41.
A Pallipadai is a burial spot – usually for some members of royal families or soldiers – above which a deity's sculpture has been placed. **So, Pair (1) is correct.**

Rajendra Chola built the Panchavanmadeviswaram temple for his stepmother, Panchavan Madevi, and originally, Siva's name at this temple was Panchavan Madeveeswarathu Mahadevar.
In the time of Rajendra Chola, the place was also called Mudikonda Cholapuram. Interestingly, no other queen of Rajaraja Chola has a Pallipadai temple, not the principal queen Uloka Madevi, and not even Rajendra Chola's birth mother Vanavan Madevi – such was the love that Panchavan Madevi is said to have had for Rajendra Chola, that she is said to have consumed herbs to ensure she is not capable of bearing children so that her husband Rajaraja Chola could make his son Rajendra Chola the heir and future king.
Thus, Panchavanmadeviswaram was erected by Rajendra I in memory of his stepmother, Panchavan Madeviyar, who was one of the wives of Rajaraja I. **So, Pair (2) is not correct.**

Melpadi is a very historic place located in Walajah Taluk of Vellore District. The great King Raja Raja Cholan raised a temple here for God Somanathar. He raised a Pallipadar temple for his grandfather, Arinjaya Cholan, over his cemetery. It is named after the king as, Arinjaya Choleeshwaran. The commendable aspect is that both the temples are located near the banks of the river Nuga.
Thus, Arinjaya Choleeshwaram was constructed by Rajaraja I to commemorate the death of Chola king Arinjaya. **So, Pair (3) is not correct.**

79. Consider the following statements :
    1. Astasahasrika Prajnaparamitra is a Jain palm leaf manuscript.
    2. Kalpa Sutra is the Buddhist Canonical text narrating the entire life of the Buddha.

    Which of the above given statements is/are correct ?
    (a) 1 only
    (b) 2 only
    (c) Both 1 and 2
    (d) Neither 1 nor 2

EXPLANATION:

The earliest examples of Indian paintings from the 11th–12th centuries are found in manuscripts of the Palas of eastern India. The Pala period marks the last great phase of Buddhist art in India. Major centres of Buddhist learning and art included Nalanda and Vikramsila, where palm-leaf manuscripts were illustrated with Vajrayana Buddhist themes. Features of Pala paintings are :

- Use of flowing and sinuous lines.
- Subdued colour tones.
- Strong sculptural-painting stylistic link, reminiscent of Ajanta.

A fine example of a Pala Buddhist palm leaf manuscript (Not Jains) is Astasahasrika Prajnaparamita (Bodleian Library, Oxford) or the 'Perfection of Wisdom', written in eight thousand lines. Painted at the monastery of Nalanda in the fifteenth year of the reign of the Pala King, Ramapala, in the last quarter of the eleventh century, it has six pages of illustrations and wooden covers painted on both sides. **So, Statement 1 is not correct.**

The Kalpasutra is the most widely illustrated canonical text in the Jain tradition (not Buddhist). It contains biographical accounts of the 24 Tirthankaras, depicting events from birth to salvation. Artists were given rich narrative material, with focus on five key life events of each Tirthankara:

- Conception
- Birth

- Renunciation
- Enlightenment
- First sermon

Salvation (moksha) and surrounding events are also frequently illustrated in it. These themes provided the basis for centuries of Jain manuscript painting tradition. **So, Statement 2 is not correct.**

80. In the context of Indian culture and Heritage, the term Pratima Lakshana refers to
(a) Textile technique in Eastern India
(b) Dance form mentioned in Natya Sastra
(c) Minting coins with Panchaloha
(d) Art of Image making

EXPLANATION:

The third Khanda of the Vishnudharmottara Purana, a 5th-century text, contains a chapter called the Chitrasutra, which discusses the art of image-making known as Pratima Lakshana—the canons of painting.
It covers detailed aspects of painting, including tools, materials, techniques, surfaces (like walls), perception, perspective, and even the three-dimensionality of human figures. It elaborates on the six limbs (shadanga) of painting:

- Roopabheda – Looks and appearance
- Pramana – Measurements, proportions, and structure
- Bhava – Expressions and emotions
- Lavanya Yojana – Aesthetic composition
- Sadrishya – Resemblance or likeness
- Varnika Bhanga – Use of brushwork and colors

Each of these concepts includes various sub-sections and practical examples. These principles were studied and practiced by artists over centuries, forming the foundation of all traditional painting styles and schools in India. **So, Option (d) is correct.**

81. Consider the following Pairs :

Sl.No.	***Paintings***		***Region***
1.	Pithora	-	Gujarat and madhya Pradesh
2.	Gond	-	Jharkhand
3.	Pata Phad	-	Assam
4.	Warli	-	Andhra Pradesh

How many of the pairs given above are correctly matched ?
(a) Only one
(b) Only two
(c) Only three
(d) All four

EXPLANATION:

Pithora painting is a ritualistic folk art practiced by the Bhil and Rathwa tribes in Rajasthan, Madhya Pradesh, and Gujarat.
These paintings are created on the inner walls of homes during religious ceremonies held in the name of 'Pithora Baapdev', the tribal deity. This ritual takes place once a year, and the wall becomes a sacred space where the deity is worshipped.
The art is traditionally executed by male artists known as 'Likhandra', who are the only ones permitted to paint Pithora in their community. This exclusivity emphasizes the ritual and cultural sanctity of the practice.

➢ Pithora painting serves as a visual folklore, narrating the legends of the Bhils, including stories of Pithora Kunwar, Indiraja, Kajal Rani, Dharmi Raja, and Himala Behn. ➢ These stories are not only painted but also sung as part of the ritual, creating a holistic cultural performance. ➢ The paintings are rich in symbolism and daily life motifs. The most frequently depicted figures are horses, believed to carry spiritual significance. ➢ The artwork also includes scenes of tribal life—like farming, women performing chores, animals, natural elements, and even modern objects like cars, trains, and airplanes, showing how the art evolves with time while preserving its roots. **So, Pair 1 is correct.**
➢ The word 'Gond' comes from the Dravidian expression 'Kond' which means 'green mountain'. ➢ Gond painting is a famous folk art of the Gond tribal community of central India. It is a form of painting from folk and tribal art that is practised by one of the largest tribes in India – the Gond, who are predominantly from Madhya Pradesh, but can also be found in pockets of Andhra Pradesh, Maharashtra, Chhattisgarh, and Odisha. ➢ The history of the Gond people spans nearly 1400 years, and their art is characterised by its mystical motifs, intricate patterns, vibrant colours, and touches of humour, reflecting a contemporary sensibility in their creations. ➢ The paintings use vibrant colours like orange, yellow, blue and red, and are created with articulately drawn lines and dots as a method to bring them to life. ➢ Natural colours obtained from various sources like flowers, stones, etc., are used for the creation of these beautiful paintings. **So, Pair 2 is not correct.**
➢ Phad (known as pata phad) finds its origins in Shahpura, near Bhilwara, Rajasthan. ➢ Phad is a type of scroll painting that narrates elaborate religious stories of local deities and gods. Created as travelling or mobile temples, these traditional paintings were carried by priest-singers of the Rabari tribe, called Bhopas and Bhopis, who would sing and perform stories of their local deities - Devnarayanji (a reincarnation of Vishnu) and Pabuji (a local hero). ➢ The Phad painting would be unrolled, or unfolded, after sunset, and the performance in front of village members would last into the night. ➢ This is perhaps why the paintings are called 'Phad', which means 'fold' in the local dialect. **So, Pair 3 is not correct.**
➢ Warli painting, one of India's oldest folk art forms, has its origins in the tribal communities of Maharashtra. However, this beautiful and symbolic art form has also found its way into Gujarat, where it continues to flourish. ➢ The figures and shapes in Warli paintings are highly geometric, simple yet filled with meaning. Circles in the paintings represent natural elements like the sun and moon, while triangles symbolise mountains and trees, and squares often denote human enclosures or settlements. ➢ The human and animal figures in these paintings are drawn using basic shapes, but they carry a powerful message about the tribe's connection to nature and the environment. **So, Pair 4 is not correct.**

82. Consider the following statements with reference to Buddhism :
    1. The Mahasangikas group followed strict monastic life and rigid disciplinary laws .
    2. The Sthaviravadins group followed modified disciplinary rules.

    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

EXPLANATION:

The Second Buddhist Council was held at Vaishali in 383 BCE. The monks of Vaishali and Pataliputra had accepted certain rules that were declared contrary to the teachings of the Buddha by the monks of Kaushambi and Avanti. The Council failed to bring about a compromise between the two opposing groups. Hence, the Council ended in a permanent split of the Buddhist order into Sthaviravadins and Mahasangikas. The former upheld the orthodox Vinaya Pitaka, while the latter favoured the new rules and their further relaxation.

The Sthaviravadins followed strict monastic life and rigid disciplinary laws as originally prescribed. The group which followed modified disciplinary rules was called the Mahasangikas. **So, Statements 1 and 2 are not correct.**

83. Consider the following statements about the World Happiness Report :
    1. It is an annual report published by Wellbeing Research Centre in partnership with Gallup and UN Sustainable Development Solutions Network.
    2. The value of 10 in happiness ranking represents best possible quality of life for an individual, while the value of 0 represents worst quality of life.

    Which of the above statements is/are correct ?

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

EXPLANATION:

The World Happiness Report published annually since 2012, is a landmark annual survey of the state of global happiness that ranks more than 150 countries by their happiness levels.

The Report provides valuable, interdisciplinary insights into the well-being and happiness of people across the globe, reflecting a worldwide demand for more attention to happiness and well-being as criteria for government policy.

The World Happiness Report is published in a global partnership between Gallup, Oxford's Wellbeing Research Centre, and the UN Sustainable Development Solutions Network (SDSN). **So, Statement 1 is correct.**

According to the 2025 World Happiness Report, Finland has been ranked as the happiest country in the world for the eighth consecutive year. It is followed by Denmark, Iceland, Sweden, and the Netherlands in the annual survey released on March 20, 2025, which ranks countries based on how happy their citizens perceive themselves to be.

The ranking in the World Happiness Report is derived from responses to a single life evaluation question known as the Cantril Ladder. This question asks people to rate the quality of their lives on a scale from 0 to 10, where 10 represents the best possible life and 0 represents the worst possible life. **So, Statement 2 is correct.**

84. Which of the following is/are the tributaries of river Yamuna ?
    1. Kunta
    2. Tons
    3. Tamsa
    4. Giri
    5. Hindon
    6. Punpun

Select the correct answer using the code given below
(a) 1, 2, 3 and 5 only
(b) 2, 3, 4 and 6 only
(c) 3, 5 and 6 only
(d) **1, 2, 4 and 5 only**

EXPLANATION:

Yamuna, once a tributary of the River Ghaggar (most likely the Saraswati River referred to in the Veda) changed its course eastwards due to tectonic events, becoming a tributary of the River Ganges.

- Originating near Banderpooch peaks at a height of 6,387 meters at Yamunotri Glacier, it travels a length of 1,376 kilometers before merging with the River Ganges at Sangam.
- It is the longest river in India which does not directly flow into the sea. It has four main tributaries in the Himalayan region: Rishi Ganga, Hanuman Ganga, Tons and Giri.
- The Kunta is one of the smaller tributaries that drains into the Yamuna. In the plains, the main tributaries are Hindon, Chambal, Sind, Betwa and Ken. Tons, being the major tributary contributes to about 60 percent flow of the Yamuna.
- The river water flows through the states of Uttarkhand, Himachal Pradesh, Haryana, Delhi, Uttar Pradesh and Rajasthan out of which only Rajasthan does not fall in its riparian zone. **So, Option (d) is correct.**

- The Tamsa River is a tributary of the Ganges flowing through the Indian states of Madhya Pradesh and Uttar Pradesh. **So, Statement 3 is not correct.**
- The Punpun River is a minor tributary of the Ganga. The River originates from Palamu district of Jharkhand and flows through Chatra, Aurangabad, Gaya and Patna districts of both Jharkhand and Bihar. **So, Statement 6 is not correct.**

85. Consider the following statements
1. This National Park consists of Northern Tropical Evergreen Forest, North Indian Tropical Moist Deciduous Forests, East Himalayan Moist Temperate Forests, Moist Alpine Scrub Forests.
2. It lies along the Noa-Dihing river .
3. It is the only park in the World to have the four Feline species of big cat, namely the tiger, leopard, snow leopard and clouded leopard.
4. The floral species Pinus merkusi and Abies delavavi are found only in this park in India.

The above statements refer to which national park in India ?
(a) Mouling National Park
(b) **Namdapha National Park**
(c) Dehing Patkai National Park
(d) Raimona National Park

EXPLANATION:

Mouling National Park is located in the Eastern Himalayas adjacent to the Siang River valley in the Upper Siang district of Arunachal Pradesh.
It was the second national park to be created in the state, after Namdapha National Park in 1972.The vegetation of the area varies according to the altitude. Temperate alpine and coniferous forest at the upper reaches, whereas the lower area is covered with tropical evergreen forest. Ornamental plants like foxtail and orchids are abundant in this area.
The park also has an impressive area of animals and birds. Many endangered species like takins, snow clouded leopard, golden languor, hornbill, monal scalater, serrow are spotted here. **So, Option (a) is not correct.**

Namdapha, a National Park and Tiger Reserve, lies in the international border between India and Myanmar (Burma) within Changlang District in the state of Arunachal Pradesh in the northeast India.

- Namdapha National Park is located at a few kilometre away from Miao amidst misty blue hills along the turbulent Noa-Dihing river lies in the sprawling tropical rain forest.
- The park was designated as a Tiger Reserve in 1983 and serves as a crucial sanctuary for wildlife conservation in Northeast India.
- The principal forest type is the Northern Tropical Evergreen Forest, also known as the Assam Valley Tropical Wet Evergreen Forest, which is primarily dominated by Dipterocarpus species. In addition to this, the reserve also includes:
  - North Indian Tropical Moist Deciduous Forests, dominated by Terminalia and Duabanga species,
  - Miscellaneous Forests,
  - East Himalayan Moist Temperate Forests,
  - Moist Alpine Scrub Forests,
  - Assam Valley Alluvial Plains Semi-evergreen Forests, and
  - Eastern Hollock Forests.
- Namdapha National Park is only park in the World to have the four Feline species of big cat namely the Tiger (Panthera Tigris), Leopard (Panthera Pardus), Snow Leopard (Panthera Uncia) and Clouded Leopard (Neofelis Nebulosa) and numbers of Lesser cats.
- The Park is home to the floral species Pinus merkusii and Abies delavayi, which are not found elsewhere in India. **So, Option (b) is correct.**

Dehing Patkai National Park is located in the Dibrugarh and Tinsukia districts of Assam
Dehing Patkai is a deciduous rainforest interspersed with semi-evergreen and lush green flora, the only patch of virgin rainforest in Assam.
It comprises of Jeypore, Upper Dehing and Dirok. Dehing is the name of the river that flows through this forest and Patkai is the hill at the foot of which the sanctuary lies.
The Wildlife Sanctuary is endowed with rich bio-diversity. **So, Option (c) is not correct.**

Raimona National Park, situated in Assam's Kokrajhar district, got its status as a national park on June 5, 2021. The park is a biodiversity hotspot renowned for its rich flora and fauna. It spans an area of diverse landscapes, including tropical forests, grasslands, and wetlands.
The park is home to various endangered and vulnerable species, including the recently documented Mainland Serow. It is also renowned for the golden langur, an endemic species also designated as the mascot of the Bodoland region, shared with Bhutan. It is bound by the Indo-Bhutan border in the north from Sankosh river running eastwards till left bank of Saralbhanga river, Assam-Bengal border in the west along the right bank of Sankosh river and inter-reserved forest and inter-forest boundaries of Ripu and Chirang reserved forests under Kachugaon-Haltugaon divisions respectively in the east, while Pekua river forms its southern boundary. **So, Option (d) is not correct.**

86. Consider the following pairs :

S. No	***Important monuments***		***Significance***
1.	Rajon Ki Baoli	-	16th-century stepwell of the Masons
2.	Jahaz Mahal	-	Tomb of Shaikh Shahibuddin
3.	Lal Kot	-	The oldest surviving fort in Delhi
4.	Tomb of Balban	-	India's first true arch and dome

How many of the above pairs are correctly matched ?

(a) Only one
(b) Only two
(c) Only three
(d) All four

EXPLANATION:

In 1506 AD, the Rajon ki Baoli is a hidden gem nestled amidst the wilderness of the Mehrauli Archaeological Park in Delhi. Also known as the Rajon ki Bain, this historic baoli or stepwell was used in its time as a water reservoir and a retreat during summers.
Named after the masons (rajmistries) who worked there, its structure is built in four levels, each narrowing down as one approaches the well in the bottom. Every level of the baoll is home to colonnaded symmetric arcades with internal rooms that served as a retreat in the past. The presence of alcoves in the walls perfect for burning lamps hints that the baoli may have also served as a venue for social and cultural gatherings. **So, Pair 1 is correct.**

In Lodi dynasty, the Jahaz Mahal, translating into the 'Ship Palace', stands next to the Hauz Shamsi in South Delhi's Mehrauli area. Its name is believed to have been derived from its reflection in the surrounding reservoir that appeared like a ship floating on water. As per some historians, the mahal was built as an inn for the pilgrims travelling to Delhi from Iran, Iraq, Arabia, Afghanistan, Turkey and Morocco.
An impressive feature of the palace is its six square chhatris (dome-shaped pavilions), all of which house a different number of pillars. The popular festival of flower sellers called 'Phool Walon ki Sair' (Procession of Florists) is hosted here.
The tomb of Sheikh Shahabuddin Ahri, a 7th century Iranian mystic and poet, is located in the city of Ahar in East Azarbaijan province, Iran. **So, Pair 2 is not correct.**

Delhi's first Red Fort the Lal Kot was erected by King Anangpal Tomar in the year 1050 AD, making it the oldest living fort in Delhi. This fort has accredited Delhi with its strategic and political importance.
Lal Kot was three and a half kilometres across and had an uneven oblong shape. The walls of this huge fort were high, comparable to those of Tughlaqabad. The rampart walls were 20 to 30 feet thick. These huge ramparts rose to a height of 60 feet above the ditch's bottom. **So, Pair 3 is correct.**

The tomb of Ghiyas ud din Balban is located in Mehrauli, New Delhi, India built in circa 1287 C.E. Ghiyas-ud-din Balban, one of the most powerful slave sultans after Iltutmish, is buried within the archaeological park, in a building once built by the Sultan himself called the Dar-ul-Amaan (Haven of Safety).
Though in ruins and devoid of decorations, the tomb of Balban is unique for its architecture as it was the first building to be constructed using true arches. Unlike the corbelled arches of Qutub Complex, the true arches of Balban's tomb have the keystone placed at the centre, which evenly distributes the weight of the superstructure. From here on, true arches become a common feature of the Indo-Islamic architecture of Delhi. **So, Pair 4 is correct.**

87. Consider the following countries :
    1. Kyrgyzstan
    2. Turkmenistan
    3. Iraq
    4. Armenia
    5. Russia

    How many of the above border the Caspian Sea ?

    (a) Only two
    (b) Only three
    (c) Only four
    (d) All five

EXPLANATION:

The Caspian Sea is the world's largest inland water body. It lies to the east of the Caucasus Mountains and to the west of the vast steppe of Central Asia. The Caspian is the largest Salt Lake in the world. The major rivers—the Volga, Ural, and Terek—empty into the northern Caspian, with their combined annual flow accounting for about 88 per cent of all river water entering the sea. The elongated sea sprawls for nearly 1,200 km from north to south, although its average width is only 320 km.

The sea is bordered by
- Kazakhstan to the northeast,
- Turkmenistan to the southeast,
- Iran to the south,
- Azerbaijan to the southwest
- And Russia to the northwest. **So, Option (a) is correct.**

88. Which of the following statements is ***not*** correct about Credit Ratings ?
   (a) It is an assessment of the probability of default on payment of interest and principal on a debt instrument.
   (b) **It is a recommendation to buy, sell or hold an asset.**
   (c) Each credit rating is represented by alphanumeric symbols.
   (d) In India, the issuer company pays for the credit rating.

EXPLANATION:

Credit rating is a qualitative & quantitative assessment of the probability of default on payment of interest and principal on a debt instrument. **So, Option (a) is correct.**
It is not a recommendation to buy, sell or hold a debt instrument. Credit rating only provides an additional input to the investor and the investor is required to make his own independent and objective analysis before arriving at an investment decision. **So, Option (b) is not correct.**

Ratings are based on a comprehensive evaluation of the strengths and weaknesses of the company fundamentals including financials along with an in-depth study of the industry as well as macro-economic, regulatory and political environment.
Each rating symbol is an alphanumeric representation of the probability of degree of repayment risk associated with debt instruments. Rating is denoted by a simple alphanumeric symbol, for e.g. AA+, A-, etc. **So, Option (c) is correct.**

In India, the issuer company pays for the credit rating. The Issuer who wants to get rated pays towards the remuneration of fees for credit rating.

Although the issuer pays for the rating, the investor uses it. Like any other product or service, the 'value' of the rating depends entirely on the perceptions of the investor. Investor perceptions are based on the credibility of the past ratings assigned by each rating agency.
In addition, credit rating agencies are also expected to follow Code of Ethics and Business Conduct which are available on the rating agency's website. **So, Option (d) is correct.**

89. Consider the following :
1. Grants in Aid for the creation of Capital Assets
2. Interest payments
3. Pension
4. Construction of National Highways

How many of the above is/are covered under the Revenue Expenditure in an economy ?
(a) Only one
(b) Only two
(c) **Only three**
(d) All four

EXPLANATION:

Government expenditure is classified in two ways: capital expenditure and revenue expenditure and as plan expenditure and non-plan expenditure.
- Capital Expenditure: when government incurs expenditure to create assets such as school and hospital buildings, roads bridges, canals, railway lines etc., or reduce its liability such as repayment of loan etc., such expenditure is known as capital expenditure. Thus, Construction of National Highways is a capital expenditure. **So, Statement 4 is not correct.**
- Revenue Expenditure: when government incurs expenditure that neither creates any asset nor reduces any liability, such expenditure is known as revenue expenditure. These do not create any public asset.
- The following are Components of Government's Revenue Expenditure:
  - Subsidies: Governments often give financial support to different sectors, such as agriculture or energy, through subsidies. Although these may help create assets indirectly, they are considered revenue expenditures since they do not directly lead to new fixed assets.
  - Grants in aid: Money transferred to state governments or other organizations is also included in revenue expenditure, even if some of it is used for capital projects/assets. **So, Statement 1 is correct.**
  - Interest Payments: The government pays interest on its debts, which falls under revenue expenditure. These payments are crucial for handling current financial obligations. **So, Statement 2 is correct.**
  - Pension: Salaries, Pension and Provident Fund paid by the government to government employees. **So, Statement 3 is correct.**

90. With reference to Chess, consider the following statements :
1. The Chess Olympiad is conducted as a part of the Summer Olympics.
2. India has won both men's and women's gold medals in the 45th Chess Olympiad 2024.
3. No chess player has received the Major Dhyan Chand Khel Ratna Award so far.

How many of the above statements is/are correct ?
(a) Only one
(b) Only two
(c) All three
(d) None

EXPLANATION:

The Chess Olympiad is a team tournament for chess players from all over the world. The event is organised by the International Chess Federation (FIDE) and is held every two years, not part of the Summer Olympics. The first Olympiad was held in 1927, and the event has been held regularly since 1950. The International Olympic Committee (IOC) considers chess a sport and recognises the International Chess Federation or World Chess Federation (FIDE) as an official federation. Yet, chess is not yet an Olympic sport. **So, Statement 1 is not correct.**

Both Indian Men and Women teams won their first-ever gold medals at the 45th Chess Olympiad in Budapest, Hungary.
The men's team clinched their victory by defeating Slovenia in the final round. Star players like D Gukesh, Arjun Erigaisi, and R Praggnanandhaa were pivotal in their success, particularly shining in the 11th round. Meanwhile, the women's team triumphed over Azerbaijan with a dominant 3.5-0.5 score to seal their gold medal. **So, Statement 2 is correct.**

D Gukesh became the 18th World Chess Champion by defeating Ding Liren (CHN). He is also the youngest world champion determined in a match format. After Vishwanathan Anand, Gukesh became the second Indian to become a World Champion. Before that, he also won double Gold at the 45th Chess Olympiad in Budapest, Hungary. Both Gukesh and Vantika won individual and team Gold. D. Gukesh received the Major Dhyan Chand Khel Ratna Award in 2024. **So, Statement 3 is not correct.**

91. Consider the following statements about Angel Tax in India :
    1. It is levied when an unlisted company issues shares to an investor at a price higher than its fair market value.
    2. Angel tax has been abolished in India for all classes of investors.

    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

EXPLANATION:

The Income Tax Act of 1961's Section 56(2)(viib) discusses the concept of angel tax. According to the Finance Act, 2012, in the IT Act, every startup (i.e., unlisted companies whose shares are not available for buying on the stock market) that receives funding from an angel investor must contribute a certain amount to the government.

- This tax comes into play if the total investment value exceeds the company's FMV or Fair Market Value. Investment greater than FMV is categorised as "income from other sources", and the tax imposed on it is called angel tax. **So, Statement 1 is correct.**
- The primary objective of this tax was to prevent money laundering issues.
- Only 2% of the population actually complies with tax requirements. Most new businesses don't keep up with the appropriate account books or show their assets correctly, leading to the creation of black money in India. Due to this flaw, the Income Tax department decided to tax the private companies on excessive share premiums received above the FMV.
- Angel tax has been abolished with effect from FY 2025-26, for all investor classes to strengthen India's start-up ecosystem. **So, Statement 2 is correct.**

92. Consider the following information :

Sl. No.	*River*	*Place of Origin*	*Tributary*
1.	Kaveri	Brahmagiri hills	Hemavati
2.	Krishna	Mahabaleshwar range	Koyana
3.	Narmada	Amarkantak hills	Orsang
4.	Godavari	Jamboti hills	Wardha

How many of the above information are correctly matched ?

(a) Only one
(b) Only two
(c) Only three
(d) All four

EXPLANATION:

The River Cauvery originates at Talakaveri in Coorg District of Karnataka in Brahmagiri Range of hills in the Western Ghats.

- It is bounded by the Western Ghats on the west, by the Eastern Ghats on the east and the south and by the ridges separating it from Krishna basin and Pennar basin on the north.
- The Cauvery River is one of the major rivers of the peninsula.
- Its important tributaries joining from left are the Harangi, the Hemavati, the Shimsha and the Arkavati whereas the Lakshmantirtha, the Kabbani, the Suvarnavati, the Bhavani, the Noyil and the Amaravati joins from right.
- The river drains into the Bay of Bengal. **So, Row 1 is correct.**

The Krishna River originates in the Western Ghats at an elevation of about 1,337 meters, just north of the Mahabaleshwar range in Maharashtra.

- The Krishna Basin extends over the states of Andhra Pradesh, Maharashtra, and Karnataka.
- It is bounded by the Balaghat Range to the north, the Eastern Ghats to the south and east, and the Western Ghats to the west.
- The principal tributaries of the Krishna River include the Ghataprabha, Malaprabha, Bhima, Tungabhadra, Munneru, Koyna, Panchganga, Dudhganga, and Musi rivers.
- Among these, the Koyna River is a significant left-bank tributary that also originates near Mahabaleshwar in the Satara district of western Maharashtra.
- Unlike most rivers in Maharashtra, which generally flow in an east-west direction, the Koyna River flows from north to south. It is especially well known for the Koyna Dam and the Koyna Hydroelectric Project, which is one of the largest completed hydroelectric projects in India. **So, Row 2 is correct.**

Narmada river rises from Maikala range near Amarkantak hills in Madhya Pradesh flows for about 1312 km before outfalling into the Arabian Sea through the Gulf of Cambay.

- It is bounded by the Vindhyas on the north, by the Maikala range on the east, by the Satpuras on the south and by the Arabian Sea on the west.
- Narmada is the largest west flowing river of the peninsular India.
- It's important tributaries are the Burhner, the Banjar, the Sher, the Shakkar, the Dudhi, the Tawa , the Ganjal, the Kundi, the Goi and the Karjan which joins from left
- Whereas the Hiran, the Tendoni, the Barna, the Kolar, the Man, the Uri, the Hatni and the Orsang joins from right. **So, Row 3 is correct.**

The Godavari River rises from Trimbakeshwar in the Nashik district of Maharashtra not from Jamboti Hills. The Godavari basin is bounded on the north by the Satmala hills, on the south by the Ajanta range and the Mahadeo hills, on the east by the Eastern Ghats and on the west by the Western Ghats.

- The principal tributaries of the river are the Pravara, the Purna, the Manjra, the Penganga, the Wardha, the Wainganga the Pranhita (combined flow of Wainganga, Penganga, Wardha), the Indravati, the Maner and the Sabri.

The Mandovi River is one of the main West Flowing Rivers of Goa State. The Mandovi River rises in the Jamboti Ghats in Karnataka State.
The important tributaries of Mandovi River are Sarang, Mahainada, Udel, Lohi, Velvota Bicholim, Mapuce, Nanoda and Khandepar. **So, Row 4 is not correct.**

93. Consider the following diseases :
1. Japanese Encephalitis
2. West Nile Fever
3. Lymphatic Filariasis
4. Malaria
5. Zika
6. Cat Que Virus

Which of the following diseases are ***not*** transmitted by culex mosquitoes ?
(a) 4 only
(b) **4 and 5 only**
(c) 1, 2 and 3 only
(d) 5 only

EXPLANATION:

Culex, (genus Culex), genus of about 770 species of mosquitoes, some of which are serious biting nuisances and vectors of disease that can transmit potentially deadly pathogens (disease-causing organisms) to humans and other animals.

- Japanese encephalitis is caused by a virus primarily spread to people through the bite of an infected mosquito. Japanese encephalitis is caused by a virus that is found in Asia and the western Pacific. People become infected with the virus when mosquitoes feed on other infected animals and then bite people. The virus is not transmitted directly from person-to-person.
- Japanese encephalitis virus circulates in the environment between mosquitoes (primarily Culex species) and other animals, namely wading birds and pigs. **So, Statement 1 is not correct.**

West Nile virus can cause a fatal neurological disease in humans. However, approximately 80% of people who are infected will not show any symptoms. West Nile virus is mainly transmitted to people through the bites of infected mosquitoes.
West Nile virus is maintained in nature in a mosquito-bird-mosquito transmission cycle. Mosquitoes of the genus Culex are generally considered the principal vectors of West Nile virus, in particular Culex Pipiens. **So, Statement 2 is not correct.**

Lymphatic filariasis (LF), commonly known as elephantiasis, is a neglected tropical disease. Lymphatic filariasis impairs the lymphatic system and can lead to the abnormal enlargement of body parts, causing pain, severe disability and social stigma.
Lymphatic filariasis is transmitted by different types of mosquitoes, for example by the Culex mosquito, widespread across urban and semi-urban areas, Anopheles, mainly found in rural areas, and Aedes, mainly in endemic islands in the Pacific. **So, Statement 3 is not correct.**

Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes. It is preventable and curable. There are 5 parasite species that cause malaria in humans, and 2 of these species – Plasmodium falciparum and Plasmodium vivax – pose the greatest threat.
Children under 5 years of age are most at risk of severe complications from malaria; in 2023, they accounted for nearly 76% of all malaria deaths in the WHO African Region.

Thus, a malaria disease is not transmitted by culex mosquitoes. **So, Statement 4 is correct.**

Zika virus is transmitted primarily by Aedes mosquitoes, which bite mostly during the day. Zika virus infection is associated with Guillain-Barré syndrome, neuropathy and myelitis in adults and children. Most people infected with Zika virus do not develop symptoms. Among those who do, they typically start 3–14 days after infection, are generally mild including rash, fever, conjunctivitis, muscle and joint pain, malaise and headache, and usually last for 2–7 days.
Thus, a Zika virus disease is not transmitted by culex mosquitoes. **So, Statement 5 is correct.**

Cat Que virus was first isolated in 2004 from mosquitoes and children with viral encephalitis in northern Vietnam. It was later found circulating in domestic pigs in China. Cat Que virus is transmitted primarily by Culex mosquitoes, with pigs serving as a natural host. In humans, the virus can cause fever and viral encephalitis. **So, Statement 6 is not correct.**

94. Recently, the Harappan sites 'Mitathal' and 'Tighrana' have been declared as protected monuments and archaeological sites. These are located in
    (a) Uttar Pradesh
    (b) Gujarat
    (c) Rajasthan
    (d) **Haryana**

EXPLANATION:

The Haryana government has declared two significant archaeological sites—located in the neighbouring villages of Tighrana and Mitathal in Bhiwani district—as protected monuments. These sites, dating back over 4,400 years, belong to the Harappan civilisation and provide crucial insights into early human settlement in the Indo-Gangetic divide.

Mitathal:

- The results of archaeological excavation at Mitathal conducted in 1968 have thrown light on the Copper-Bronze Age culture complex of the Indo-Gangetic divide of the 3rd–2nd millennia BCE.
- The site came to light for the first time in 1913 when a hoard of coins of Samudra Gupta, one of the most illustrious kings of the Gupta dynasty, was found.
- From 1965 to 1968, beads and copper implements were discovered at the site, yielding proto-historic material.
- The excavations at Mitathal bear out the Harappan tradition in town planning, architecture, and in arts and crafts.
- Pottery was well-burnt, sturdy red ware painted in black with pipal leaf, fish scale, and other geometric designs.
- The site has yielded a variety of antiquities such as beads, bangles, and terracotta, stone, shell, copper, ivory, and bone objects.

Tighrana:

- The notification for Tighrana village site states that the remains of the post-Harappan period provide insight into the evolution and continuity of human settlement in the region.
- The region was first inhabited by the Chalcolithic agricultural communities as early as 2400 BCE.
- These early settlers (popularly known as Sothians) lived at Chang, Mitathal, Tighrana, etc., in small mud-brick houses with thatched roofs.
- Some of their settlements may have been fortified and comprised 50 to 100 houses each.
- They engaged in agriculture, domesticated cows, bulls, goats, etc., and used wheel-made pottery painted in bichrome with black-and-white designs.
- They used copper, bronze, and stone implements as discovered in large numbers.
- The discovery of remains from Pre-Siswal, pre-Harappan, and post-Harappan settlements at Tighrana is a significant archaeological find.

- The presence of beads and green carnelian bangles indicates a thriving industry of bead-making and jewellery production. **So, Option (d) is correct.**

95. Consider the following information :

Sl. No.	***Site in News***	***Significance/Reason***	***Country***
1.	Zagros Mountains	Sinking of the surrounding region	Iraq
2.	Taranaki Maunga Mountains	Granted legal personhood	New Zealand
3.	Mount Lewotobi Laki Laki	Repeated volcanic eruptions	Indonesia

How many of the above rows are correctly matched ?

(a) Only one
(b) Only two
(c) All three
(d) None

EXPLANATION:

Recently, researchers have found that the hilly area surrounding the Zagros Mountains in Iraq is being pulled into the Earth. The sinking oceanic "slab" below the Earth's surface is pulling the northern region of Iraq down with it. A growing tear is forming in a region along the Arabian and Eurasian continental plates known as the Neotethys oceanic slab. The slab, which formed the floor of an ancient ocean more than 66 million years ago, is splitting from southeast Turkey to northwest Iran. So now, the slab is sinking into the Earth's mantle.

The Zagros Mountains make up a belt of deformed crustal rocks located in southeastern Iran. They extend for over 1500km from eastern Turkey in the northwest through to the Gulf of Oman in the southeast. The Zagros Mountains form an important part of the Alpine-Himalayan mountain chain, which spans much of south-west Asia and the Middle East. This orogenic belt originated from the collision of the African, Arabian and Indian continental plates with the Eurasian plate and the northward subduction and subsequent closure of the Neo-Tethys Ocean. The Zagros Mountains formed as a result of convergence between the Arabian plate and the Eurasian plate in the Late Cretaceous-Early Miocene. **So, Row (1) is correct.**

Taranaki Maunga, the second-highest mountain on New Zealand's North Island, along with its surrounding peaks, has been granted legal personhood, becoming the third natural feature in the country to receive the same rights, duties, and protections as an individual.

Legal personhood is a fundamental aspect of Western law that allows a person, corporation, or other entity to engage in the legal system. A legal person can own property, be sued by or sue others, agree to contracts, and engage in other actions within a legal system. Taranaki Maunga is one of the most symmetrical volcanic cones in the world, towering over the Taranaki plains on the west coast of the North Island. **So, Row 2 is correct.**
Recently, the Mount Lewotobi Laki Laki volcano in south-central Indonesia erupted frequently, sending an ash column 8,000 metres (26,200 feet) high. Lewotobi Laki Laki is one of a pair of stratovolcanoes in the East Flores district of East Nusa Tenggara province, known locally as the husband-and-wife mountains. "Laki laki" means man, while its mate is Lewotobi Perempuan, or woman. It is one of the 120 active volcanoes in Indonesia, an archipelago of 280 million people. **So, Row 3 is correct.**

96. Consider the following statements :
    1. Shape of the Coca-Cola bottle
    2. Champagne
    3. McDonald's Golden Arches
    4. Pusa Basmati 1121 rice
    5. Edison light bulb
    6. Microsoft licensing Windows to OEMs.

    How many of the above falls under Intellectual Property Rights ?
    (a) Only three
    (b) Only four
    (c) Only five
    (d) **All six**

EXPLANATION:

Intellectual property rights are the rights given to persons over the creations of their minds. They usually give the creator an exclusive right over the use of his/her creation for a certain period of time.

The following are the types of intellectual property according to World Intellectual Property Organization:

- **Patent-** It is an exclusive right granted for an invention. It allows the patent holder to determine how — or whether — the invention can be used by others. In return, the inventor publicly discloses technical information about the invention in the published patent document.
- **Copyright-** It protects the rights of creators over their literary and artistic works, such as books, music, films, paintings, computer programs, advertisements, maps, and technical drawings.
- **Trademark-** It is a sign capable of distinguishing the goods or services of one enterprise from those of others. Dating back to ancient times, it often represents a brand identity used by artisans and businesses.
- **Industrial design** – It refers to the ornamental or aesthetic aspect of an article. It may include 3D features (e.g., shape, surface) or 2D elements (e.g., patterns, lines, color).
- **Geographical indications-** They are signs used on products that originate from a specific location and possess qualities or a reputation linked to that origin — for example, Darjeeling tea or Champagne.
- **Trade secrets-** They are rights on confidential business information. Protection is given against unauthorized use or disclosure. Trade secrets may include formulas, practices, designs, or business strategies not known to the public.

The iconic contour the shape of the Coca-Cola bottle falls under Industrial design under the Intellectual Property Rights. **So, Statement 1 is correct.**

'Champagne' (the wine) gets its name from the Champagne region in France, where it must be grown, fermented, and bottled.

Only wines made within 100 miles of this region, near Paris, can legally use the name "Champagne" under European law. Similar wines made elsewhere are called Crémant. Thus, Champagne comes under the Geographical Indication category under Intellectual Property Rights. **So, Statement 2 is correct.**

The Golden Arches are the distinctive logo and symbol of the McDonald's fast-food restaurant chain.
The arches are a registered trademark that McDonald's has used since the 1960s to represent their brand and distinguish their restaurants from competitors. Thus, McDonald's Golden Arches falls under Intellectual Property Rights. **So, Statement 3 is correct.**

Pusa Basmati 1121 is a high-yielding Basmati variety developed by the Indian Agricultural Research Institute (IARI).
It is recommended for Punjab, Haryana, Delhi, Western Uttar Pradesh, Uttarakhand, and Jammu & Kashmir.
Pusa Basmati 1121 is protected under the PPV&FR Act, 2001, as part of India's Intellectual Property Rights (IPR) system. **So, Statement 4 is correct.**
The following are legislations covering IPR in India:

- **Patents:** The Patents Act, 1970 as amended in 1999, 2002 and 2005
- **Design:** The Designs Act, 2000
- **Trade Mark:** The Trade Marks Act, 1999
- **Copyright:** The Copyright Act, 1957 as amended in 1983, 1984 and 1992, 1994, 1999
- **Layout Design of Integrated Circuits:** The Semiconductor Integrated Circuits Layout Design Act, 2000
- **Protection of Undisclosed Information:** No exclusive legislation exists but the matter would be generally covered under the Contract Act, 1872
- **Geographical Indications:** The Geographical Indications of Goods (Registration and Protection) Act, 1999
- **Plant Varieties**: The Protection of Plant Variety and Farmers' Rights Act, 2001

Thomas Edison received over one thousand patents during his lifetime, including patents on the incandescent electric lamp, the phonograph, the carbon telephone transmitter, and the motion-picture projector.
On January 27, 1880, Thomas Edison received the historic patent embodying the principles of his incandescent lamp that paved the way for the universal domestic use of electric light. Thus, Edison light bulb falls under Intellectual Property Rights**. So, Statement 5 is correct.**

Microsoft's licensing of Windows to Original Equipment Manufacturers (OEMs) falls under intellectual property rights (IPR).
Microsoft licenses the Windows software to OEMs, granting them specific rights to use, copy, and integrate the software into their hardware products.
These licenses are governed by legal agreements that protect Microsoft's intellectual property rights, including copyright and potentially patent rights. **So, Statement 6 is correct.**

97. Consider the following pairs :

S.No	***Mountain Ranges***		***Location***
1.	Mount Vinson	-	Australia
2.	Mount Kosciuszho	-	Antarctica
3.	Mount Denali	-	Africa
4.	Mount Aconcagua	-	South America

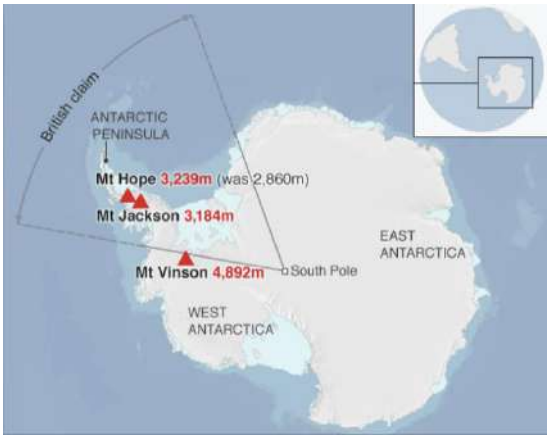
How many of the above pairs are correctly matched ?

(a) Only one
(b) Only two
(c) Only three
(d) All four

EXPLANATION:

Mount Vinson is the highest mountain in Antarctica, not Australia. Mount Vinson rises 4,892 meters (16,050 feet) above sea level. Mount Vinson is one of the most recently discovered and explored of the Seven Summits, the highest peaks of the world's seven continents.

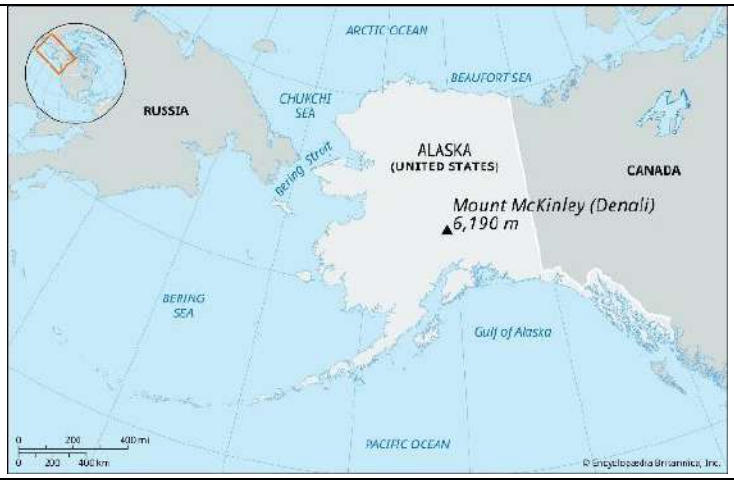
Mount Vinson is part of the Sentinel Range of the Ellsworth Mountains, near the Ronne Ice Shelf. Though the Ellsworth Mountains were spotted from the air by U.S. aviator Lincoln Ellsworth in 1935, it took until the 1960s for people to start exploring and climbing the mountains. **So, Pair 1 is not correct.**



Mount Kosciuszko is the tallest mountain peak in mainland Australia at 2,228 meters (7,310 feet) tall (not Antarctica). It is located in the state of New South Wales, in the southeastern part of the country. It is not technically Australia's largest peak, because a volcano (Mawson Peak) on the Australian-owned Heard Island off the coast of Antarctica is taller. While Mawson Peak is politically part of Australia, geographically it is considered to be "sub-Antarctica." **So, Pair 2 is not correct.**

Mount Denali, also called Mount McKinley, is the tallest mountain in North America, located in south-central Alaska (not Africa). "Denali" comes from Koyukon, a traditional Native Alaskan language, and means "the tall one."

- With a peak that reaches 6,190 meters above sea level, Denali is the third-highest of the Seven Summits (the tallest peaks on all seven continents).
- Denali is about 210 kilometres north-northwest of Anchorage. Sixty million years ago, tectonic uplift pushed Earth's crust upward, forming Denali and the other Alaska Range mountains. Denali is the centrepiece of the Denali National Park and Preserve, which spans 2.4 million hectares of land. **So, Pair 3 is not correct.**



Cerro Aconcagua, often referred to as simply Aconcagua, is a mountain in Argentina near its border with Chile (South America).

- Aconcagua is the highest peak in the Western Hemisphere. It is more than 6,706 meters (22,000 feet) high, though the exact height of its highest peak has been the subject of some debate.
- Aconcagua is part of the Andes Mountains chain. The mountain is believed to have its origins in volcanic activity, but it is not an active volcano. No one knows for certain how Aconcagua got its name, but some historians believe that it comes from the native language of Quechua.
- Aconcagua is one of the Seven Summits, the highest peaks on each of the seven continents. It is second in height after Mount Everest. **So, Pair 4 is correct.**

98. Consider the following statements :
    1. Adichanallur of Tamil Nadu produced a charcoal sample along with iron objects, dated to the 26th century BCE.
    2. Iron Age civilization was popular in southern India in the 4th century BCE.
    3. The Indus Valley Civilisation was believed to be the first global civilisation to use iron.

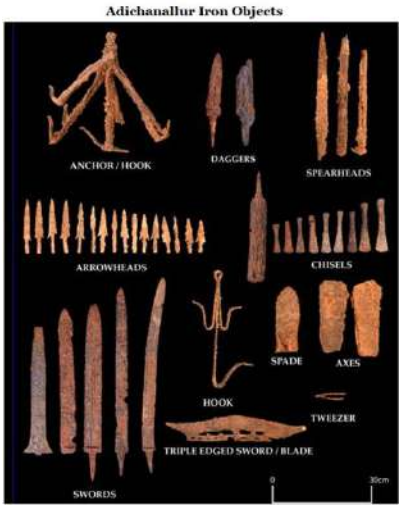
    Which of the statements given above is/are correct ?

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

EXPLANATION:

The discovery was made through the radiometric dating of burial urn samples from Sivagalai in Thoothukudi district, which contained both charcoal and iron objects.

- These new dates establish Tamil Nadu as the site of the earliest known Iron Age civilization, making it potentially the oldest in the world.
- Another notable site, Adichanallur in Thoothukudi district, produced a charcoal sample associated with iron objects that was dated to 2517 BCE (26th century BCE). **So, Statement 1 is correct**



A groundbreaking study has revealed that the Iron Age may have begun in present-day Tamil Nadu as early as 3,345 BCE. The discovery suggests that a contemporary Iron Age civilization existed in southern India at the same time as the Indus Valley Civilization in northern and north-western India. This Shows the Iron Age civilization was popular in southern India in the 4th millennium BCE (3,345 BCE). **So, Statement 2 is correct.**

Earlier, the Hittite Empire (in modern-day Turkey) was believed to be the first civilization to use iron, with evidence dating back to around 1,380 BCE. **So, Statement 3 is not correct.**

99. Article 142 of the Constitution says that the Supreme Court may pass such a decree or make such an order as is necessary for doing complete justice in any cause or matter pending before it. Which of the following are correct regarding the use of this power by the Supreme Court of India ?
    1. It allows the Court to fill legislative or executive gaps.
    2. It empowers the Court to create binding orders even in the absence of explicit law.
    3. It is used to deliver only legally defined remedies, not equity-based solutions.
    4. It enables the Court to provide corrective justice when the law is silent or contradictory.

    Select the correct answer using the codes below :

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

EXPLANATION:

Article 142 of the Constitution empowers the Supreme Court to pass "any decree or order necessary for doing complete justice in any case or matter pending before it" within the country. The Supreme Court derives overarching powers to perform the functions of the Executive and legislative in order to bring about complete justice.

- In 2024, the Tamil Nadu government passed 11 bills, which the Governor withheld or delayed assent to, violating the spirit of Article 200 of the Constitution. Rather than let the matter escalate to the

President or trigger constitutional mechanisms, the Supreme Court stepped in under Article 142 and "deemed the bills passed."

- The Governor is the President's appointee. Bypassing the Governor indirectly pressurises the President, sidestepping the Union's constitutional role. It sets a precedent: the Court can override delays or objections by elected or appointed executive authorities. This wasn't a judicial review—it was judicial enforcement, almost legislative in nature. **So, Statement 1 is correct.**

Article 142 empowers the Supreme Court to create binding orders even in the absence of explicit law. As such, in the absence of a law on sexual harassment in the workplace, the Court formulated guidelines under Article 142. These laid the groundwork for the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013. **So, Statement 2 is correct.**

Article 142 is apparently unique as it does not have any counterpart in most of the major written constitutions of the world. Further, it gives wide and capacious power to the Supreme Court to do 'complete justice' in any cause or matter, which is significant, as the judgment delivered by the Supreme Court ends the litigation between the parties.
Article 142 gives legal authority to the Supreme Court to give precedence to equity over law. This power, like all powers under the Constitution, must be contained and regulated, as it has been held that relief based on equity should not disregard the substantive mandate of law based on underlying fundamental general and specific issues of public policy. **So, Statement 3 is not correct.**

Article 142 enables the Court to provide corrective justice when the law is silent or contradictory.
Example: Bhopal Gas Tragedy Compensation Case (1989) – The Supreme Court has ordered a compensation package, though there was no clear legal procedure for such a mass settlement. The law was inadequate to address the scale of the disaster, so Article 142 was used to provide corrective justice. **So, Statement 4 is correct.**

100. Consider the following information :

Sl. No.	***Educational Commissions***	***Their objectives***	***Consequences***
1.	Lord Macaulay's Minute	Teaching of Western sciences and literature only through the medium of the English language	Introduction of the English Education Act of 1835 in India
2.	Charles Wood dispatch	First comprehensive plan for the spread of education in India.	Rapid westernisation of the education system in India, with educational institutions run by European headmasters.
3.	Hunter Commission on Education	To review the progress of education in the country since the Dispatch of 1854	Rapid growth and expansion of secondary and collegiate education with the participation of Indians.

How many of the pairs given above is/are correctly matched ?

(a) Only one
(b) Only two
(c) **All three**
(d) None

EXPLANATION:

Lord Macaulay's Minute (1835): The famous Minute by Lord Macaulay in 1835 resolved the ongoing debate between the Anglicists and Orientalists in favor of the former.

- It was decided that the limited government resources would be devoted to the teaching of Western sciences and literature through the English language alone.
- Macaulay strongly believed that Indian learning was inferior to European learning, especially in the fields of physical and social sciences, as understood at the time.
- He emphasized the importance of English education, arguing that knowledge of English would enable Indians to access the best literature of the world and become familiar with developments in Western science and philosophy.
- He viewed the teaching of English as a tool for civilising Indian society, aiming to transform their tastes, values, and culture.
- Following Macaulay's Minute, the English Education Act of 1835 was enacted. This act made English the medium of instruction for higher education and ended official support for Oriental institutions, such as the Calcutta Madrasa and Benaras Sanskrit College. **So, Row 1 is correct.**

Wood's Despatch in 1854: Charles Wood prepared a despatch on an educational system for India.

- Considered the "Magna Carta of English Education in India", this document was the first comprehensive plan for the spread of education in India.
- The objective that the dispatch was to supply East India Company with reliable and capable public servants.
- To achieve this end the Despatch decided 'to confer upon the natives of India vast blessings which flow from the spread of Western knowledge, so that their intellectual as well as moral standard be raised.
- The Despatch emphasised the importance of vocational instruction and recommended the establishment of technical schools and colleges.
- It also advocated the setting up of Teachers' Training Institutions based on the model prevalent in England.
- The ideals and methods proposed in the Despatch dominated the Indian educational landscape for nearly five decades.
- This period witnessed a rapid Westernisation of the education system in India, gradually replacing the indigenous system with a Western model.
- Most educational institutions during this colonial period were managed by European headmasters and principals under the supervision of the Education Department.
- Additionally, missionary organisations played a significant role by running a number of educational institutions. Over time, private Indian initiatives also began to emerge in the field of education. **So, Row 2 is correct.**

Hunter Education Commission (1882–83): In 1882, a commission was established under the chairmanship of W.W. Hunter to assess the progress in Indian education since Wood's Dispatch of 1854.

- The commission mainly focused on primary and secondary education. It made several important recommendations, emphasizing the need to strengthen primary education by transferring its control to local authorities such as district and municipal boards.
- At the secondary level, it proposed the introduction of two distinct streams—one offering literary education for students aiming for university studies, and the other providing practical training for those seeking careers in vocational or commercial fields.
- The commission encouraged private efforts in the development of education and highlighted the importance of expanding women's education beyond the presidency towns.
- The next two decades saw rapid growth and expansion of secondary and collegiate education with the participation of Indians.
- Also, more teaching-cum-examining universities were set up like the Punjab University (1882) and the Allahabad University (1887). **So, Row 3 is correct.**

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