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CORRIGENDUM OF ALL INDIA MOCK TEST 1

Q.NO-22) With reference to the Literature during the Gupta period, which of the following statements are correct?

1. 'Puranas', the writing of literature began during the Gupta period.
2. Narada Smriti mentions the social and economic rules and regulations during the Gupta period.
3. The early history of Harsha was reconstructed based on the work of Banabhatta.

Select the correct answer using the codes given below :

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

EXPLANATION:

The Gupta period marks the beginning of the writing of the literature known as Puranas. These texts refer to the stories about the Hindu gods and mention the ways to please them through fasts and pilgrimages.

- The major Puranas written in this period are the Vishnu Purana, Vayu Purana and the Matsya Purana.
- For the worship of Shiva, Shiv Purana was written whereas the various incarnations of Vishnu are glorified in Varaha Purana, Vamana Purana, and Narasimha Purana. They were meant for the worship by common man. **So, Statement 1 is correct.**

Some Smritis or the law books were also compiled in the Gupta period. One of these, the Narada Smriti throws light on the general social and economic rules and regulations of the period. **So, Statement 2 is correct.**

In the seventh century Banabhatta, the court poet of Harsha, wrote Harshacarita praising his patron. Written in an ornate style, it became a model for later writers. The early history of Harsha is reconstructed on the basis of this text. Another text written by him is Kadambari. Harsha too was considered to be a literary monarch. He is said to have authored three plays: Priyadarshika, Nagananda and Ratnavali.

The Gupta Empire is generally dated from circa 320 CE to 550 CE, while Harsha's reign was from 606 to 647 CE. Therefore, although Banabhatta's work is a key source for early medieval Indian history, it does not belong to the Gupta period. **So, Statement 3 is not correct.**

Q.NO-29) Consider the following statements :

1. Bharat Stree Mahamandal, convened by Sarla Devi, promoted the education of women all over India.
2. Ramabai Ranade founded Arya Mahila Samaj, whose plea resulted in medical education for women in Lady Dufferin College.
3. In 1925, Meherbai Tata was instrumental in the formation of the National Council of Women in India.

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:

In 1910, Sarla Devi Chaudhurani convened the first meeting of the Bharat Stree Mahamandal in Allahabad. Considered the first major Indian women's organization set up by a woman, its objectives included the promotion of education for women, abolition of the purdah system and improvement in the socio-economic

and political status of women all over India. Sarla Devi believed that the man working for women's upliftment lived 'under the shade of Manu'. **So, Statement 1 is correct.**

Pandita Ramabai Saraswati founded the Arya Mahila Samaj to serve the cause of women. She pleaded for improvement in the educational syllabus of Indian women before the English Education Commission, which was referred to Queen Victoria.

This resulted in medical education for women, which started at Lady Dufferin College. Later, Ramabai Ranade established a branch of Arya Mahila Samaj in Bombay. **So, Statement 2 is not correct.**

In 1925, the National Council of Women in India, a national branch of the International Council of Women, was formed. Mehribai Tata played a vital role in its formation and advancement.

She opined that the purdah system, caste differences and lack of education prevented women from working to solve societal problems. Other women who held important positions on the executive committee of the council included:

- Cornelia Sarabji, India's first lady barrister;
- Tarabai Premchand, wife of a wealthy banker;
- Shaffi Tyabji, a member of one of Mumbai's leading Muslim families and
- Maharani Sucharu Devi, daughter of Keshab Chandra Sen. **So, Statement 3 is correct.**

Q.No- 59) In the context of the Indian economy, consider the following statements :

1. Treasury bills are short-term money market instruments with maturity periods of 91 days, 182 days and 364 days.
2. Cash Management Bills are overnight borrowing instruments.
3. Ways and Means Advances are short-term money market instruments with a maturity period of up to 90 days.

Which of the above statements is/are correct?

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

EXPLANATION:

Treasury bills, or T-bills, finance the short-term requirements of the Government. They form an integral part of the money market and are currently issued in three tenors, namely, 91 days, 182 days and 364 days.

Treasury bills are zero coupon securities and pay no interest. Instead, they are issued at a discount and redeemed at the face value at maturity. The return to the investors is the difference between the maturity value or the face value and the issue price. **So, Statement 1 is correct.**

In order to meet the temporary mismatches in the cash flow of the Government of India, in consultation with RBI, a new short-term instrument, known as Cash Management Bills (CMBs), was introduced in 2010.

- CMBs have all the attributes of Treasury bills (T-bills) but are issued for maturities of less than 91 days. The tenor, notified amount and date of issue of the CMBs depend upon the temporary cash requirement of the Government.
- Like T-bills, CMBs are also issued at a discount and redeemed at face value on maturity.
- Unlike T-Bills, a non-competitive bidding scheme has not been extended to CMBs. However, these instruments are tradable and qualify as SLR investments.

Overnight borrowing market instrument is known as Call Money Market (CMM), not Cash Management Bills. Call Money Market is basically an interbank money market where funds are borrowed and lent, generally, for the period between 2 days and 14 days, also called money at call or Overnight borrowing market. **So, Statement 2 is not correct.**

Ways and Means Advances (WMA) are temporary advances extended by the Reserve Bank of India (RBI) to the Central and State Governments to bridge the gap between expenditure and receipts.
These are not considered money market instruments. Instead, they are intended to provide support for purely temporary financial difficulties arising from mismatches or shortfalls in revenue or other receipts required to meet government liabilities.
WMAs must be periodically adjusted to ensure that they remain a short-term measure for managing liquidity mismatches, and not a regular source of financing.
Under Section 17(5) of the RBI Act, 1934, WMAs allow the Centre and States to borrow funds from the RBI for a maximum maturity period of 90 days to manage short-term liquidity needs.
In contrast, money market instruments are tools used in the money market to facilitate short-term borrowing and lending. These instruments serve a dual purpose: helping borrowers meet short-term financial requirements and providing liquidity to lenders. Common money market instruments include:

- Treasury Bills (T-Bills)
- Repurchase Agreements (Repos)
- Banker's Acceptances
- Commercial Papers (CPs)
- Certificates of Deposit (CDs) **So, Statement 3 is not correct.**

Q.No- 76) Consider the following :

1. White Blood Cells
2. Red Blood Cells
3. Platelets
4. Plasma

Which of the above-mentioned components of blood contains DNA ?

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

EXPLANATION:

Blood is a special connective tissue consisting of a fluid matrix, plasma, and formed elements.
Leucocytes are also known as white blood cells (WBC) as they are colourless due to the lack of haemoglobin. They are nucleated and are relatively small in number, which averages 6000-8000 mm–3 of blood. They circulate in the blood and mount inflammatory and cellular responses to injury or pathogens. Leucocytes are generally short-lived. We have two main categories of WBCs – granulocytes and agranulocytes.
White cells, containing a nucleus and able to produce ribonucleic acid (RNA), can synthesize protein. They comprise three classes of cells, each unique as to structure and function, that are designated granulocytes, monocytes, and lymphocytes.
Nucleus is a dense membrane bound structure. This nucleus contains the chromosomes which in turn contain the genetic material, DNA. Thus, WBC contains nucleus which inturn contains DNA. **So, Statement 1 is correct.**

Erythrocytes, or Red blood cells (RBC), are commonly known as cells with no nucleus or mitochondria and are assumed to be a transportation vehicle (are assumed to be a transportation vehicle for oxygen, carbon dioxide, and metabolic by-products of cells). A mature red blood cell is an anucleate cell – it has no nucleus. This means it contains no DNA. **So, Statement 2 is not correct.**

Platelets, also called thrombocytes, are cell fragments produced from megakaryocytes (special cells in the bone marrow). Platelets can release a variety of substances, most of which are involved in the coagulation or clotting of blood.
Platelets are products of megakaryocytes, that contain megakaryocyte-derived pre-mRNA and mRNA and carry out splicing and protein synthesis, but do not contain a nucleus and are not thought to contain

genomic DNA. However it has been reported that platelets contain histone proteins, raising the possibility that they may carry some megakaryocyte DNA as well. Notably, the total amount of DNA present in platelets (~2×10^{-6} genomes/platelet) suggests that only a small fraction (~0.1%) of a megakaryocyte genome DNA is present in the platelets. **So, Statement 3 is correct.**

Plasma is a straw coloured, viscous fluid constituting nearly 55 per cent of the blood. 90-92 per cent of plasma is water, and proteins contribute 6-8 per cent of it. Fibrinogen, globulins and albumins are the major proteins.
Small amounts of DNA circulate in both healthy and diseased human plasma/serum, and increased concentrations of DNA are present in the plasma of cancer patients. **So, Statement 4 is correct.**

Q.No- 89) Consider the following statements :
1. They are herbivores.
2. They are solitary and nocturnal in nature.
3. They are mainly arboreal species.
4. They have opposable thumb for adaptation for grasping branches in trees

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

EXPLANATION:

The red panda is slightly larger than a domestic cat, with a bear-like body and thick russet fur. The belly and limbs are black, and there are white markings on the side of the head and above its small eyes. Red pandas are very skilful and acrobatic animals that predominantly stay in trees.
Red pandas are primarily herbivores; they feed mainly on bamboo using their opposable thumb. The name panda is said to come from the Nepali word 'ponya,' which means bamboo or plant-eating animal. Access to bamboo is essential in red pandas' habitat as it makes up around 90% of its diet. **So, Statement 1 is correct.**

In the wild, the red panda prefers a solitary and nocturnal lifestyle. It is mainly active during the twilight period and the early hours of the morning. During daylight hours, they can be found resting or snoozing above the ground, lying dangled or curled up on tree branches, depending on the weather. **So, Statement 2 is correct.**

Red pandas live in high-altitude forests of Nepal, India, Bhutan, Myanmar and China. They are mainly arboreal species (species living mainly in trees), often living close to water sources and in densely bamboo-covered areas.

Red pandas are built for life in the trees. They have long, bushy tails that help them maintain balance and stay safe while traversing the canopy. Their ankles are extremely flexible, and the fibula and tibia are attached in such a way as to allow the fibula to rotate about its axis. This means that red pandas are one of the few animals on the planet that can climb straight down a tree head-first. **So, Statement 3 is correct.**

Red pandas feed mainly on bamboo using their opposable thumb. While their thumb-like appendages can be used in the same way as that of giant pandas, it is believed that the red panda's opposable thumbs may have evolved as an adaptation for grasping branches in trees rather than for stripping bamboo. **So, Statement 4 is correct.**

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ALL INDIA MOCK TEST 2 - 2025

GENERAL STUDIES I - EXPLANATION

INDEX

1. Consider the following statements regarding India's trade and current account balance :
   1. A trade deficit always leads to a current account deficit.
   2. Remittances from Indians working abroad are counted under the capital account.
   3. A surplus in the capital account can help in financing the current account deficit.

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

EXPLANATION:

The current account comprises visible trade (export and import of goods), invisible trade (export and import of services), unilateral transfers and investment income (income earned from factors of production such as land, foreign shares, loans, etc.).
Therefore, the current account deficit measures a country's trade when the value of the goods and services it imports exceeds the value of the products it exports. Whereas a nation has a trade deficit when it spends more on imports than it earns on exports, and a trade deficit is normally the largest component of a current account deficit.

- A trade deficit does not always lead to a current account deficit (CAD) because a nation's current account deficit is a broader measure, as it includes other numbers, such as foreign aid and international investment. So, it is possible for a nation to have a current account deficit when it does not have a trade deficit, but that is highly unusual. **So, Statement 1 is not correct.**

Balance of Payment (BoP) systematically summarizes a country's (individuals, businesses, Governments) economic transactions with the rest of the world for a given period of time, specifically a financial year. It has two main components: the current account and the capital account. A current account includes exports/imports, investment income, and transfers, such as remittances and foreign aid. Thus, Remittances from Indians working abroad are counted under the Current account. **So, Statement 2 is not correct.**

The capital account records the inflows and outflows of capital that directly affect a nation's foreign assets and liabilities. Its components include foreign investment and loans, banking, and other forms of capital, as well as monetary movements or changes in the foreign exchange reserve.
When a country has a current account deficit (spending more than it receives from sales to the rest of the world), it must finance it by selling assets or by borrowing abroad. Thus, any current account deficit must be financed by a capital account surplus, that is, a net capital inflow. **So, Statement 3 is correct.**

2. Consider the following statements about Consumer Price Index (CPI) and Wholesale Price Index (WPI) in India :
   1. Both CPI and WPI are calculated using a basket which consists of goods as well as services.
   2. While the weightage of food items is the highest in CPI, the weightage of manufactured items is the highest in WPI.
   3. CPI and WPI always move in the same direction.
   4. The Reserve Bank of India targets both CPI and WPI under Inflation targeting.

   Which of the statements given above is/are ***not*** correct ?
   (a) 2 only
   (b) 2 and 3
   (c) 1 and 4
   (d) **1, 3 and 4**

EXPLANATION:

The Consumer Price Index (CPI) measures the average change over time in the prices paid by consumers for a representative basket of goods and services. It reflects inflation as experienced by consumers in their day-to-day living expenses. The CPI represents all goods and services purchased for consumption by the reference population.

The Wholesale Price Index (WPI) measures the average change in the prices of commodities at the wholesale level, typically in the early stages of transactions. Unlike the CPI, the WPI does not cover services. It is published by the Office of the Economic Adviser, Ministry of Commerce and Industry. **So, Statement 1 is not correct.**

The CPI consists of a family of indexes that measure price change experienced by urban consumers. Specifically, the CPI measures the average change in price over time of a market basket of consumer goods and services. The market basket includes everything from food items to automobiles to rent. The CPI market basket is developed from detailed expenditure information provided by families and individuals on what they actually bought. CPI is dominated by the prices of food articles.

Group Description	Old Series of CPI (Weights computed on the basis CES 2004–05)			Revised Series of CPI (Weights computed on the basis CES 2011–12)		
	Rural	Urban	Combd.	Rural	Urban	Combd.
Food and beverages	56.39	35.81	47.58	34.18	36.29	45.86
Pan, tobacco and intoxicants	2.72	1.34	2.13	3.26	1.36	2.35
Clothing and Foodwear	5.36	3.91	4.73.	7.36	5.57	6.53
Housing	–	22.54	9.77	–	21.67	10.07
Fuel and Light	10.42	8.40	9.49	7.94	5.50	6.84
Miscellaneous	24.91	28.00	26.31	27.26	29.53	28.32
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Source: CSO, February 2015. Here, 'Combd.' stands for Combined while '-' stands for 'not available'.

The index basket of the WPI covers commodities falling under the three Major Groups namely Primary Articles, Fuel and Power and Manufactured products. Weights given to each commodity covered in the WPI basket is based on the value of production adjusted for net imports. Manufactured products have the highest weightage under WPI. **So, Statement 2 is correct.**

Major Group	Weights		No. of Items		No. of Quotations	
	2004-05	2011-12	2004-05	2011-12	2004-05	2011-12
ALL COMMODITIES	100.00	100.00	676	697	5482	8331
PRIMARY ARTICLES	20.12	22.62	102	117	579	983
FUEL & POWER	14.91	13.15	19	16	72	442
MANUFACTURED PRODUCTS	64.97	64.23	555	564	4831	6906

CPI and WPI, by design, are meant to capture price trajectories of different commodity baskets. While CPI tracks prices of an average household's consumption basket, WPI tracks producer prices. This basic difference means that the two inflation indices need not always move in the same direction. While WPI has been falling since June 2022, CPI only started falling consistently from October, a trend that's now broken. The rise in CPI means the two indices moved in opposite directions. **So, Statement 3 is not correct.**

Inflation targeting is a common practice among central banks globally that aims to influence the level of prices in an economy through the use of several monetary policy tools.
Before 2017, the Reserve Bank of India (RBI) primarily used the Wholesale Price Index (WPI) as the anchor for targeting inflation.
However, in 2014, under the governorship of Dr. Raghuram Rajan, a committee chaired by then Deputy Governor Dr. Urjit Patel recommended the adoption of the Consumer Price Index (CPI) instead of WPI for inflation targeting.
This shift was aimed at better reflecting the inflation experienced by consumers and enhancing the effectiveness of monetary policy. At present, the new monthly CPI (C), is taken as the measure of headline inflation and is tracked by the RBI to anchor its monetary policy and the healthy annual range for it is between 2 to 6 per cent. **So, Statement 4 is not correct.**

3. With reference to the "Urban Challenge Fund", consider the following statements :
   1. It aims to provide direct financial assistance to urban local bodies for infrastructure development.
   2. It will finance up to 25% of the cost of bankable projects, with at least 50% of funding required from bonds, bank loans, or Public-Private Partnership (PPP)s.

   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 Urban Challenge Fund aims to implement the proposals for 'Cities as Growth Hubs', 'Creative Redevelopment of Cities' and 'Water and Sanitation', which reflect the government's strong commitment to fostering sustainable and inclusive urban development. At present, there is no provision for direct financial assistance to urban local bodies.
This initiative will enhance urban resilience, given that the country's urban population is projected to reach approximately 90 crore by 2047 and advance the vision of Viksit Bharat. **So, Statement 1 is not correct.**

The Urban Challenge Fund will finance up to 25 per cent of the cost of bankable projects, with a stipulation that at least 50 per cent of the cost is funded from bonds, bank loans, and Public-Private Partnerships. An allocation of ₹10,000 crore was proposed for 2025-26. **So, Statement 2 is correct.**

4. The revised classification of MSMEs announced in Budget 2025-26 primarily focuses on :
   (a) **Increasing the investment and turnover limits for each MSME category**.
   (b) Introducing a new "nano enterprise" category below micro-enterprises.
   (c) Reducing the tax compliance burden for small enterprises.
   (d) Providing interest subvention for MSME loans.

EXPLANATION:

The Union Budget 2025-26 introduces a series of measures aimed at strengthening the Micro, Small, and Medium Enterprises (MSME) sector, recognising its role as one of the key engines in India's journey of development, alongside agriculture, investment, and exports.

- To help businesses expand and improve efficiency, the investment and turnover limits for MSME classification have been raised. Access to credit is set to improve with an increase in the credit guarantee cover for micro and small enterprises, startups, and export-focused MSMEs. A new scheme will provide financial support to first-time entrepreneurs from disadvantaged backgrounds, while sector-specific initiatives will enhance productivity in areas such as footwear, leather, and toy manufacturing.

Revised Classification Criteria:

- To help MSMEs scale operations and access better resources, the investment and turnover limits for classification have been increased by 2.5 times and 2 times, respectively. This is expected to improve efficiency, technological adoption, and employment generation.

Thus, the Primary focus of the revised classification of MSMEs announced in Budget 2025-26 is to increase the investment and turnover limits for MSME categories. **So, Option (a) is correct.**

Rs. in Crore	Investment		Turnover	
	Current	Revised	Current	Revised
Micro Enterprises	1	2.5	5	10
Small Enterprises	10	25	50	100
Medium Enterprises	50	125	250	500

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 refer to loans taken by state government entities, special purpose vehicles, and similar bodies, where both principal and interest are repaid from the state government's budget rather than from the revenues generated by the borrowing entity itself.

These borrowings allow state governments to bypass the borrowing ceiling set for them in a fiscal year by routing loans outside the state budget through government-owned companies or statutory bodies.

Since the responsibility for repayment lies with the state government, off-budget borrowings adversely impact the state's revenue and fiscal deficit.

Although the central Government does not directly take these loans, they are typically borrowed by public institutions under the central Government's guidance. Such borrowings are primarily used to meet the Government's expenditure needs. **So, Statement 1 is correct.**

However, since the liability of 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, but on the other hand, it also reduces the transparency and accountability of its finances. Governments at the Union and State levels undertake off-budget borrowings in a variety of ways. **So, Statement 2 is not correct.**

The Comptroller and Auditor General (CAG) has highlighted that the Central Government has increasingly relied on off-budget methods of financing to meet its expenditure requirements. Off-budget financing is often used for capital expenditure, as it allows flexibility in funding capital-intensive projects.

For example, off-budget borrowings by entities such as the Indian Railway Finance Corporation (IRFC) and the Power Finance Corporation (PFC) amounted to ₹3.05 lakh crore by the end of 2016–17, used to finance railway and power sector projects, respectively.

Additionally, due to inadequate budgetary allocations, certain subsidy dues are deferred to subsequent financial years. This practice results in the understatement of actual expenditure in a given fiscal year by keeping deferred liabilities off the budget, thus undermining the transparency of fiscal indicators. Such deferrals either postpone or create future liabilities, increasing the fiscal burden due to accumulated interest costs.
The CAG has also observed that off-budget borrowings are increasingly being used not only for capital but also for revenue expenditure. However, these expenditures are excluded from official fiscal calculations, despite their significant fiscal implications, thereby distorting the true fiscal position of the government.
So, Statement 3 is correct.

6. Which of the following statements are correct regarding the "Unified Lending Interface (ULI)", a platform developed by RBI ?
   1. It aims to address the significant unmet demand for credit in various sectors like agriculture and micro, small and medium enterprises.
   2. It aims to bring efficiency, reduce costs and facilitate quicker credit disbursement across the country.
   3. While ULI is for the general public and businesses for money transfers and payments, UPI is for financial institutions and credit entities.

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

EXPLANATION:

The Unified lending interface (ULI) was developed by Reserve Bank Innovation Hub (RBIH) and co-conceptualized with the Reserve Bank of India (RBI). ULI is a technology platform built to facilitate easy access to authenticated data from various sources, through standardised APIs to which all lenders can connect seamlessly through a 'plug and play' model.

- The platform is unlocking critical financial, non-financial and alternate data for lenders including digitised state land records, milk pouring data from milk federations, satellite data and property search services through a single interface.
- Unified Lending Interface (ULI) is a digital platform designed to streamline lending processes, catering to a significant unmet credit demand across various sectors. The platform specifically targets agricultural and medium, small, and micro-enterprises (MSME) borrowers. **So, Statement 1 is correct.**

ULI is a public tech platform aimed at bringing efficiency to the lending process by reducing costs, quicker disbursement, and scalability. It will facilitate a seamless and consent-based flow of digital information, including land records from multiple states, to lenders. It is designed to provide "frictionless credit", reducing the time taken for credit appraisal, especially for small and rural borrowers. **So, Statement 2 is correct.**

UPI enables seamless fund transfers, merchant payments, and peer-to-peer transactions, offering users flexibility through scheduled payment requests.
ULI aims to provide universal access across all regulated banking and financial entities. The Unified Lending Interface is a transformative digital lending platform to facilitate seamless, transparent, and efficient access to credit, particularly benefiting rural and small-scale borrowers. ULI allows rural and MSME borrowers to apply for credit from multiple lenders through a single platform. **So, Statement 3 is not correct.**

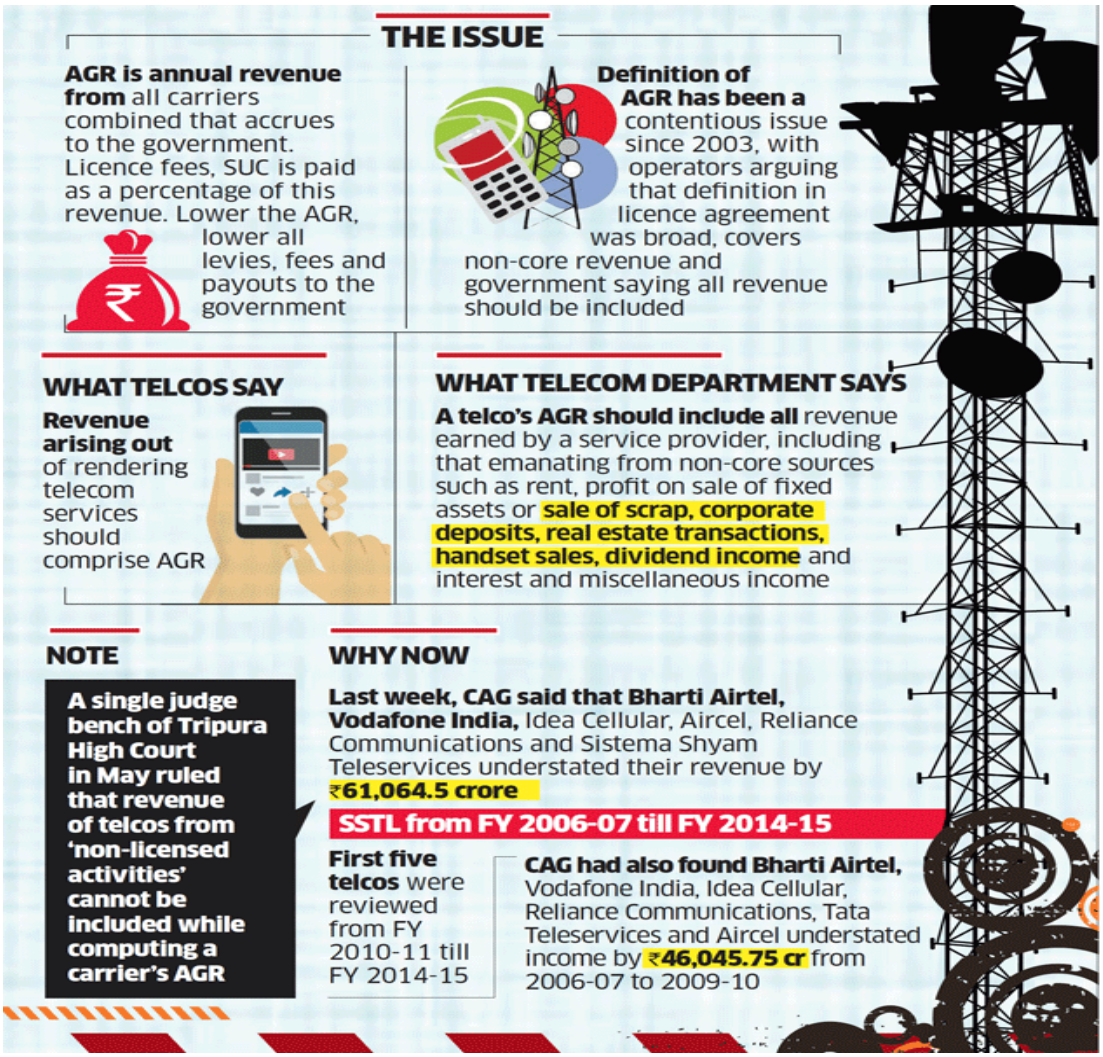
7. The term 'adjusted gross revenue' seen in the news is related to which of the following sectors of our economy?
   (a) Health sector
   (b) Insurance sector
   (c) **Telecom sector**
   (d) Banking sector

EXPLANATION:

Recently, the Supreme Court dismissed a petition filed by telecom companies to refigure adjusted gross revenues (AGR) amid a long-standing dispute over payment of dues to the government.

Telecom operators are required to pay licence fee and spectrum charges in the form of 'revenue share' to the Centre. The revenue amount used to calculate this revenue share is termed as the Adjusted Gross Revenue (AGR).

- According to the Department of Telecommunications (DoT), the calculations should incorporate all revenues earned by a telecom company – including from non-telecom sources such as deposit interests and sale of assets. The Telecom companies, however, have been of the view that AGR should comprise the revenues generated from telecom services only and non-telecom revenues should be kept out of it.
- Department of Telecommunications (DoT) calculates the government's share based on a percentage of AGR: three to five percent for spectrum usage fees and eight percent for licencing fees. **So, Option (c) is correct.**



8. Which of the following can be considered as a Bank's Asset ?
   (a) Deposits by households in banks
   (b) Loans taken from other financial institutions
   (c) Borrowings from the RBI under Repo transactions
   (d) **Dated government securities held by a bank**

EXPLANATION:

The money and property owned by a bank, as well as the money that is owed to it, are collectively referred to as bank assets. These assets mainly consist of various kinds of loans, marketable securities, and reserves of base money, which may be held either as central bank notes and coins or as a deposit balance with the central bank.
In addition, a bank's assets include cash, investments or securities, and loans and advances extended to various customers—primarily corporations—including term loans and mortgages. Physical assets such as the bank's premises, furniture, and equipment also form part of its asset base. Therefore, dated government securities held by a bank are considered bank assets. **So, Option (d) is correct.**

Liability for a bank is anything that it owes to outsiders. They may be repayable on demand (sight deposits or current accounts) or after a while (time, term, or fixed deposits and, occasionally, savings deposits).
The most common bank liabilities are:

- Loans taken from the central bank. **So, Option (b) is not correct.**
- Deposits made by the bank customers. **So, Option (a) is not correct.**
- Borrowings from RBI under Repo transactions. (This is short-term borrowing. The bank must return the funds borrowed). **So, Option (c) is not correct.**
- Trading liabilities

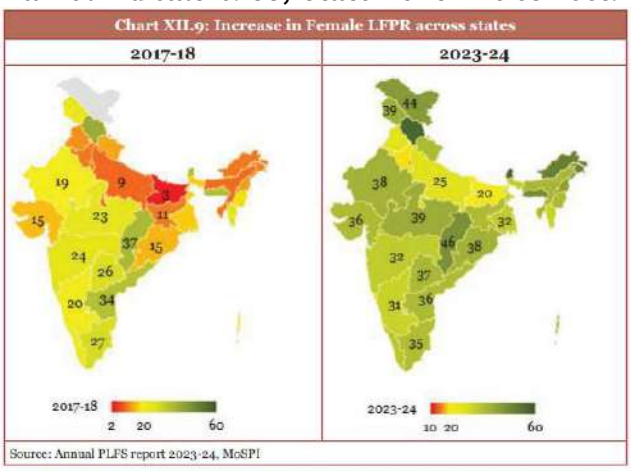
9. With reference to employment trends in India, consider the following statements :
   1. Female Labour Force Participation Rate (LFPR) has steadily increased in the last five years.
   2. The Unemployment Rate in both rural and urban areas has decreased over the last five years.
   3. Self-employed individuals make up more than 50% of all employment categories in the country.
   4. India's unemployment rate for individuals aged 15 and above has declined to 3.2% in 2023-24.

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

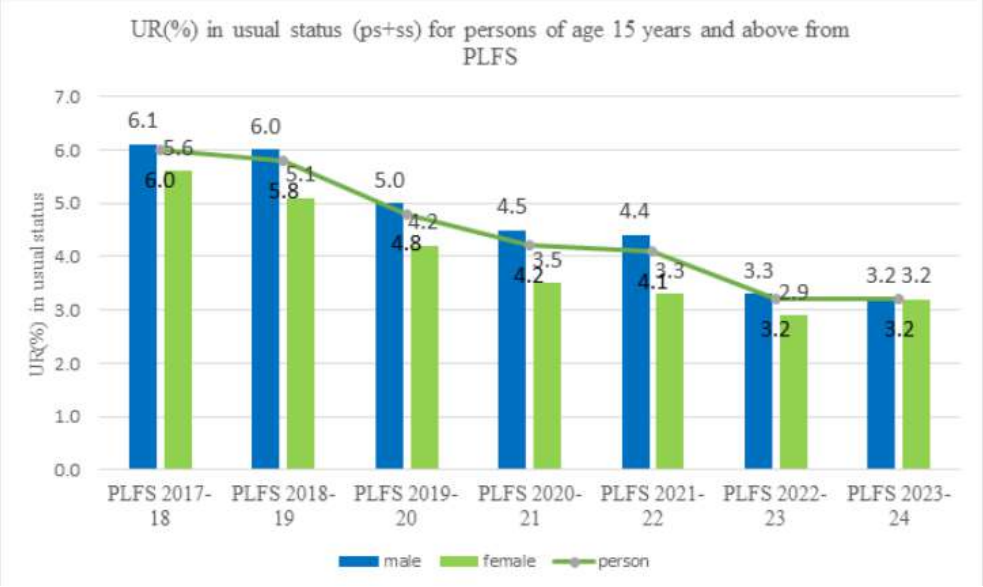
EXPLANATION:

India has experienced good employment growth in recent years, following the nation's sustained economic momentum. The 2023-24 annual Periodic Labour Force Survey (PLFS) report by the National Statistical Organisation (NSO) highlights a significant post-pandemic recovery in employment trends across India.

- From the gender perspective, the female labour force participation rate (FLFPR) has been rising for seven years, i.e., from 23.3 per cent in 2017-18 to 41.7 per cent in 2023-24, driven mainly by the rising participation of rural women. The notable rise in the FLFPR is the primary driver of the overall improvement in the labour market indicators. **So, Statement 1 is correct.**

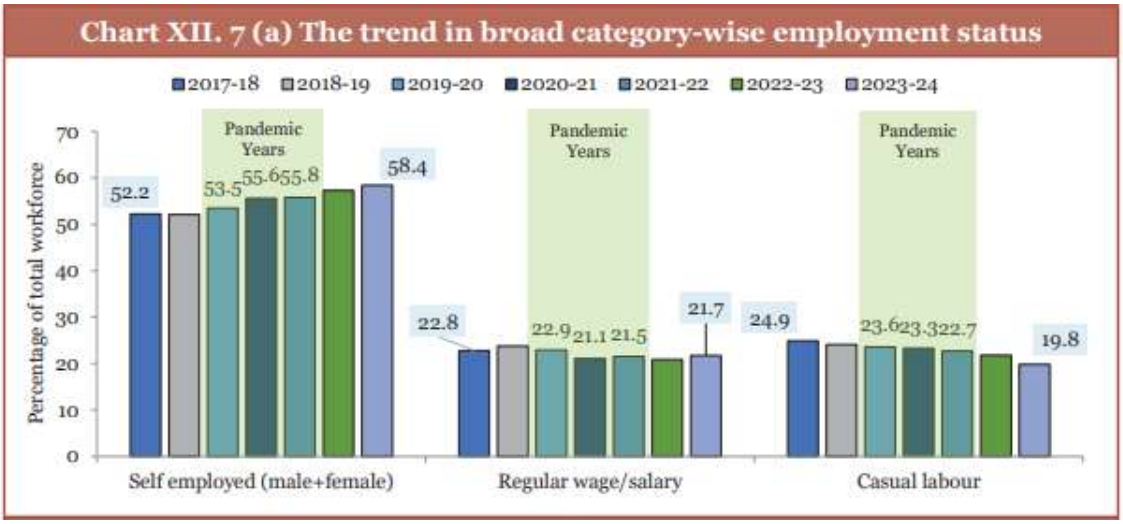


Unemployment Rate(UR) is defined as the percentage of persons unemployed among the persons in the labour force. In rural areas, UR decreased from 5.3% in 2017-18 to 2.5% in 2023-24 while for urban areas it decreased from 7.7% to 5.1%. UR for male in India decreased from 6.1% in 2017-18 to 3.2% in 2023-24 and corresponding decrease for female was from 5.6% to 3.2%. Therefore, Unemployment Rate in Both Rural and urban areas has decreased in last five years. **So, Statement 2 is correct.**



The proportion of self-employed workers in the workforce has risen from 52.2 per cent in 2017-18 to 58.4 per cent in 2023-24. This shift reflects growing entrepreneurial activity and a preference for flexible work arrangements. While the share of workers (male and female) in regular/salaried jobs decreased from 22.8 per cent to 21.7 per cent during the same period, the trend has stabilised since 2020-21, with employment levels either holding steady or showing gradual improvement.

- The decline in casual workers, from 24.9 per cent to 19.8 per cent, also indicates a shift toward more structured forms of self-employment. These changes suggest an evolving workforce that embraces flexibility and independence in response to industry transformations and individual preferences. **So, Statement 3 is correct.**



- As per the 2023-24 annual Periodic Labour Force Survey (PLFS) report, the unemployment rate for individuals aged 15 years and above has steadily declined from 6 per cent in 2017-18 to 3.2 per cent in 2023-24. **So, Statement 4 is correct.**

10. Which of the following best describes the term 'financialisation' ?
    (a) **The dominance of financial markets in shaping the policies and macroeconomic outcomes**
    (b) The dominance of consumption expenditure in the growth of an economy
    (c) The mechanism of increasing financial literacy among rural people
    (d) The phenomenon of increased cash transactions in an economy

EXPLANATION:

Financialization refers to the increasing dominance of financial markets and institutions in shaping policy and macroeconomic outcomes, often leading to a disproportionate focus on financial assets and transactions over the real economy. This can have negative consequences, including excessive levels of debt, reduced economic growth, and financial instability.

The consequences of financialisation are evident in advanced economies, where it has led to unprecedented levels of public and private sector debt, some visible to regulators and some not.

According to India's recent Economic Survey 2024-25:

- In India, with a large part of the household savings heading to the stock market and increasingly retail investors taking charge at Financial Market, this excessive financialisation can hurt the economy and the costs may be particularly high for a low-middle-income country like India.
- Economic growth in such contexts becomes overly reliant on rising asset prices to offset leverage, exacerbating inequality and asset market considerations that may overly influence public policies, particularly regulatory ones.
- The report said India should strive to maintain a fine balance between financial-sector development and growth, on the one hand, and financialisation, on the other, as the country was trying to align its financial system with its economic aspirations for 2047.

So, Option (a) is correct.

11. Consider the following statements :
    1. Both Parliament and state legislatures can make laws for admission of socially and educationally backward classes, Scheduled Castes, or Scheduled Tribes, into government or private educational institutions, except minority educational institutions.
    2. The Central Educational Institutions (Reservations in Admission) Act, 2006 provides reservations for Scheduled castes, Scheduled tribes and socially and educationally backward classes of citizens in central educational institutions.
    3. So far, no law has been made by the Parliament to provide for reservation in private educational institutions.

    Which of the above statements is/are ***not*** correct ?
    (a) 3 only
    (b) 1 and 2 only
    (c) 1, 2, and 3
    (d) **None**

EXPLANATION:

The Constitution (93rd Amendment) Act 2005 was passed, and a provision has been inserted that the state (i.e. Parliament or other legislatures) can make laws for the advancement of the SC, ST or the OBCs of citizens in matters of admission to educational institutions, including private unaided institutions except for minority educational institutions.

- This provision would enable laws to be made with respect to the reservation of seats for the weaker sections, the regulation of merit-based admission, and the regulation of fees in private institutions.
- The State Governments, as well as the Government of India, can make appropriate laws in respect of institutions falling under their respective domain. **So, Statement 1 is correct.**

The Central Educational Institutions (Reservations in Admission) Act, 2006 provides for the reservation in the admission of the students belonging to the Scheduled Castes, the Scheduled Tribes and the Other Backward Classes of citizens to certain Central Educational Institutions established, maintained or aided by the Central Government, and for matters connected therewith or incidental thereto. **So, Statement 2 is correct.**

The 93rd Constitutional Amendment (2005), effective from January 20, 2006, introduced Article 15(5), allowing the State to make laws for the advancement of socially and educationally backward classes, SCs, and STs, including reservation in private (non-minority) educational institutions. However, no specific law has yet been enacted by Parliament to provide SC/ST/OBC reservations in private institutions.

The 86th Amendment (2002) added Article 21A, mandating free and compulsory education for children aged 6–14. To implement this, Parliament passed the Right to Education (RTE) Act, 2009, which mandates free education in neighbourhood schools and sets minimum norms for legal recognition. It also requires:

- Government schools to provide free education to all children.
- Aided schools to offer free education proportionate to their funding, with a minimum of 25%.

Controversy arose over Section 12(1)(c) of the RTE Act, which mandates private unaided schools to reserve 25% of entry-level seats for children from SCs, STs, low-income, and disadvantaged groups, with reimbursement based on the lesser of tuition fees or per-student government school spending. This was challenged by the Society for Unaided Private Schools of Rajasthan, citing interference with institutional autonomy.

The Supreme Court upheld the provision but clarified that the 25% mandate is not a reservation in the constitutional sense under Articles 15 or 16. **So, Statement 3 is correct.**

12. A 13-year-old child is employed in a garment factory in Mumbai, Maharashtra, due to the financial struggles of his family. Because of the extended work hours, he is unable to attend school and rarely has any opportunity for leisure activities or socializing with peers. Which of the following Fundamental Rights are violated in this scenario?
    1. Article 16
    2. Article 21A
    3. Article 23
    4. Article 32

    Select the correct answer using the code given below :

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

EXPLANATION:

The situation involves 13-year-old child rights concerning education, child labour, and other related protections. This violates a few Articles of Fundamental Rights enshrined in Part III of the Indian Constitution.

- Article 21A declares that the State shall provide free and compulsory education to all children of the age of six to fourteen years in such a manner as the State may determine. Forcing a 13-year-old child to work and the negligence of guardians and government to intervene and failing to give the child the right to free and compulsory is a violation of the Fundamental right under Article 21A. **So, Statement 2 is correct.**
- Article 23 of the Constitution prohibits trafficking in human beings, begar (forced labour), and similar forms of exploitation, making violations punishable by law. Compelling a 13-year-old to work under harsh conditions, particularly due to financial hardship, amounts to forced labour. This is a clear violation of Article 23. **So, Statement 3 is correct.**

- Article 24 prohibits the employment of children below the age of 14 years in any factory, mine or other hazardous activities like construction work or railway. But it does not prohibit their employment in any harmless or innocent work.
- Article 16 is related to equality of opportunity for all citizens in matters of employment or appointment to any office under the State, while Article 32 is related to Constitutional remedies. **So, Statements 1 and 4 are not correct.**

13. Which of the following is/are the provisions of the 10th Schedule to the Indian Constitution ?
    1. The Speaker's decision of disqualification is subject to judicial review, initially at the High Court and thereafter, through an appeal in the Supreme Court.
    2. Disqualification petitions under the 10th Schedule are to be decided within three months from the date of filing.

    Select the correct answer using the codes given below :

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

EXPLANATION:

The Anti-Defection Law, added by the 52nd Amendment Act 1985, disqualifies legislators who defect from their party. It introduced Tenth Schedule and aimed to prevent political instability. The 91st Amendment Act 2003 later removed the exemption for party splits to stop misuse, allowing disqualification unless a merger involves two-thirds of members.

- Any question regarding disqualification arising out of defection is to be decided by the presiding officer of the House. Originally, the act provided that the decision of the presiding officer is final and cannot be questioned in any court.
- However, in the Kihoto Hollohan case (1993), the Supreme Court declared this provision unconstitutional on the grounds that it seeks to take away the jurisdiction of the Supreme Court and the high courts. It held that the presiding officer while deciding a question under the Tenth Schedule, functions as a tribunal.
- Hence, his decision, like that of any other tribunal, is subject to judicial review on the grounds of mala fides, perversity, etc. Thus, the appeal was first made in the concerned High Court and thereafter appealed against the High Court order in the Supreme Court. However, the court rejected the contention that the vesting of adjudicatory powers in the presiding officer is by itself invalid on the grounds of political bias. **So, Statement 1 is correct.**

The Tenth Schedule of the Constitution does not specify any timeframe for deciding on the disqualification petitions. While recently the Supreme Court has urged Speakers to act within a "reasonable time," it has not laid down a fixed period.

The Supreme Court has encouraged timely decisions in cases like Keisham Meghachandra Singh, but this is not a statutory requirement. While courts have set deadlines in specific cases, such as the 2023 Maharashtra case, these are case-specific directions, not rules laid out in the Tenth Schedule. **So, Statement 2 is not correct.**

14. Under which of the following circumstances, as provided for in the Representation of the People Act, 1951, does the Election Commission cancel the election of a polling booth and adjourn the date of election to a re-polling date fixed by it ?
    1. Booth capturing at a polling station
    2. Booth capturing in any place for counting of votes
    3. Natural calamity
    4. The ballot box is unlawfully taken out of the custody of the presiding/returning officer
    5. An Electronic Voting Machine develops a mechanical failure during the recording of votes

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

EXPLANATION:

India's election laws provide a framework for handling situations where the normal polling process is disrupted for any reason, including damage to EVMs, booth-capturing, natural disasters, or a candidate's death.

The provisions for repolls, adjournments, and the voiding of polls ensure that the democratic process remains fair, transparent, and uninterrupted.

The Representation of the People Act of 1951 provides various circumstances under which the Election Commission (EC) can declare an election void, order a re-poll, or adjourn polling at a specific booth or constituency.

Destruction or tampering of EVMs : Under Section 58 of the RPA- The Election Commission can declare the poll at a polling station void and order a re-poll if:

- An unauthorized person unlawfully takes away any EVM. **So, Statement 4 is correct.**
- The EVM is destroyed, lost, damaged, or tampered with — whether accidentally or intentionally.
- A mechanical failure occurs in the EVM during the recording of votes. **So, Statement 5 is correct.**

Booth Capturing : Under Section 135A & Section 58A of the RPA, Booth capturing refers to:

- Seizing a polling station and obstructing the conduct of elections.
- Taking control of a booth and allowing only certain supporters to vote.
- Intimidating voters to stop them from casting votes.
- Capturing the place where votes are being counted. **So, Statement 2 is correct.**
- Any such act by a person in government service. **So, Statement 1 is correct.**

Natural Calamities or Other Disruptions: Under Section 57 of the RPA, The Presiding Officer can adjourn polling in case of:

- Natural disasters like floods or storms.
- Loss or non-receipt of key materials like EVMs or electoral rolls.
- Riots or violent disruptions at the polling booth.
- The polling party is unable to reach the station.
- The poll doesn't begin within two hours of its scheduled time due to EVM malfunction or other reasons.

So, Statement 3 is correct.

Death of a Candidate: According to Section 52 of the Representation of the People Act, 1951 (as amended in 1996), the poll shall be adjourned only in the event of the death of a candidate belonging to a recognised political party.

A recognised political party refers to:

- A national party, or

A state party recognised in the concerned state, as notified by the Election Commission under the Election Symbols (Reservation and Allotment) Order.

15. With reference to the composition of the Constituent Assembly, consider the following statements :
    1. The representatives of each community were elected by members of that community in the provincial legislative assembly through proportional representation.
    2. The representatives of the princely states were elected by the heads of the princely states.
    3. The assembly represented all sections of Indian society excluding women of Anglo-Indians, Muslims and Parsis.

How many of the above statements are correct?

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

EXPLANATION:

The Constituent Assembly of India was constituted in November 1946 under the scheme formulated by the Cabinet Mission Plan and became the Parliament of the Indian Dominion. Each province and princely state (or group of states in case of small states) were to be allotted seats in proportion to their respective population. The representatives of the princely states were to be nominated (not elected) by the heads of the princely states.

However, the representatives of each community were to be elected by members of that community in the provincial legislative assembly, and voting was to be by the method of proportional representation by means of the single transferable vote as the seats allocated to each British province were to be divided among the three principal communities–Muslims, Sikhs and General (all except Muslims and Sikhs), in proportion to their population. **So, Statement 1 is correct and Statement 2 is not correct.**

Although the Constituent Assembly was not directly elected by the people of India on the basis of adult franchise, it comprised representatives of all sections of Indian society: Hindus, Muslims, Sikhs, Parsis, Anglo-Indians, Indian Christians, SCs, and STs, including women of all these sections. The Assembly included all important personalities of India at that time, with the exception of Mahatma Gandhi. **So, Statement 3 is not correct.**

16. How many of the following make/s the Indian Constitution a living document ?
    1. Interpretation by the Supreme Court in various cases by means of Constitutional fidelity.
    2. Constitutional Amendments made by the Parliament
    3. Amendments into the Supplementary Acts to the Constitution

    Select the correct answer :
    (a) Only one
    (b) Only two
    (c) **All three**
    (d) None

EXPLANATION:

The Constitution as a Living Document means that just like living things evolve over time to adapt to new surroundings, the Constitution is also an evolving document. Our Indian Constitution evolves from time to time in order to improve it and benefit society.

- Interpretation by the Supreme Court:
  - The Constitution evolves in the way we interpret the meaning of the text present in our Constitution. One of the most well-known Supreme Court judgements on decriminalising Section 377 of the Indian Penal Code can aid us in comprehending the evolution of the Constitution.
  - In this judgement, the judiciary interprets the meaning of "right to equality" (Article 14)", "right to privacy" (Article 21)", and "prohibits discrimination on the ground of religion, race, caste, sex, or place of birth (Article 15")" in a broader perspective. In this judgement, the Constitution evolves as a result of a broader interpretation of the Articles. **So, Statement 1 is correct.**
- Constitutional Amendments
  - The evolution of the Constitution takes place by amendment, and this power of amendment is under Article 368 of the Indian Constitution, which helps us to add new laws or change existing ones.
  - Amendments are not something that shakes the structure of the Constitution but are an integral part of it. All of the Amendment procedures make our Indian Constitution robust enough to avoid mistakes and aid in the evolution of the Constitution. **So, Statement 2 is correct.**

- Supplementary Acts to the Constitution refer to laws or statutes passed by the Parliament that are not part of the original Constitution but are intended to support, clarify, or implement its provisions. The existing law can also be changed or eliminated through amendments, like the right to property, which is no longer a fundamental right but a legal right. The evolution of the Constitution is necessary because society changes or modifies sporadically, and if the evolution of the Constitution stops, then it will become static and no longer be a living document. **So, Statement 3 is correct.**

17. Which of the following statement is ***not*** correct?
    (a) Not all privately owned property is a material resource of the community.
    (b) Privately owned property could be a material resource by fulfilling certain criteria.
    (c) Article 31C continues to exist after the Supreme Court's decision in the Minerva Mills vs Union of India case.
    (d) **None of the above**

EXPLANATION:

Article 39(b) in Part IV provides that 'ownership and control of material resources of the community are so distributed as best to sub-serve the common good.
Material resources of the community in the context of reordering the national economy embrace all the national wealth, not merely natural resources, all the private and public sources of meeting material needs, not merely public possessions. Everything of value or use in the material world is a material resource, and the individual being a member of the community, his resources are part of those of the community.
Recently, a nine-judge Constitution Bench of the Supreme Court held that not all privately owned property is a "material resource of the community" under Article 39(b) of the Constitution, putting to rest a long-pending case. **So, Option (a) is correct.**

Privately owned property could "theoretically" be considered a material resource of the community. However, it had to be assessed in specific contexts based on factors such as nationalisation, availability, scarcity of resources, and their uses. It also noted that private property could become a "material resource of the community" through the following means:

- Nationalisation
- Acquisition
- Operation of law
- Purchase of material from private persons
- By the owner of a privately owned property donating by gift, etc. **So, Option (b) is correct.**

Article 3IC, inserted by the 25th Amendment Act of 1971, states no law that seeks to implement the socialistic directive principles specified in Article 39(b) or (C) shall be void on the ground of contravention of the fundamental rights conferred by Article 14 (equality before law and equal protection of laws) or Article 19 (protection of six rights in respect of speech, assembly, movement, etc.).

- The 42nd Amendment Act (1976) extended the scope of this provision by including within its protection of any law to implement any of the directive principles specified in Part IV of the Constitution and not merely in Article 39 (b) or (c).
- However, this extension was declared unconstitutional and invalid by the Supreme Court in the Minerva Mills case (1980).

In 2024, the Supreme Court said that it did not strike down Article 31C as a whole. It was restored wherein Articles 39(b) and (c) remained protected. Thus, Article 31C continues to exist after the Supreme Court's decision in Minerva Mills v Union of India. **So, Option (c) is correct.**

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:

The President's Rule can be proclaimed under Article356 on two grounds, one mentioned in Article 356 itself and another in Article 365.

According to Article 365 (Not Article 356) of the Constitution, whenever a state fails to comply with or to give effect to any direction from the Centre, it will 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 the Constitution and imposition of President rule imposing is valid. **So, Statement 1 is not correct.**

According to Article 355 (Not Article 356), 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 355 to protect the State from disturbances. **So, Statement 2 is not 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 recognized 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.

19. With reference to urban local bodies in India, consider the following statements :
    1. The Governor makes the relevant provisions with respect to the composition of the District Planning Committee.
    2. The Metropolitan Planning Committee consists of four-fifths of elected members from panchayats and municipalities in the metropolitan area.
    3. The State Finance Commission lays down the principle by which the net proceeds are distributed between the state and local bodies.

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

EXPLANATION:

The 74th Amendment Act of 1992 added a new Part IX-A to the Constitution of India. This Part is entitled 'The Municipalities' and consists of provisions from Articles 243-P to 243-ZG. In addition, the act has also added a new Twelfth Schedule to the Constitution. This schedule contains eighteen functional items of municipalities. It deals with Article 243-W.

- Article 243ZD mandates the formation of a District Planning Committee (DPC) in every State at the district level to consolidate plans from Panchayats and Municipalities and prepare a draft development plan.
- The State Legislature (Not the Governor) may make provisions with respect to the DPC's composition, seat allocation (with at least four-fifths elected from local bodies), functions, and selection of the Chairperson. **So, Statement 1 is not correct.**

Metropolitan Planning Committee: Every metropolitan area shall have a metropolitan planning committee to prepare a draft development plan.

The state legislature may make provisions with respect to the following:

- The composition of such committees;
- The manner of election of members of such committees;
- The representation in such committees of the Central government, state government and other organisations;
- The functions of such committees in relation to planning and coordination for the metropolitan area and
- The manner of election of chairpersons of such committees.

The act lays down that two-thirds of the members (Not four-fifths) of a metropolitan planning committee should be elected by the elected members of the municipalities and chairpersons of the panchayats in the metropolitan area from amongst themselves. The representation of these members in the committee should be in proportion to the ratio between the population of the municipalities and the panchayats in that metropolitan area. **So, Statement 2 is not correct.**

Article 243I requires the Governor to constitute a State Finance Commission within one year of the commencement of the Constitution (Seventy-third Amendment) Act, 1992, and every five years thereafter to review the financial position of Panchayats and to make recommendations to the Governor for the distribution between the State and the Panchayats of the net proceeds of the taxes, duties, tolls and fees leviable by the State, which may be divided between them and the allocation between the Panchayats at all levels of their respective shares of such proceeds. **So, Statement 3 is correct.**

20. Consider the following statements :
    1. The District Judge is appointed by the governor of the state, in consultation with the State Public Service Commission and the Chief Justice of the respective High Court.
    2. A Session Judge can pass the death sentence .

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 233 of the constitution states that any persons to be Appointed as district judges and the posting and promotion of district judges in any State shall be made by the Governor of the State in consultation with the High Court exercising jurisdiction in relation to such State.

While recruitment of persons other than district judges to the judicial service of a State under Article 234 shall be made by the Governor of the State in accordance with rules made by him on that behalf after consultation with the State Public Service Commission and with the High Court exercising jurisdiction in relation to such State. **So, Statement 1 is not correct.**

The Court of the Sessions Judge (known as Sessions Courts) is the highest court for criminal cases in a district. Criminal courts hear criminal cases that are related to violations of laws. These cases involve theft, dacoity, rape, arson, pick-pocketing, physical assault, murder etc.

In such cases, the guilty person is punished. It may be a fine, imprisonment or even Death sentence. An accused who is awarded a death sentence by the sessions court can be hanged to Death only after his sentence is confirmed by the High Court. **So, Statement 2 is correct.**

21. Consider the following pairs :

Sl. No.	***Countries seen in the news***		***Reason for being in the news***
1.	Georgia	-	Declared as Malaria-free by World Health Organization in 2025
2.	South Korea	-	Impeachment of President for declaring martial law
3.	Philippines	-	Arrest of former President by International Criminal Court (ICC).

How many of the pairs given above are correct?

(a) Only one

(b) Only two

(c) **All three**

(d) None

EXPLANATION:

The World Health Organization (WHO) leads global efforts to fight malaria through its Global Malaria Programme, following a strategy planned for 2016–2030.

In 2025, Georgia was officially declared malaria-free by WHO, after almost 100 years of efforts. It became one of 46 places worldwide (45 countries and 1 territory) to reach this milestone.

Malaria was a major problem in Georgia for centuries. In the 1920s, about 30% of people had malaria, mostly caused by the P. vivax parasite. By 1940, malaria cases dropped due to mosquito control and better treatment. But during World War II, cases rose again because of population movement and pressure on healthcare.

After the war, Georgia started a strong malaria control program using new medicines, insecticide spraying, and close monitoring. This led to:

- P. falciparum being stopped by 1953,

- P. malariae by 1960, and
- P. vivax by 1970.

Georgia stayed malaria-free for 25 years, but in 2002, it saw a return with 474 cases. **So, Pair 1 is correct.**

Recently, South Korea's Constitutional Court removed impeached President Yoon Suk Yeol from office on April 2025, four months after he threw South Korean politics into turmoil by declaring martial law and sending troops to parliament in an ill-fated effort to break through legislative gridlock.

- In a nationally televised verdict, the court's acting chief Moon Hyung-bae said the eight-member bench upheld Yoon's impeachment because his martial law decree seriously violated the constitution and other laws. **So, Pair 2 is correct.**

Recently, Former Philippines President Rodrigo Duterte was arrested on a warrant issued by the International Criminal Court (ICC), which was investigating allegations that "crimes against humanity" were committed during his so-called "war on drugs".

During Duterte's six-year term (ending in 2022), over 6,000 people were killed by police or unidentified attackers. Most victims were young, poor men from cities. A UN report said police often raided homes without warrants and forced confessions, threatening or using lethal force.

The ICC, which has 125 countries as its members, has international jurisdiction over four types of crimes: crimes against humanity, genocide, crimes of aggression, and war crimes. It can step in when countries are unwilling or unable to prosecute suspects for these crimes. **So, Pair 3 is correct.**

22. Which of the following statements is/are correct ?
    1. Hampi is located on the banks of the Tungabhadra River.
    2. Ayodhya is located on the banks of the Sarayu River.
    3. Nagarjunakonda is located on the southern bank of the Krishna River.
    4. Pandharpur is located on the banks of the Narmada River.

    Select the correct answer using the codes given below :

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

EXPLANATION:

Hampi, a UNESCO World Heritage Site located in the Bellary district of central Karnataka, lies on the banks of the Tungabhadra River and spans 4,187.24 hectares.

It served as the capital of the Vijayanagara Empire (14th–16th century CE), the last great Hindu kingdom in South India.

The site is characterized by its riverine landscape, rocky hills, and open plains, and features notable monuments such as the Krishna Temple Complex, Narasimha, Ganesa, Hemakuta group of temples, Achyutaraya Temple, Vitthala Temple, Pattabhirama Temple, and the Lotus Mahal. **So, Statement 1 is correct.**

Ayodhya, also known as Saket, is an ancient city situated on the banks of the sacred Sarayu River in Uttar Pradesh. It is revered as the birthplace of Lord Ram and served as the capital of the ancient Kosala Kingdom.

The Sarayu, originating from Lake Mansarovar in the Himalayas, is a significant tributary of the Ganga River and flows through China, Nepal, and India before merging with the Ganga in Bihar's Saran district. **So, Statement 2 is correct.**

The city of Nagarjunakonda was protected naturally on one side by the river Krishna and on the other side by the hilly terrain. Nagarjunakonda hill, named after Nagarjuna, a Buddhist teacher, is located in the Andhra region.

It lies on the right bank of the river Krishna in Macherla of Guntur district, Andhra Pradesh. It is a valley nestled between the Nallamalai range on three sides and the river Krishna on one side.

The Krishna Basin extends over Andhra Pradesh, Maharashtra and Karnataka, covering nearly 8% of the country's total geographical area. It is bounded by the Balaghat range on the north, the Eastern Ghats on the south and east and the Western Ghats on the west. **So, Statement 3 is correct.**

Pandharpur, also known as the Southern Kashi of India, is located on the banks of the river Bhima, which is alternatively known as Chandrabhaga because of its crescent-shaped meandering.
It is the spiritual hub for millions of devotees of Lord Vithoba, a form of Lord Krishna. The iconic Shri Vitthal-Rukmini Mandir is the centrepiece of devotion, history, and culture, attracting pilgrims from across India. **So, Statement 4 is not correct.**

23. With reference to PM Surya Ghar Muft Bijli Yojana, consider the following statements :
    1. It is the world's largest residential rooftop solar initiative.
    2. It will increase the share of solar rooftop capacity and empower residential households to generate their own electricity.
    3. Below Poverty Line (BPL) households are eligible for free installation of solar rooftops.

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

EXPLANATION:

PM Surya Ghar: Muft Bijli Yojana is a government scheme that aims to provide free electricity to households in India. Under the scheme, households will receive a subsidy to install solar panels on their roofs, covering up to 40% of the cost of the panels. It is the world's largest domestic rooftop solar initiative and has achieved a historic milestone 10 lakh homes are now solar-powered as of March 2025.
Under the PM Surya Ghar Muft Bijli Yojana, Below Poverty Line (BPL) households are not specifically eligible for free installation of rooftop solar systems. Eligibility:

- The household must be an Indian citizen.
- The household must own a house with a roof that is suitable for installing solar panels.
- The household must have a valid electricity connection.
- The household must not have availed of any other subsidy for solar panels. **So, Statement 1 is correct and Statement 3 is not correct.**

The subsidies provided under the scheme make rooftop solar installations more affordable, which directly builds capacity by increasing the total amount of solar power generated from rooftops across the country.
The PM Surya Ghar Muft Bijli Yojana offers several other benefits to participating households:

- Free Electricity for Households: The scheme provides households with free electricity through the installation of subsidized rooftop solar panels, significantly reducing their energy costs.
- Reduced Electricity Costs for the Government: By promoting the widespread use of solar power, the scheme is expected to save the government an estimated ₹75,000 crore annually in electricity costs.
- Increased Use of Renewable Energy: The scheme encourages the adoption of renewable energy sources, contributing to a more sustainable and environmentally friendly energy mix in India.
- Reduced Carbon Emissions: The transition to solar energy under this scheme will help lower carbon emissions, supporting India's commitment to reducing its carbon footprint. **So, Statement 2 is correct.**

24. With reference to killer whales, consider the following statements :
    1. It is a toothed whale and the largest oceanic dolphin.
    2. They can be found only in cold and polar regions.
    3. They are highly intelligent and able to coordinate hunting tactics.
    4. These carnivorous species are exceptionally fast swimmers.

Which of the statements given above are correct ?

(a) 1 and 2 only

(b) 2 and 4 only

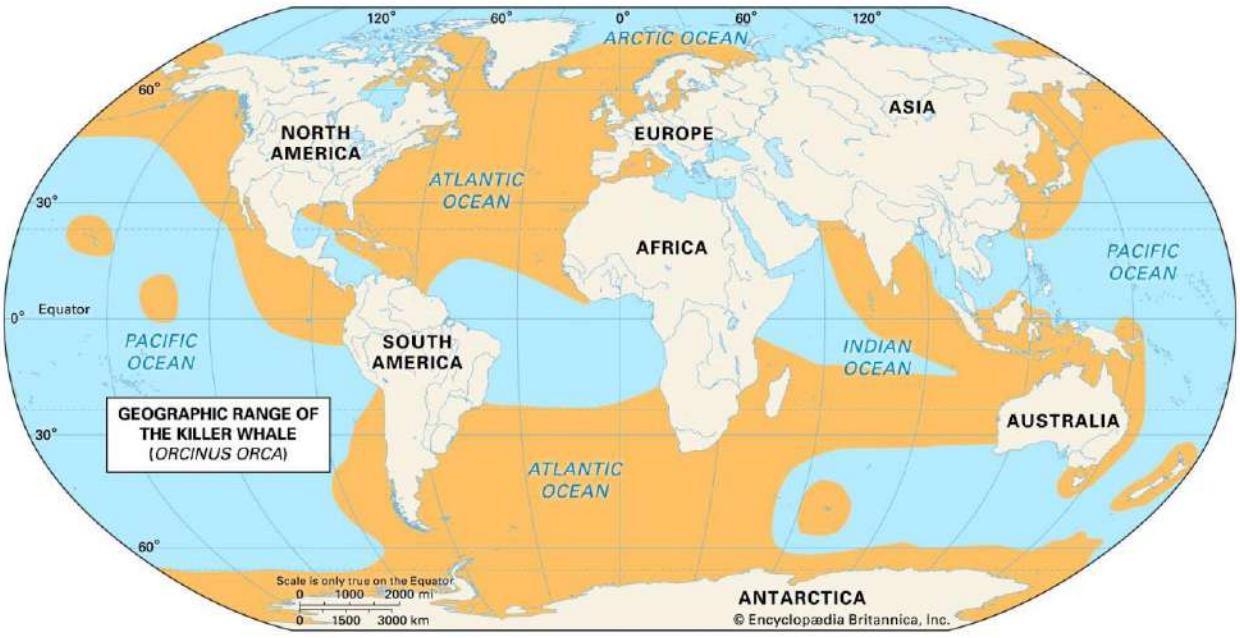
(c) 1, 3 and 4 only

(d) 1 and 3 only

EXPLANATION:

Killer whale (Orcinus orca), also known as Orcas, is the largest member of the dolphin family (Delphinidae). The killer whale is easy to identify by its size and its striking colouration: jet black on top and pure white below with a white patch behind each eye, another extending up each flank, and a variable "saddle patch" just behind the dorsal fin. **So, Statement 1 is correct.**

The killer whale's distribution is patchy in all oceans due to the presence of large prey such as tuna, salmon, and seals. Though they are often found in cold, coastal waters, orcas can be found from the Polar Regions to the Equator. **So, Statement 2 is not correct.**



Orcas are highly intelligent and are skilled hunters. They coordinate hunting tactics as Orcas hunt in deadly pods (family groups of up to 40 individuals). Killer whales are one of the few nonhuman animals capable of recognizing themselves in a mirror. They are also one of the rare species, along with humans, short-finned pilot whales, false killer whales, belugas, and narwhals, that experience menopause, where ovulation ceases before the end of their natural lifespan. **So, Statement 3 is correct.**

Orcas are not herbivorous. They are carnivorous and are extremely fast swimmers, having been recorded at speeds of up to 54 km/h. They grow up to 5.8 meters (19 feet) in length. Orcas are among the fastest marine mammals, ranking second after their relatives, dolphins. Despite their name, orcas are not dangerous to humans. Orcas do not feed on whales but also on a variety of other ocean animals, such as fish, penguins, sharks, seals, and even sea birds. **So, Statement 4 is not correct.**

25. With reference to electricity generation in India, consider the following statements :
    1. Private sector thermal power plants have the largest capacity of electricity generation in India.
    2. Maharashtra had the highest non-renewable electricity generation capacity, followed by Uttar Pradesh and Gujarat in 2022-23.
    3. Tamil Nadu has the highest renewable electricity generation capacity in India.

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

EXPLANATION:

India has a total installed capacity of 4,56,757 MW in which the central sector has 22.9% share, the State sector has 23.7% and the private sector, a 53.4% share.

- Out of the total electricity generation capacity from thermal power plants (2,37,268.91 MW),
  - Private sector power plants have a 36.2% capacity
  - The State sector has 32%, and
  - The central sector has the 31.8% capacity.
- India's largest thermal plant, boasting a 4,760MW capacity from Vindhyachal Thermal Power Station located in Madhya Pradesh, Singrauli district. Owned and managed by NTPC (National Thermal Power Corporation).

Therefore, Private sector thermal power plants have the largest capacity of electricity generation in India. **So, Statement 1 is correct.**

According to the Central Electricity Authority (CEA),

- Maharashtra had the highest non-renewable electricity generation capacity (31,510.08 Mega Watt or MW), followed by Uttar Pradesh and Gujarat in 2022-23. **So, Statement 2 is correct.**
- Rajasthan had the highest renewable electricity generation capacity in India, followed by Gujarat, Tamil Nadu. **So, Statement 3 is not correct.**
- Despite having the highest electricity generation capacity, some States consume more than their generation.

26. What is the main objective of the recently launched 'Gyan Bharatam Mission'?
    (a) Incentivising Non-Resident Indians to come homeland
    (b) Increasing the number of publications in the classical languages of India
    (c) **Documenting India's vast manuscript heritage**
    (d) Exploring the old trade route by Ancient Indians

EXPLANATION:

The "Gyan Bharatam Mission" is an initiative of the government of India to survey, document, and conserve over one crore Indian manuscripts held by institutions, libraries, museums, and private collectors.
It is an extension of the National Mission for Manuscripts, which aims to digitise and organise India's vast manuscript heritage into a comprehensive online repository.
By expanding the mission's scope through technological integration, it seeks to preserve and promote India's rich intellectual legacy in alignment with the government's vision of blending ancient wisdom with modern education. **So, Option (c) is correct.**

27. Which of the following statements is/are correct regarding the leader Sardar Vallabhbhai Patel?
    1. He is the first Home Minister of independent India.
    2. He was detained in the Ahmednagar Fort for the passage of the Quit India resolution in Bombay
    3. The Statue of Unity is built on the river basin of the Narmada River and the Sardar Sarovar dam.

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

EXPLANATION:

Sarda Vallabhbhai Patel was an Indian barrister and statesman who was one of the leaders of the Indian National Congress during the struggle for Indian independence.

- During the framing of India's Constitution, he was the Home and Information and Broadcasting Minister in the Interim Government and played a critical role in negotiating with and integrating the 565 princely states into the Union of India earning him the moniker 'Iron Man of India'.
- He was the first Home Minister and Deputy Prime Minister of independent India and he organized relief efforts for refugees. He held the post of Minister for States after July 1947 and Minister of Home and States after 1948. **So, Statement 1 is correct.**

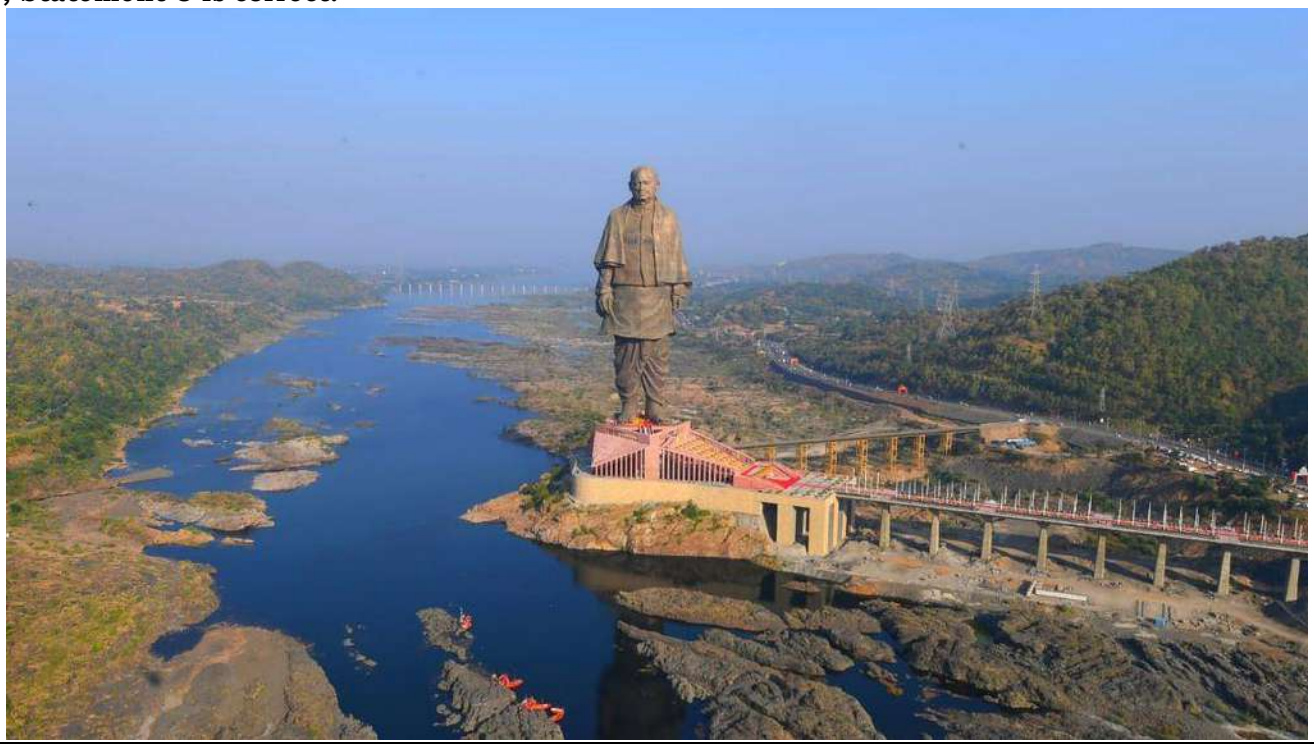
All India Congress Committee passed the famous Quit India resolution in Bombay on August 8, 1942, and Vallabhbhai, along with the other members of the Working Committee, was arrested on August 9, 1942 and detained in the Ahmednagar Fort while Gandhiji, Kasturba and Mahadev Desai were detained in the Aga Khan's Palace.

The Sardar was in jail for about three years this time. When, at the end of the war, the Congress leaders were freed and the British Government decided to find a peaceful constitutional solution to the problem of India's Independence, Vallabhbhai Patel was one of the chief negotiators of the Congress. **So, Statement 2 is correct.**

The Statue of Unity is the world's tallest statue measuring 182 m dedicated to the great Indian Statesman Sardar Vallabhbai Patel. It is located on a river island in Narmada and faces the Sardar Sarovar dam. It is located at a distance of 100 km from the cultural capital of Gujarat, the city of Vadodara.

The statue has been built as an ode to the Iron Man of India, Sardar Vallabhbhai Patel; he was responsible for uniting all 565 princely states of the country to build the Republic of India.

So, Statement 3 is correct.



28. With reference to "Geet Gawai", consider the following statements :
    1. It is a unique singing style of Bhojpuri-speaking communities of Indian descent in Indonesia and the Sumatran Islands.
    2. It is mostly performed by women.
    3. The origin of Geet Gawai can be traced to the arrival of Indian indentured labourers in the early 19th century.

    Which of the statements given above is/are correct ?

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

EXPLANATION:

GeetGawaiis a unique singing of Bhojpuri-speaking communities of Indian descent in Mauritius. It is a traditional Bhojpuri musical ensemble that embodies the rich cultural heritage brought to Mauritius by women from the Bhojpuri belt of India. **So, Statement 1 is not correct.**

- GeetGawai came to Mauritius when the first batch of indentured labourers arrived at its capital city Port Louis in 1834 and has been orally passed down through generations. **So, Statement 3 is correct.**
- In recognition of its cultural significance, GeetGawai was inscribed on UNESCO's Representative List of the Intangible Cultural Heritage of Humanity in December 2016.
- GeetGawai holds deep significance in life events, especially weddings, where it begins with invocations to deities.
- The practice is passed down from one generation to another by observation, teaching houses, participation, and academics.

Geet-Gawai is an expression of community identity and collective cultural memory. The practice also provides participants with a sense of pride and contributes to greater social cohesion, and breaking class and caste barriers.

- Knowledge about the practice and its associated skills are transmitted from older to younger generations on an informal and formal basis.
- The womenfolk have played a key role in keeping this cultural traditional alive. Nowadays, the practice of Geet-Gawai extends to public performances and men also participate. **So, Statement 2 is correct.**

29. With reference to Selenium, consider the following statements :
    1. It is present in the highest Concentration in the Thyroid gland.
    2. It is found naturally in foods.
    3. It helps to make DNA and protect against cell damage and infections.

    Which of the statements given above is/are correct ?

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

EXPLANATION:

Selenium is an essential trace mineral found in soil, water, and some foods. Selenium is a micronutrient embedded in several proteins. In adults, the thyroid is the organ with the highest amount of selenium per gram of tissue.

- Selenium levels in the body depend on the characteristics of the population and its diet, geographic area, and soil composition.
- In the thyroid, selenium is required for the antioxidant function and for the metabolism of thyroid hormones. **So, Statement 1 is correct.**

Selenium is an essential mineral that is naturally present in many foods. In foods, it is protein bound. Foods that are high in protein tend to be the best sources of selenium. Brazil nuts, seafood, meat, poultry,

and organ meats are the richest food sources of selenium. Other sources include cereals and other grains, and dairy products. **So, Statement 2 is correct.**

Selenium is an essential component of various enzymes and proteins, called selenoproteins that help to make DNA and protect against cell damage and infections. These proteins are also involved in reproduction and the metabolism of thyroid hormones. It has antioxidant properties that help to break down peroxides, which can damage tissues and DNA, leading to inflammation and other health problems. **So, Statement 3 is correct.**

30. Consider the following pairs :

S.No	***Protected areas***		***Rivers flowing through***
1.	Katerniaghat Sanctuary	-	Chambal river
2.	Satkosia Gorge Sanctuary	-	Mahanadi river
3.	Chitwan National Park	-	Girwa river

How many of the above pairs are correctly matched?

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

EXPLANATION:

The Katarniya Ghat Wildlife Sanctuary is situated in the Upper Gangetic plain, in the Terai of the Bahraich district of Uttar Pradesh, India. The Katarniya Ghat Forest provides strategic connectivity between the tiger habitats of Dudhwa and Kishanpur in India and Nepal. The sanctuary's forest area has its characteristic complex of sal forests, tall grasslands, and a riparian ecosystem of Girwa and Kaudiyala streams of the Ghaghra River. **So, Pair (1) is not correct.**

Satkosia Gorge Sanctuary, located in Angul district, Odisha, was officially declared a wildlife sanctuary in May 1976. Positioned at the confluence of two major biogeographic zones—the Deccan Peninsula and the Eastern Ghats—the sanctuary features a diverse landscape comprising rivers, marshes, and evergreen forests. The Mahanadi River flows through the gorge, creating a dynamic ecosystem that supports a wide range of flora and fauna. **So, Pair (2) is correct.**

Chitwan National Park is located at the base of the Himalayas in southern Nepal. It is one of the few remaining parts of the Terai region, a lowland area that once extended across the foothills of Nepal and India. The park was established in 1973 and became a UNESCO World Heritage Site in 1984. It contains important populations of greater one-horned rhinoceros and Bengal tigers.
The park preserves a subtropical lowland ecosystem, positioned between two east-west river systems. Its core area is bordered by the Narayani (Gandak) and Rapti rivers in the north and the Reu River and Nepal–India border in the south. It includes the Sumeswar and Churia hills, extends to the Dawney hills in the west, and shares its eastern boundary with the Parsa Wildlife Reserve. **So, Pair (3) is not correct.**

31. Consider the following statements :

Statement-I :
Only one side of the moon can be seen from the Earth.

Statement-II :
The Moon exhibits tidal locking phenomena with the Earth.

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

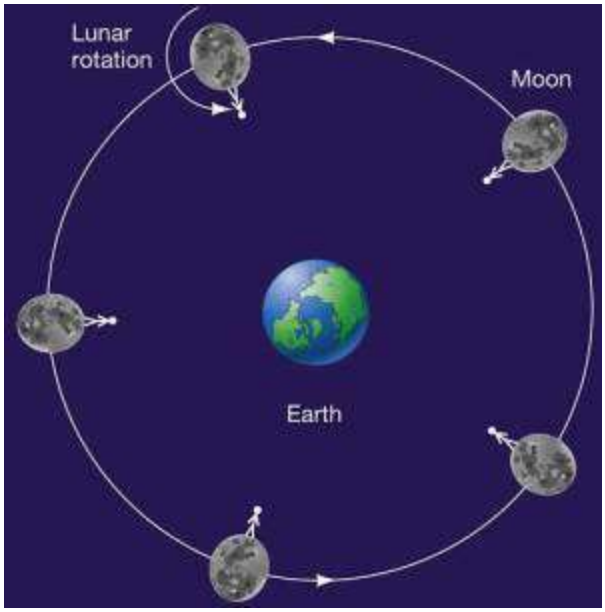
(a) **Both Statement-I and Statement-II are correct and Statement-II explains Statement-I**
(b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
(c) Statement-I is correct, but Statement-II is incorrect
(d) Statement-I is incorrect, but Statement-II is correct

EXPLANATION:

Only one side of the moon can be seen from the Earth. Earth's Moon rotates, but it takes precisely as long for the Moon to spin on its axis as it does to complete its monthly orbit around Earth. As a result, the Moon never turns its back, it always facing the same side to the earth. This phenomenon, called "synchronous tidal locking.

- All the solar system's large moons are tidally locked with their planets. The bigger moons synchronize early in their existence, within hundreds of thousands of orbits. Some binary stars are tidally locked to one another, and evidence is building that many planets beyond our solar system are tidally locked with their stars.
- Tidal locking is a natural consequence of the gravitational distortions induced by a body on another.

So, Both Statement-I and Statement-II are correct and Statement-II explains Statement-I



32. Consider the following statements about hydrogen-blended natural gas :
    1. Hydrogen can make metals brittle and risk pipeline integrity.
    2. Hydrogen has lower energy than methane on volumetric basis at standard temperature and pressure.
    3. Hydrogen burns hotter than methane.
    4. Hydrogen has lesser chances of leakage than methane.

    Which of the statements given above is/are correct ?

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

EXPLANATION:

Hydrogen blending with natural gas involves injecting hydrogen into the existing natural gas pipeline network to reduce carbon emissions.

- Hydrogen can significantly impact the structural integrity of pipeline materials, primarily through a phenomenon called hydrogen embrittlement.
- Hydrogen Embrittlement occurs when metals become brittle as a result of the introduction and diffusion of hydrogen into the material.
- Hydrogen embrittlement primarily occurs in ferrous alloys such as high strength and martensitic steels.

- Generally, the greater the strength of the material the more vulnerable it is to hydrogen embrittlement. **So, Statement 1 is correct.**

Hydrogen has a lower energy content than methane on a volumetric basis. At standard temperature and pressure, hydrogen carries only about 31.4% of the energy potential of methane per unit volume. This means that for the same volume, methane can deliver more energy than hydrogen.

- On a mass basis, hydrogen is more energetic than methane. However, it is approximately one-eighth as dense as methane.
- By molecular weight, methane (16.04 g/mol) is 7.956 times heavier—and therefore denser—than hydrogen (2.016 g/mol) under the same conditions.
- This means that hydrogen occupies about eight times more volume than methane for the same mass. **So, Statement 2 is correct.**

Hydrogen has an adiabatic flame temperature of 2,254°C, which is approximately 15% hotter than the flames of methane at 1,963°C. Hydrogen has an extremely low minimum pre-ignition energy threshold that is almost 10 times lower than methane. **So, Statement 3 is correct.**

The periodic table of elements is ordered by molecular weight. Hydrogen, as the first element on the periodic table, is a very light molecule. Methane is much heavier, with a molecular weight of 16.
This is the reason why there is an increase the potential for leakage when using hydrogen as a fuel source. Special consideration needs to be put into the materials used to reduce leakages through gaskets, valves or any sealing locations within a compressed hydrogen system. **So, Statement 4 is not correct.**

Characteristic	Hydrogen	Natural Gas (Methane)
Molecular Weight	2	16

33. Consider the following :
    1. Chandrayaan - 2
    2. Chandrayaan - 3
    3. Mangalyaan
    4. Gaganyaan

    How many of the above-mentioned missions are associated with the usage of the Geosynchronous Satellite Launch Vehicle (GSLV) Mk III ?
    (a) Only one
    (b) Only two
    (c) **Only three**
    (d) All four

EXPLANATION:

Launchers or Launch Vehicles are used to carry spacecraft to space. India has three active operational launch vehicles: Polar Satellite Launch Vehicle (PSLV), Geosynchronous Satellite Launch Vehicle (GSLV) and Geosynchronous Satellite Launch Vehicle Mk-III (LVM3).

- Geosynchronous Satellite Launch Vehicle Mk III (LVM3) is the new heavy lift launch vehicle of ISRO for achieving a 4000 kg spacecraft launching capability to GTO (Geosynchronous Transfer Orbit) in a cost effective manner.
- LVM3 is configured as a three stage vehicle with two solid strap-on motors (S200), one liquid core stage (L110) and a high thrust cryogenic upper stage (C25).

List of missions are associated with the usage of the Geosynchronous Satellite Launch Vehicle (GSLV) Mk III are:

- Crew module Atmospheric Re-entry Experiment (CARE)-2014
- GSAT-19 Mission (2017) and GSAT-29 (2018)
- OneWeb India-1 Mission (2022) and OneWeb India-2 Mission (2023)
- Chandrayaan-2 Mission (2019): It comprised an Orbiter, Lander and Rover to explore the unexplored South Pole of the Moon. **So, Statement 1 is correct.**

- Chandrayaan-3 (2023): Chandrayaan-3 is a follow-on mission to Chandrayaan-2 to demonstrate end-to-end capability in safe landing and roving on the lunar surface. **So, Statement 2 is correct.**

India's Mars Orbiter Mission (MOM) or Mangalyaan was the country's first mission to the Red Planet. The mission goal was to test key technologies for interplanetary exploration and to use its five science instruments to study the Martian surface and atmosphere from orbit.

- It was launched on board Polar Satellite Launch Vehicle (PSLV-C25) on Nov 2013. ISRO has become the fourth space agency to successfully send a spacecraft to Mars orbit.

Thus, the Mangalyaan mission is not associated with the usage of the Geosynchronous Satellite Launch Vehicle (GSLV) Mk III. **So, Statement 3 is not correct.**

Gaganyaan project envisages demonstration of human spaceflight capability by launching crew of 3 members to an orbit of 400 km for a 3 days mission and bring them back safely to earth, by landing in Indian sea waters.

- Geosynchronous Satellite Launch Vehicle Mk-III (LVM3) rocket - The well proven and reliable heavy lift launcher of ISRO, is identified as the launch vehicle for Gaganyaan mission. It consists of solid stage, liquid stage and cryogenic stage. All systems in LVM3 launch vehicle are re-configured to meet human rating requirements and christened Human Rated LVM3.
- HLVM3 consists of Crew Escape System (CES) powered by a set of quick acting, high burn rate solid motors which ensures that Crew Module along with crew is taken to a safe distance in case of any emergency either at launch pad or during ascent phase. **So, Statement 4 is correct.**

34. The "Hydroxy Urea" is used to treat which of the following diseases ?

(a) **Sickle Cell Anaemia**
(b) Haemophilia
(c) Thalassemia
(d) Acquired Immunodeficiency Syndrome

EXPLANATION:

Sickle cell disease, also called sickle cell anaemia, is a blood disease that causes problems with red blood cells. Normally, red blood cells are round and flexible, which allows them to move easily through your blood vessels. Red blood cells contain a protein called haemoglobin that carries oxygen throughout your body. People with sickle cell disease don't have regular haemoglobin in their red blood cells. Their haemoglobin can give their red blood cells a curved shape, like a banana or a sickle (a farming tool with a curved edge). These sickle cells are hard and sticky, which means they can block the flow of blood in your body and cause serious problems.

- Hydroxyurea is a medicine that doctors have used to treat people with sickle cell anaemia since the 1980s.
- Hydroxyurea makes the red blood cells bigger. It helps them stay rounder and more flexible and makes them less likely to turn into a sickle shape. **So, Option (a) is correct.**

Haemophilia is a rare, inherited blood disorder that causes your blood to clot less, which results in an increased risk of bleeding and bruising. Haemophilia happens because the body doesn't make enough clotting factors (Proteins) to help your blood form clots. Clotting factors work with your platelets to form blood clots that control bleeding. Low clotting factor levels increase your bleeding risk.

The main treatment for haemophilia is called replacement therapy. Concentrates of clotting factor VIII (for haemophilia A) or clotting factor IX (for haemophilia B) are slowly dripped or injected into a vein. These infusions help replace the clotting factor that's missing or low. **So, Option (b) is not correct.**

Thalassemia is a blood disorder passed down through families (inherited) in which the body makes an abnormal form or an inadequate amount of haemoglobin. Haemoglobin is the protein in red blood cells that carries oxygen. The disorder results in large numbers of red blood cells being destroyed, which leads to anaemia.

- Treatment for thalassemia often involves regular blood transfusions and folate supplements.
- People who receive a lot of blood transfusions need a treatment called chelation therapy. This is done to remove excess iron from the body.
- A bone marrow transplant may help treat the disease in some people, especially children. **So, Option (c) is not correct.**

Human immunodeficiency virus (HIV) is a virus that attacks the body's immune system. Acquired immunodeficiency syndrome (AIDS) occurs at the most advanced stage of infection. HIV targets the body's white blood cells, weakening the immune system. This makes it easier to get sick with diseases like tuberculosis, infections and some cancers. HIV is spread from the body fluids of an infected person, including blood, breast milk, semen and vaginal fluids. It is not spread by kisses, hugs or sharing food. It can also spread from a mother to her baby.

- The treatment for 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, Option (d) is not correct.**

35. Consider the following statements regarding "Quasar" :
    1. They have very high luminosity but less than that of stars.
    2. They can be found in the centres of galaxies.
    3. They are powered by gas spiralling at high velocity into an extremely large black hole.

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

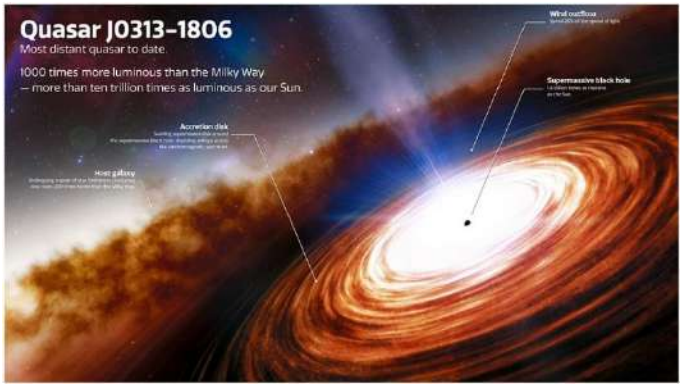
EXPLANATION:

Quasar (a subclass of Active Galactic Nuclei), is an astronomical object of very high luminosity found in the centres of some galaxies and powered by gas spiralling at high velocity into an extremely large black hole.

The gas and dust become luminous as a result of the extreme gravitational and frictional forces exerted on them as they fall into the black hole. **So, Statements 2 and 3 are correct.**

Quasars are amongst the most luminous objects in the known Universe, more luminous than stars. Typically emitting thousands of times more light than the entire Milky Way.

The brightest quasars can outshine all of the stars in the galaxies in which they reside, which makes them visible even at distances of billions of light-years. Quasars are among the most distant and luminous objects known. **So, Statement 1 is not correct.**



36. With reference to Monoclonal Antibodies, consider the following statements :
    1. They are laboratory made proteins.
    2. They bind to one antigen only.
    3. They stimulate the own immune system.

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

EXPLANATION:

Monoclonal antibodies are laboratory-made proteins that mimic the behaviour of antibodies produced by the immune system to protect against diseases and foreign substances.
Monoclonal antibodies stimulate the body's immune system by targeting pathogens directly and triggering other immune response effects.
Antibodies are produced naturally by the body and help the immune system recognise germs that cause disease, such as bacteria and viruses, and mark them for destruction. Like the body's own antibodies, monoclonal antibodies recognise specific targets. Many monoclonal antibodies are used to treat cancer.
So, Statements 1 and 3 are correct.

Monoclonal antibodies can bind to specific targets in the body, such as antigens. There are many kinds of monoclonal antibodies, and each monoclonal antibody is made so that it binds to only one antigen that able to target a specific chemical or specific cells in the body. Monoclonal antibodies are being used in the diagnosis and treatment of many diseases, including some types of cancer. They can be used alone or to carry drugs, toxins, or radioactive substances directly to cancer cells. **So, Statement 2 is correct.**

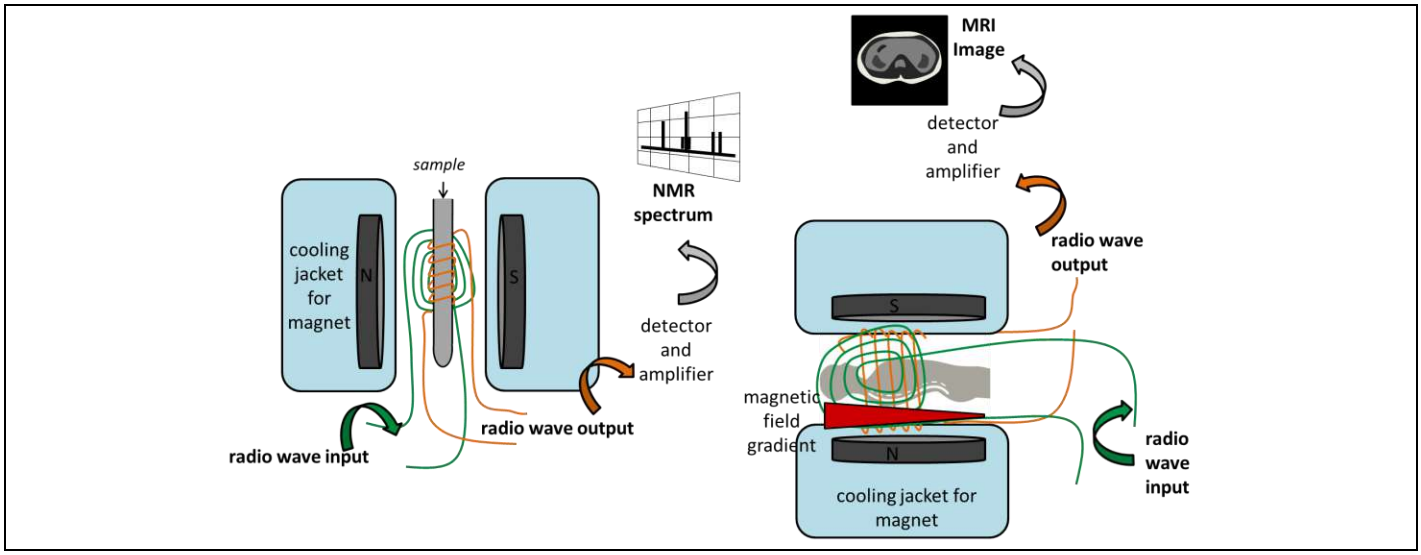
37. Magnetic Resonance Imaging (MRI) is used prominently in the medical field. In this regard, which of the following statements is correct regarding the working principle of MRI?
    (a) **Aligns hydrogen nuclei with strong magnetic fields and radio waves**
    (b) Using of gamma rays from radioactive tracers for functional images.
    (c) Rotating X-ray sources are used for processing three dimensional images.
    (d) Accelerated electrons bombard the elements with high atomic mass and high melting point.

EXPLANATION:

Magnetic Resonance Imaging (MRI) is a technique that allows imaging of the interior of the body without the use of ionizing radiation. MRI technology is based on the fact that the nuclei of certain atoms, when placed in a magnetic field, will tend to align with the magnetic field.

- Hydrogen is abundant in biological tissues and has a large magnetic moment making it the easiest element to image. Carbon, oxygen and calcium do not have a magnetic moment; therefore, they cannot be used in MRI.
- In the presence of a strong magnetic field, the hydrogen nucleus can be likened to a top precessing about the gravitational field; the nucleus precesses about the applied magnetic field of the magnet. This precession has a frequency determined by the strength of the magnet and the magnetic moment of the nucleus that is characteristic of a particular element.
- For magnets used in medical imaging, this frequency is typically in the range of Frequency Modulation (FM) radio waves. By controlling the magnetic field and the frequency and phase of the radio frequency (RF) pulses, images can be obtained in any desired orientation.

Thus it concludes the MRI working in the principle of aligns hydrogen nuclei with strong magnetic fields and radio waves. **So, Option (a) is correct.**



38. The Hale Cycle is related to which of the following events ?
(a) Transformation of Neutron Stars to Black Holes
(b) Path of Revolution of Aditya-1 satellite around the Sun
(c) **Flipping of the Magnetic field of the Sun**
(d) Periodic occurrence of Fast Radio Bursts from the Sun.

EXPLANATION:

A Hale cycle represents a set of 11-year solar cycles. That is one complete magnetic cycle of the Sun, spanning two complete Schwabe cycles (a solar cycle of 11 years). The approximately 22-year Hale cycle is seen in magnetic polarities of both sunspots and polar fields. The Sun's magnetic field changes polarity approximately every 11 years. This means that the Sun's north and south poles switch places. Then, it takes about another 11 years for the Sun's north and south poles to flip back again. It happens at the peak of each solar cycle as the Sun's inner magnetic dynamo reorganises itself.
The beginning of a solar cycle is a solar minimum, or when the Sun has the fewest sunspots. Over time, solar activity—and the number of sunspots—increases. The middle of the solar cycle is the solar maximum, or when the Sun has the most sunspots. As the cycle ends, it fades back to the solar minimum and then a new cycle begins.
Therefore, The Hale Cycle is related to the Flipping of the Magnetic field of the Sun. **So, Option (c) is correct.**

39. Consider the following statements :
Statement-I :
Compared to Nuclear DNA, Mitochondrial DNA shows a high mutation rate.
Statement-II :
Free radicals produced during the energy production process damage the Mitochondrial DNA.
Statement-III :
Free radicals are highly reactive because they contain unpaired electrons.
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:

Mitochondria are the only organelles besides the nucleus that contain their own DNA. Due to a higher level of packaging, nuclear DNA is more intact and less fragile and thus shows a low mutation rate.
On the other hand, mitochondrial DNA is less intact and fragile and shows a high mutation rate. This is because of the slow replication rate and DNA repair machinery, as well as the presence of higher concentrations of free radicals in mitochondria. It is more fragile because it lacks protection from histone proteins. **So, Statement I is correct.**

A free radical is a type of unstable molecule made during normal cell metabolism (chemical changes that take place in a cell). It can build up in cells and damage other molecules, such as DNA, lipids, and proteins. This damage may increase the risk of cancer and other diseases. At low concentrations, free radicals (ROS) are produced during normal cell metabolism and are a byproduct of the conversion of oxygen to water and ATP.
Free radicals can oxidatively damage nucleic acids. Mitochondrial DNA (mtDNA) is more vulnerable to attack than nuclear DNA because it is located in close proximity to the site where free radicals are generated. **So, Statement II is correct.**

Free radicals are the products of normal cellular metabolism. A free radical can be defined as an atom or molecule containing one or more unpaired electrons in the valence shell or outer orbit and is capable of independent existence. The odd number of electrons of a free radical makes it unstable, short-lived, and highly reactive. Because of their high reactivity, they can abstract electrons from other compounds to attain stability. Thus, the attacked molecule loses its electron and becomes a free radical itself, beginning a chain reaction cascade which finally damages the living cell. **So, Statement III is correct. Both Statement-II and Statement-III are correct and both of them explain Statement-I.**

40. "The experiment is undertaking a twelve-year voyage to survey eleven asteroids. The mission will encompass three asteroids within the main belt and eight Jupiter Trojans bodies that accompany Jupiter in its orbit around the Sun, either preceding or following the planet. Each of these encounters shall be executed by means of flybys."
Which of the following missions is described above ?
(a) New Horizon
(b) **Lucy**
(c) JUICE
(d) Griffin Mission 1

EXPLANATION:

NASA's New Horizons spacecraft was the first spacecraft to explore Pluto up close, flying by the dwarf planet and its moons in 2015. After a nine-year journey, New Horizons also passed its second major science target, reaching the Kuiper Belt object Arrokoth in 2019, the most distant object ever explored up close.
Also during its long trek, the spacecraft captured impressive pictures of Jupiter's moons Io, Europa, and Ganymede, and remained healthy as it flew toward the frontier of our solar system at 300 million miles per year. **So, Option (a) is not correct.**

Lucy, the first NASA mission to explore the Jupiter Trojan asteroids. The Jupiter Trojan asteroids are a population of small bodies, the largest about 160 miles (250 kilometres) wide, that are leftover raw materials from the formation of our solar system's giant planets (Jupiter, Saturn, Uranus, and Neptune).

- It will explore a record-breaking number of asteroids, flying by three asteroids in the solar system's main asteroid belt, and by eight Trojan asteroids that share an orbit around the Sun with Jupiter.
- Lucy's prime mission is nearly 12 years long. During that time, Lucy will travel almost 4 billion miles (6 billion kilometres), making three-and-a-half giant loops around the Sun.
- Lucy will be the first spacecraft to travel a bit beyond Jupiter and return to the vicinity of Earth for a third and final gravity assist that will send it out to its final Trojan encounters.

So, Option (b) is correct.

The European Space Agency (ESA's Jupiter Icy Moons Explorer launch is in 2023. Jupiter Icy Moons Explorer (Juice) will make detailed observations of the giant gas planet and its three large ocean-bearing moons – Ganymede, Callisto and Europa – with a suite of remote sensing, geophysical and in situ instruments.

The mission will characterise these moons as both planetary objects and possible habitats, explore Jupiter's complex environment in depth, and study the wider Jupiter system as an archetype for gas giants across the Universe. **So, Option (c) is not correct.**

Griffin Mission One (GM1) is a dedicated mission that will deliver NASA's Volatiles Investigating Polar Exploration Rover (VIPER) to the Moon in 2025. Griffin will land at the South Pole and deploy VIPER to conduct the first widespread ground truth measurements of lunar water ice. Such ice may one day be used for life support and propellant that could assist future deep space explorers. **So, Option (d) is not correct.**

Launch Vehicle Details	
Mission Name	Griffin Mission 1
Launch Site	LC-39A, Kennedy Space Center, Florida, United States
Launch Vehicle	Falcon Heavy
Agency	SpaceX
Launch Date	TBD - 2025

41. With reference to the aquatic ecosystem, consider the following statements :
    1. Zooplanktons are heterotrophic animals.
    2. Zooplanktons consist only of primary consumers.
    3. Zooplanktons are always herbivores.
    4. Rotifers, copepods and cladocerans are zooplankton that play a key component of the food web.

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

EXPLANATION:

Zooplankton are the animals of the planktonic community that live in the water column of oceans, lakes and ponds. Zooplankton are heterotrophic, which means that these small organisms obtain nutrients by feeding on other organisms. The zooplankton community is composed of both primary consumers, which eat free-floating phytoplankton (the plants of the planktonic community), and secondary consumers, which feed on other zooplankton. **So, Statement 1 is correct, and Statement 2 is not correct.**

Freshwater zooplankton provide a variety of important ecosystem services. In lakes and ponds, the most common zooplankton inhabitants are rotifers, protozoans, and two groups of Crustacea, Cladocera and Copepoda microcrustaceans, that range in size from microns to a few millimetres. They serve as the main energy pathway from primary producers (phytoplankton) to upper trophic levels (larger invertebrate predators and fish).

The zooplankton eats the phytoplankton, such as algae and bacteria, which are then eaten by other zooplankton, insects, and fish. Thus, zooplankton may be herbivores or plant-eaters (eat phytoplankton), carnivores or meat eaters (eat other zooplankton) or omnivores, which eat both plants and animals (eat phytoplankton and zooplankton). As such, zooplankton play a critical role in maintaining the food web and overall balance of the aquatic ecosystem. **So, Statement 3 is not correct, and Statement 4 is correct.**

42. Which of the following statements is/are correct regarding the difference between the Snow leopard and Clouded leopard ?
    1. Snow leopards are generally larger and live in alpine environments while clouded leopards live in dense forests.
    2. Both snow leopard and clouded leopard give birth to only one or two cubs once in two years.
    3. Clouded leopards are an arboreal species, while snow leopards are crepuscular species.

    Select the correct answer using the codes given below :

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

EXPLANATION:

The clouded leopard and the snow leopard are solitary cats that are rarely seen. They possess striking physical features, piercing eyes, and threatening canines capable of tearing flesh apart with ease. These are two of the ten largest cats in the world. They share the IUCN red list status of vulnerable to extinction. Snow leopards are generally larger and live in alpine environments, while clouded leopards live in dense forests. The clouded leopard finds its home in the Himalayan foothills in Nepal, Bhutan, and India, through Myanmar, southeastern Bangladesh, Thailand, Malaysia, and southern China. It is now extinct in Singapore and Taiwan. As tree dwellers, they prefer dense primary forests, especially evergreen tropical rainforests. But they also sometimes occupy dry and deciduous forests, shrublands, and grasslands.

The snow leopard range stretches from eastern Afghanistan, the Himalayas, and the Tibetan Plateau to southern Siberia, Mongolia, and western China. Snow leopards occupy alpine and subalpine zones. They like to rest near cliffs and mountainous ridges for shade and a good vantage point, and they have earned their nickname, "Ghost of the Mountains." **So, Statement 1 is correct.**

Snow leopards are season solitary and do not associate with mates unless it is mating. Due to the long time spent rearing cubs, snow leopard females mate every second year. Snow leopards have litters of one to five cubs, but litters are most commonly two to three. The gestation period for a snow leopard is typically 90 to 105 days. The cubs are blind at birth but already have thick coats. Their eyes open about seven days after they are born, and they are dependent on their mother for at least the next year.

In Clouded leopard, the gestation period is between 85 and 93 days, with one to five cubs (usually two or three) produced per litter. Cubs' eyes open at 10 to 14 days. Females can produce a litter every year. **So, Statement 2 is not correct.**

The clouded leopard is a secretive, arboreal and nocturnal species that rests in trees by day and hunts the forest floor at night. While they are most active at night, they've also shown crepuscular activity peaks. They stalk their prey and wait for them to approach.

Snow leopards are crepuscular cats, meaning they are most active at dawn until early morning, again in afternoons and early evenings, although they also sometimes roam about at night. They have evolved to eat large-bodied mountainous prey and to hunt them successfully in harsh and resource-limited terrains. **So, Statement 3 is correct.**

Snow Leopard

Clouded leopard

43. Consider the following statements about Persistent Organic Pollutants (POPs) :
    1. Persistent Organic Pollutants are carbon-based organic chemical substances.
    2. POPs are found in top carnivores as they bioaccumulate and biomagnify in the food chain.
    3. Dioxins and furans, volatile organic compounds, are examples of POPs.

    Which of the above statements are correct ?

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

EXPLANATION:

Persistent Organic Pollutants (POPs) are organic chemical substances, that is, they are carbon-based. They possess a particular combination of physical and chemical properties such that, once released into the environment, they:

- remain intact for exceptionally long periods of time (many years);
- become widely distributed throughout the environment as a result of natural processes involving soil, water and, most notably, air;
- accumulate in the living organisms including humans, and are found at higher concentrations at higher levels in the food chain; and
- are toxic to both humans and wildlife. **So, Statement 1 is correct.**

POPs work their way through the food chain by accumulating (bioaccumulating) in the body fat of living organisms and becoming more concentrated as they move from one creature to another, through biomagnification.
When contaminants are found in small amounts at the bottom of the food chain and are biomagnified, they can pose a significant hazard to predators that feed at the top of the food chain. Fish, predatory birds, mammals, and humans are high up in the food chain and so absorb the greatest concentrations. When they travel, the POPs travel with them. As a result of these two processes, POPs can be found in people and animals living in regions such as the Arctic, thousands of kilometres from any major POPs source. Thus, POPs are found in top carnivores as they bioaccumulate and biomagnify in the food chain. **So, Statement 2 is correct.**

The Stockholm Convention lists 34 PoPs, including 17 pesticides, 15 industrial chemicals, and 7 unintentional by-products (one POP can be classified under more than one category). Some of the PoPs include aldrin and dieldrin, chlordane, DDT, endrin, mirex, heptachlor, hexachlorobenzene, PCBs, toxaphene, dioxins and furans.
However, Volatile Organic Compounds, or VOCs, are another broad category of organic compounds. In the atmosphere, VOCs undergo a number of physical and chemical processes, leading to their removal from the atmosphere or transformation. Physical removal of VOCs to the Earth's surface may occur by dry deposition and wet deposition. Hence, they can be less persistent in the environment compared to PoPs. Thus, dioxins and furans are classified as Persistent Organic Pollutants (POPs) not Volatile Organic Compounds (VOC). **So, Statement 3 is not correct.**

44. Which of the following ecosystem is similar to the Mediterranean climate characterized by hot dry summers and mild wet winters ?
    (a) **Chaparral**
    (b) Coastal Prairie
    (c) Juniper
    (d) Coastal Redwood forest

EXPLANATION:

chaparral, scrubland plant communities composed of broad-leaved evergreen shrubs, bushes, and small trees usually less than 2.5 metres (about 8 feet) tall—the characteristic vegetation of coastal and inland mountain areas of southwestern North America. Chaparral is largely found in regions of California and northern Mexico with a climate similar to that of the Mediterranean area, characterized by hot dry summers and mild wet winters. The name is sometimes used in place of a more general term, Mediterranean vegetation, a biome type of similar vegetation that includes maquis around the Mediterranean Sea, fynbos at the southern tip of Africa, mallees in southwestern Australia, and the matorral in central Chile.
Chaparral is a word of Spanish origin, meaning a thicket of shrubby evergreen oaks. The regions with a temperate climate are usually characterized by having roughly equally long winters and summers. Temperature extremes are uncommon, but may occur in regions affected by continental climates. Temperate grasslands, chaparral and temperate deserts tend to develop with decreasing amounts of rainfall.

- Distribution:
  This type of vegetation borders grasslands and deserts along the shores of the Mediterranean Sea and along the southwest coasts of other regions. Areas with a Mediterranean climate lie for the most part between 32° and 40° north and south of the equator in five regions of the world: the semi-arid regions of western North America, the regions bordering the Mediterranean Sea, central Chile, the cape region of South Africa, and Southwestern and southern Australia.
- Vegetation:
  All five areas support similar-looking communities of xeric broad-leaf evergreen shrubs, and dwarf trees known as sclerophyll (scleros – hard; phyll – leaf).
- Animal life:

The characteristics of animals include ground birds, deer, and small mammals.

- Consequences of human activities:
  The extensive grazing of this biome has resulted in some extinction. Urban expansion is fragmenting this vegetation to a large extent. **So, Option (a) is correct.**

45. With reference to the Peatland ecosystem, consider the following statements :

Statement 1 *:*

Despite covering only 3 percent of Earth's surface, Peatland stores and sequesters more carbon than any other type of terrestrial ecosystem.

Statement 2 *:*

The majority of the world's peatlands occur in boreal and temperate parts of the Northern Hemisphere.

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

(a) Statement 1 is correct
(b) Statement 2 is correct
(c) Both Statement 1 and Statement 2 are correct, and Statement 2 is the correct explanation of Statement 1
(d) **Both Statement 1 and Statement 2 are correct, but Statement 2 is not the correct explanation of Statement 1**

EXPLANATION:

Peatlands form in places where year-round flooding prevents dead plants from fully breaking down by limiting their exposure to oxygen. These waterlogged conditions allow dead plants—and the carbon that they absorbed from the atmosphere while growing—to accumulate in the peat soil over hundreds or even thousands of years.

Peatlands cover only 3 per cent of the global land surface but store an estimated 600 billion tons of carbon—twice as much as in the entire world's forests. This makes them one of the most efficient carbon sink ecosystems and underlines the need to protect them. Due to the process of peat accumulation, peatlands are carbon rich ecosystems that store and sequester more carbon than any other type of terrestrial ecosystem, exceeding thereby even the global above-ground carbon stock of forest ecosystems. **So, Statement 1 is correct**.

The majority of the world's peatlands occur in boreal and temperate parts of the Northern Hemisphere, especially Europe, North America and Russia. They have formed under high precipitation-low temperature climatic regimes. They represent around 25% of all the soil carbon stored on Earth.

Further, in the humid tropics, regional environmental and topographic conditions enable peat to form under conditions of high precipitation and high temperature in Southeast Asia, mainland East Asia, the Caribbean, Central America, South America, Africa, parts of Australia and a few Pacific Islands. Most tropical peatlands are located at low altitudes where rainforest vegetation grows on a thick layer of organic matter. However, some are found in upland or mountainous areas where peat can exceed 30 m. Tropical peatlands may also form under mangrove forests. The largest area of tropical peatland is in Southeast Asia.

- The reason peatlands store so much carbon isn't solely due to their geographical location, but due to the slow decomposition of organic matter in waterlogged, anaerobic conditions, which leads to carbon accumulation. **So, Statement 2 is correct**.

Both, Statement 1 and Statement 2 are correct, but Statement 2 is not the correct explanation of Statement 1.

46. Consider the following statements :

Statement 1 :

Despite heavy discharges of pollutants and pathogens, the Ganga remains a freshwater river by eliminating harmful bacteria.

Statement 2 :

Bacteriophages are viruses that are naturally present in the River Ganga which infiltrates bacteria and hack their RNA to destroy it.

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:

According to a recent study, Ganga is the world's only freshwater river where 1,100 types of bacteriophages naturally purify the water by eliminating pollution and killing 50 times more germs than their number, even altering their RNA.

Despite the heavy discharge of pollutants and pathogens in the Ganges, the study attributes River Ganga's unique ability to eliminate harmful bacteria and pollution to the presence of the bacteriophages, which act as security guards to purify the water.

The study states that despite over 60 crore visitors and countless holy dips during Mahakumbh-2025, the Ganga remains completely germ-free thanks to its self-cleansing ability. **So, Statement 1 is correct.**

Bacteriophages are key viruses that can kill thousands of harmful microbes generally present at polluted sites. Such bacteriophages are abundantly present in the river Ganga, where millions of people in India drink its water and take baths every day for spiritual reasons. These Bacteriophages infiltrate bacteria, hack their RNA, and ultimately destroy them.

The speciality of bacteriophages is that they destroy only harmful bacteria. Ganga's 1,100 types of bacteriophages target and destroy various germs. Each phage rapidly produces 100-300 new ones, which continue the attack, eliminating harmful bacteria. Ganga's bacteriophages are host-specific, targeting only bacteria introduced during bathing. This self-cleaning process mirrors the oceanic activity that purifies seawater.

Both Statement I and Statement II are correct, and Statement II is the correct explanation of Statement I

47. Consider the following statements :

1. In bioaccumulation, there is an increase in concentration of a pollutant in the environment from one link of the food chain to another.
2. Only long-lived and biologically active pollutants lead to biomagnification.

Which of the above statements is/are correct ?

(a) 1 only

(b) **2 only**

(c) Both 1 and 2

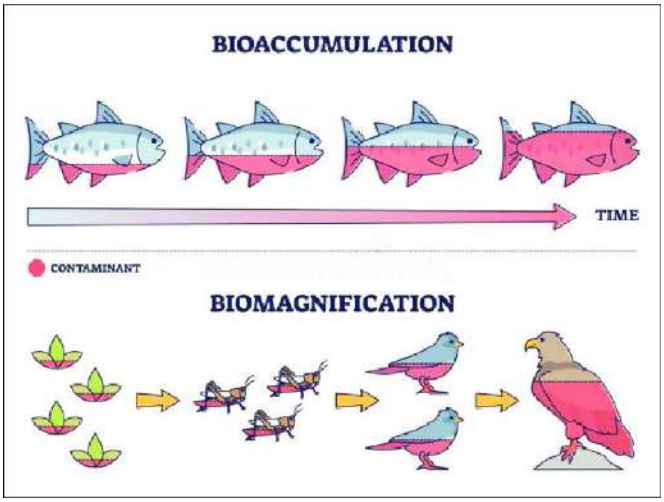
(d) Neither 1 nor 2

EXPLANATION:

Bioaccumulation and biomagnification are both processes related to the buildup of toxic substances in organisms, especially in aquatic food chains.

- Bioaccumulation refers to how pollutants enter a food chain. In bioaccumulation there is an increase in concentration of a pollutant from the environment to the first organism in a food chain.
- Bio-magnification refers to the tendency of pollutants to concentrate as they move from one trophic level to the next.

Thus in bio-magnification there is an increase in concentration of a pollutant from one link in a food chain to another. **So, Statement 1 is not correct.**



In order for bio-magnification to occur, the pollutant must be not only a long-lived and biologically active, but also Mobile and Soluble in fats.

- Long-lived: If a pollutant is short-lived, it will break down before it can accumulate in organisms or move through the food chain.
- Mobile: If a pollutant is not mobile, it will remain localized and is unlikely to be taken up by a wide range of organisms across the food web.
- Soluble in fats (lipophilic): If a pollutant is water-soluble, it is more likely to be excreted by organisms. Fat-soluble pollutants, on the other hand, tend to be stored in fatty tissues and accumulate over time, making them more likely to biomagnify.
- Biologically active: If a pollutant does not interact significantly with biological systems, it may still biomagnify, but it is generally of less concern because it is unlikely to cause harmful effects. **So, Statement 2 is correct.**

48. With reference to the Sulphur cycle, consider the following statements :
    1. Excretion and death of organisms carry sulphur to the soil in the terrestrial ecosystem.
    2. Sulphur is released by the weathering of rocks and the decomposition of organic matter.
    3. Sulphur enters the atmosphere as hydrogen sulphides and sulphur dioxide through the combustion of fossil fuels and volcanic eruptions.

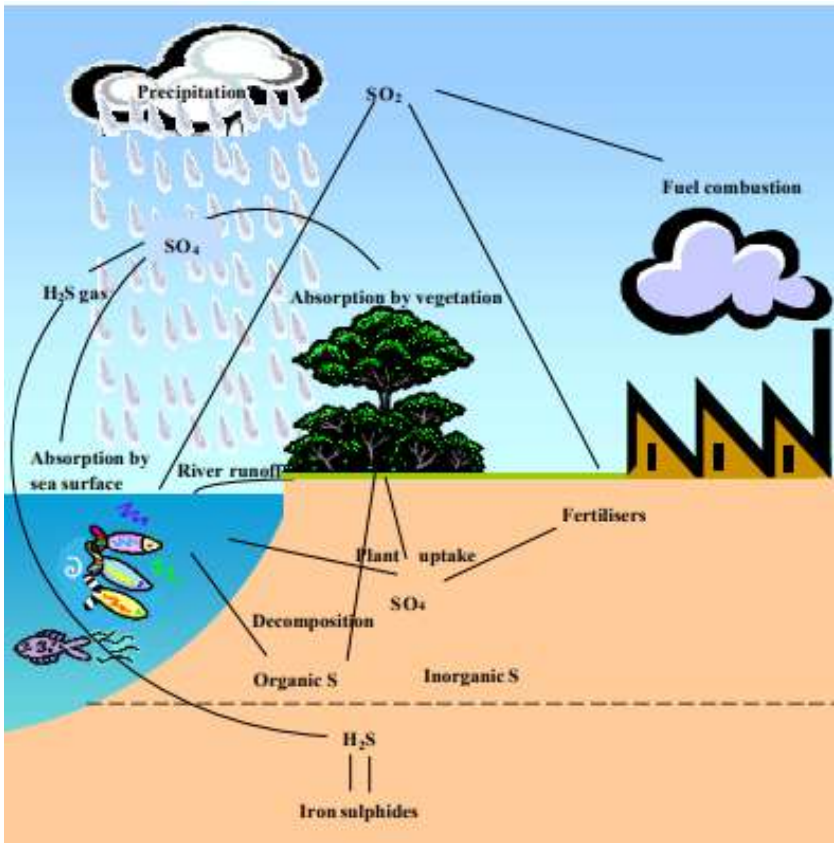
    Which of the statements given above is/are correct ?

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

EXPLANATION:

The sulphur cycle describes the movement of sulphur through the atmosphere, mineral forms, and through living things. The sulphur cycle has both sedimentary and gaseous phases, mostly sedimentary except for a short gaseous phase.

- Reservoirs holding sulphur:
  - The large reservoir of sulphur is in the soil and sediment which is tied up in organic (coal, oil and peat) and inorganic deposits (pyrite rock and sulphur).
  - It is released by the weathering of rocks, erosional runoff, and decomposition of organic matter, and it is carried to terrestrial and aquatic ecosystems in salt solution. **So, Statement 2 is correct.**
  - The smaller reservoir is in the atmosphere. Sulphur can circulate on a global scale along with carbon. Oxygen and nitrogen because of its gaseous phase.
- The decomposition by microbes:
  - Excretion and death of organisms carry sulphur containing material back to the soil in terrestrial ecosystems and to the bottoms of ponds, lakes, and oceans in the aquatic ecosystems. **So, Statement 1 is correct.**
- Absorption and incorporation into organisms:
  - Sulphur enters the atmosphere as hydrogen sulphide (H_2S) and sulphur dioxide (SO_2) from several sources like combustion of fossil fuels, volcanic eruptions, and the surface of oceans and gases released by decomposition. Hydrogen sulphide also oxidises into sulphur dioxide (SO_2). **So, Statement 3 is correct.**
  - Atmospheric SO_2 is carried back to the earth dissolved in rainwater as weak sulphuric acid (H_2SO_4). Sulphur in the form of sulphates (SO_4^{2-}) is taken up by plants and incorporated through a series of metabolic processes into sulphur bearing amino acids.



49. With reference to the Graded Response Action Plan (GRAP), consider the following statements:
    1. The Commission for Air Quality Management has implemented Stage II of GRAP for the entire NCR region.
    2. Implementing Stage II of GRAP in the NCR region includes a ban on the use of coal, firewood, and diesel generator sets.

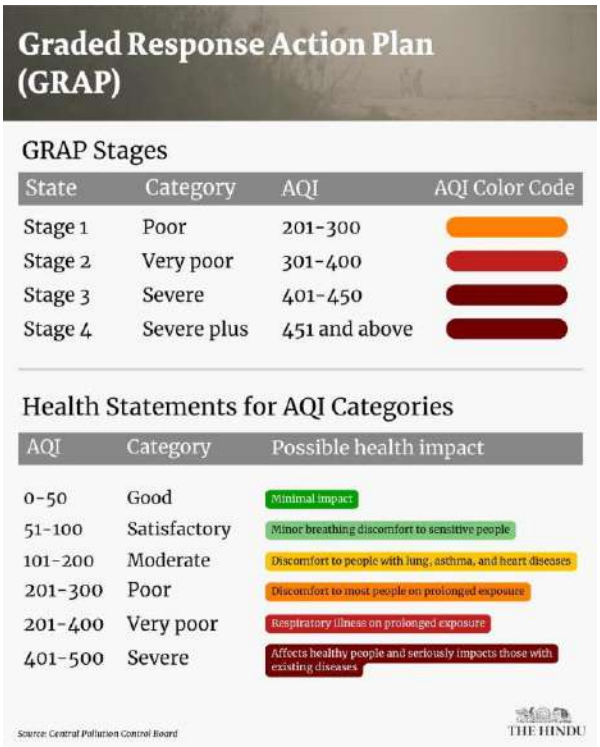
Which of the statements given above is/are correct ?

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

EXPLANATION:

The Graded Response Action Plan (GRAP) is an emergency response mechanism for the National Capital Region (NCR) to address deteriorating air quality based on the Daily Average Air Quality Index levels in Delhi. Established in 2021, the Commission for Air Quality Management (CAQM) is a statutory body created by the Indian government to oversee air quality management in the NCR and surrounding areas. Its mandate includes improving coordination, conducting research, identifying sources of pollution, and addressing air quality issues.

GRAP consists of four stages, each with targeted actions to be taken by the necessary authorities and agencies. These are the following:



The AQI of Delhi has been recorded as 286 for 03.02.2025 which is 64 points below the 350 mark to implement the Stage-III. Therefore, keeping in view the disruptive nature of restrictions under Stage-III of GRAP, impacting a large number of stakeholders and public as well as considering the trend of improvement in the average AQI of Delhi, GRAP unanimously decided to revoke all actions under Stage-III of the extant schedule of GRAP in the entire NCR. All actions under Stages II & I of the extant schedule of GRAP shall however remain invoked and be implemented, monitored and reviewed by all agencies concerned in the entire NCR to ensure that the AQI levels do not rise further in the coming days. Thus, The Commission for Air Quality Management has implementing Stage II of GRAP for entire NCR regions.

So, Statement 1 is correct.

The Stage-2 of GRAP in the National Capital Region (NCR) enforces a ban on the use of coal and firewood, including tandoors in hotels, restaurants, and open eateries, as well as diesel generator sets, except for emergency and essential services. Along with curbs on construction activities implemented during Stage 1.

So, Statement 2 is correct.

50. The Global Framework on Chemicals Fund was launched by :
(a) **United Nations Environment Programme**
(b) International Council of Chemical Associations
(c) United Nations Development Programme
(d) Organisation of the Prohibition of Chemical weapons

EXPLANATION:

The Global Framework on Chemicals Fund supports countries in implementing an international agreement that guides both nations and stakeholders in jointly addressing the entire lifecycle of chemicals, including products and waste.
The Fund was established during the fifth International Conference on Chemicals Management (ICCM5), held in September 2023 and organized by the United Nations Environment Programme (UNEP). It is open to receive voluntary contributions for a period of five years.

- The primary objective of the Fund is to support implementation activities in developing countries, least developed countries (LDCs), Small Island Developing States (SIDS), and countries with economies in transition.
- This will be achieved by financing projects and programmes that aim to drive transformative change—specifically, to prevent, or where prevention is not feasible, minimize harm from chemicals and waste in order to protect human health and the environment, including vulnerable groups and workers.
- The Fund is designed to complement existing financial mechanisms, such as the Special Programme, the Specific International Programme, the Global Environment Facility (GEF), and other funds supporting biodiversity and climate action.
- It aims to build on national projects or activities and to generate sustainable project outcomes at the national, regional, and global levels.
- Overall, the Fund seeks to deliver substantial and visible impacts that promote the safe and sustainable management of chemicals and waste, with an emphasis on achieving measurable results. **So, Option (a) is correct.**

51. Consider the following pairs :

Sl. No.	***Theories related to the decline of the Indus Valley Civilisation***		***Theory by***
1.	Increasing aridity and the drying up of the Ghaggar-Hakra River.	-	D.P. Agarwal and Sood
2.	Theory of Aryan invaders	-	Moretime Wheeler
3.	Theory of catastrophic flooding	-	R.L. Raikes
4.	The Shifting Away of the Indus	-	Lambrick
5.	Ecological Imbalance	-	Fairservis

Which of the pairs given above are correct ?
(a) 1, 2 and 3 only
(b) 2, 3, 4 and 5 only
(c) 1, 2, 4 and 5 only
(d) **1, 2, 3, 4 and 5**

EXPLANATION:

D.P. Agarwal and Sood have introduced a new theory for the decline of the Harappan civilization. They believe that the Harappan civilization declined because of the increasing aridity in this area and the drying up of the river GhaggarHakra.

- Basing their conclusions on the studies conducted in the U.S.A., Australia and Rajasthan they have shown that there was an increase in the arid conditions by the middle of the second millennium BCE.
- In semi-arid regions like those of the Harappa, even a minor reduction in moisture and water availability could spell disaster. It would affect agricultural production which in turn would put the city economies under stress. **So, Pair (1) is correct.**

Mortimer Wheeler believed that the Harappan civilization was destroyed by the Aryan invaders. It has been pointed out that in the late phases of occupation at Mohenjodaro there are evidences of a massacre. Human skeletons have been found lying on the streets.

- The Rigveda time and again refers to the fortresses of the Dasas and Dasyus. The Vedic god Indra is called 'Purandara' meaning 'the destroyer of forts'.
- The geographical area of the habitation of the Rigvedic Aryans included the Punjab and the Ghaggar-Hakra region.
- Since there are no remains of other cultural groups having forts in this area in this historical phase, Wheeler believed that it was the Harappan cities that were being described in the Rigveda.
- In fact, the Rigveda mentions a place called Hariyupiya. This place was located on the bank of the river Ravi. The Aryans fought a battle here. The name of the place sounds very similar to that of Harappa. These evidences led Wheeler to conclude that it was the Aryan invaders who destroyed the cities of Harappa. **So, Pair (2) is correct.**

The theory of catastrophic flooding has been carried further by a famous hydrologist R.L. Raikes. He argued that such flooding which could drown buildings 30 feet above the ground level of the settlement could not be the result of normal flooding in the river Indus.

- He believes that the Harappan civilization declined because of catastrophic flooding causing prolonged submergence of the cities located on the bank of the river Indus. He has shown that geomorphologically speaking the Indus area is a disturbed seismic zone.
- Earthquakes might have raised the level of the flood plains of the lower Indus River. This uplift of the plain along an axis roughly at right angles to that of the river Indus blocked the passage of the river water to the sea.
- This led to the ponding of the waters of the river Indus. A lake was formed in the area where cities of the Indus had once flourished. And thus, the rising water levels of the river swallowed up cities like Mohenjodaro. **So, Pair (3) is correct.**

Lambrick has offered his own explanation for the decline. He believes that changes in the course of the river Indus could be the cause of the destruction of Mohenjodaro. The Indus is an unstable river system which keeps shifting its bed. Apparently, the river Indus shifted about thirty miles away from Mohenjodaro.

- The people of the city and the surrounding food producing villages deserted the area because they were starved of water. This kind of thing happened many times in the history of Mohenjodaro.
- The silt observed in the city is actually the product of wind action blowing in lots of sand and silt. This, combined with disintegrating mud, mud brick and baked brick structures, produced what has been mistaken for silt produced by floods. **So, Pair (4) is correct.**

Scholars like Fairservis try to explain the decay of the Harappan civilization in terms of the problems of ecology. He computed the population of the Harappan cities and worked out the food requirements of the townsmen.

- He also computed that the villagers in these areas consume about 80% of their produce leaving about 20% for the market. If similar patterns of agriculture existed in the past, a city like Mohenjodaro, having a population of about 35 thousand, would require very large number of villages producing food.
- According to Fairservis's calculation the delicate ecological balance of these semi-arid areas was being disturbed because the human and cattle population in these areas was fast depleting the scanty forests, food and fuel resources. Thus, a growing population of men and animals confronted by scanty resources wore out the landscape. **So, Pair (5) is correct.**

52. With reference to the history of India, the terms 'antharayam' and 'pattam' denote,
(a) Coins of different monetary value during the Gupta period
(b) **Taxes levied during the Chola period**
(c) Classification of land during Pandyas
(d) Religious rituals followed by the Mauryan kings

EXPLANATION:

Various taxes were collected during the Chola period. Taxes were known as vari or irai in Tamil. Periodical land surveys were conducted for assessment of taxes. The Chola kings Rajaraja I and Kulottunga I undertook large scale measurement of lands.

- Inscriptions of the Chola period frequently referred to the various terms of taxes. There are references to the term kadamai or irai, kudimai, antarayam (local tax), vetti, muttaval, and tattar pattam.
- The pattam and ayam are taxes imposed on non-agricultural professions like artisans and merchants.

Recently, two Chola-period inscriptions, one a land record and another pertaining to tax exemption granted to a temple, have been found at the Viraiachilai Andavar Temple in Rachandar Thirumalai, situated about 22 km away from Tiruchi.

One of the above inscriptions reveals a royal order of Rajaraja III that was written by Neriyudai Chola Muvendavelan, the chief document writer of the king. As per the order, two *veli* of lands belonging to the two bronze icons of the temple named Desanayagar and Nachiyar, were exempt from all taxes including *antharayam* and *pattam*. Thus, antharayam' and 'pattam' denote Taxes levy during chola period.

So, Option (b) is correct.

53. Consider the following pairs :

Sl. No.	***Ruler***		***Tomb***
1.	Akbar	-	Sikandra
2.	Jahangir	-	Lahore
3.	Sher Shah	-	Sasaram

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

EXPLANATION:

Akbar's Mausoleum (Tomb) is a marble and red sandstone mausoleum of the great Mughal emperor Akbar, located in Sikandra, a suburb of Agra, Uttar Pradesh, India. Built in 1605–13, it is a notable example of Mughal architecture.

- It houses the mortal remains of the Mughal Emperor Akbar, who, during his lifetime itself had completed the tomb and laid out a beautiful garden. However, the topmost portion of mausoleum in marble was constructed by his son, Jahangir.
- This grand mausoleum seamlessly fuses Hindu, Islamic and Persian elements in order to reflect Akbar's ideals of inclusivity, peace and unity. **So, Pair 1 is correct.**

The tomb of Jahangir was built in Lahore after the Mughal emperor's death in 1627 and completed in 1637, in the reign of his son and successor, Shah Jahan.

- The tomb was placed in the center of a large, Persian-style garden, forming a tranquil setting for commemoration.
- The garden was laid out in four quadrants, based on the char bagh prototype established in Kabul under Babur, Jahangir's ancestor and the founder of the Mughal dynasty.
- Each quadrant was subdivided into quadrants in turn, demarcated by water channels that symbolize the four rivers of paradise, with paved walkways laid alongside them and fountains placed at their intersections. **So, Pair 2 is correct.**

The Tomb of Sher Shah Suri is situated at Sasaram in Rohtas district of Bihar. Sher Shah Suri's tomb is a majestic example of ancient architecture.

It has elements of Indo-Islamic architecture which include large open courtyards, high domes, and pillars; it has hints of Afghan architecture as well. This beautiful structure is a three-storeyed high mausoleum (approximately one hundred and twenty-two feet). It stands in the middle of an artificial square-shaped lake. **So, Pair 3 is correct.**

54. Consider the following personalities:
    1. Santi Ghose
    2. Suniti Chowdhary
    3. Binadas
    4. Pritilata Waddedar

    How many of the above are associated with the Chittagong Armoury Raid ?
    (a) Only one
    (b) Only two
    (c) Only three
    (d) All four

EXPLANATION:

Surya Sen decided to organize an armed rebellion While Bhagat Singh and his associates were in prison. Suryasen along with his associates—Anant Singh, Ganesh Ghosh and Lokenath Baul—to show that it was possible to challenge the armed might of the mighty British Empire. This revolutionary action was called Chittagong Armoury Raid.

They had planned to occupy two main armouries in Chittagong to seize and supply arms to the revolutionaries to destroy telephone and telegraph lines and to dislocate the railway link of Chittagong with the rest of Bengal. The raid was conducted in April 1930 and involved 65 activists under the banner of the Indian Republican Army—Chittagong Branch. The raid was quite successful. Surya Sen was arrested in February 1933 and hanged in January 1934.

There was a large-scale participation of young women, especially under Surya Sen. These women provided shelter, carried messages and fought with guns in hand. Prominent women revolutionaries in Bengal during this phase included Pritilata Waddedar, who died conducting a raid; Kalpana Dutt, who was arrested and tried along with Surya Sen and given a life sentence; Santi Ghosh and Suniti Chandheri, school girls of Comilla, who shot dead the district magistrate. (December 1931); and Bina Das, who fired point blank at the governor while receiving her degree at the convocation (February 1932). **So, Option (d) is correct.**

55. Consider the following pairs :

Sl.No.	***Governor General***		***Measures taken during their time***
1.	Dalhousie	-	Passage of the Religious Disabilities Act
2.	Canning	-	Passage of the General Services Enlistment Act
3.	Hardinge	-	Withdrawal of free postage enjoyed by soldiers

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

EXPLANATION:

Various measures were taken by Lord Dalhousie during his period (1848-1856). They are
- The Post Office Act of 1854 withdrew the privilege of free postage enjoyed by sepoys. **So, Pair 3 is not correct.**
- Introduction of the Doctrine of Lapse and annexation of Satara (1848), Jaitpur and Sambhalpur (1849), Udaipur (1852), Jhansi (1853), Nagpur (1854) and Awadh (1856).
- Railway Minute of 1853; and laying down of first railway line connecting Bombay and Thane in 1853.
- "Wood's (Charles Wood, President of the Board of Control) Educational Despatch" of 1854 and opening of Anglo-vernacular schools and government colleges.

- Telegraph (4000 miles of telegraph lines to connect Calcutta with Bombay, Madras and Peshawar) and postal (Post Office Act, 1854) reforms.
- Religious disabilities act (1856)- modified Hindu customs, for instance, declaring that a change of religion did not debar a son from inheriting the property of his 'heathen' father. **So, Pair 1 is correct.**
- Ganges Canal declared open (1854); establishment of separate public works department in every province.
- Widow Remarriage Act (1856).

Lord canning passed the general services enlistment Act of 1856. The act required recruits to serve overseas if ordered, a challenge to the castes who composed so much of the Bengal army. The Act decreed that all future recruits to the Bengal Army would have to give an undertaking to serve anywhere their services might be required by the government. This caused resentment. The Indian sepoy was equally unhappy with his emoluments compared to his British counterpart. **So, Pair 2 is correct.**

56. Which of the following statements is correct regarding the "Krishi-Decision Support System" (Krishi-DSS) introduced by the government recently?
    (a) **It is a digital geospatial platform that offers easy access to comprehensive agricultural data across India.**
    (b) It is a digital platform that helps government officials make decisions regarding minimum support prices and their implementation in India.
    (c) It is a digital platform that integrates farmers and middlemen across India.
    (d) None of the above

EXPLANATION:

The " Krishi-Decision Support System" (Krishi-DSS) platform is developed jointly by the Ministry of Agriculture and the Department of Space. It is a first-of-its-kind geospatial platform specifically designed for Indian agriculture. The platform provides seamless access to comprehensive data, including satellite images, weather information, reservoir storage, groundwater levels and soil health information, which can be easily accessed from anywhere at any time across India.

- It includes several advanced modules designed to support comprehensive agricultural management. From the vast expanse of fields to the smallest soil particle, Krishi-DSS has it covered.
- With crop mapping and monitoring, we will be able to understand cropping patterns by analysing parcel-level crop maps over the different years. This information helps in understanding crop rotation practices and promotes sustainable agriculture by encouraging the cultivation of diverse crops.
- Drought monitoring will helps to stay ahead of the drought, which gives near real-time information on various indicators i.e soil moisture, water storages, crop condition, dry spells etc, while crop weather watch will keep us informed about how weather is impacting the crops, crop harvest status, crop residue burning etc. **So, Option (a) is correct.**

57. Consider the following statements :
    1. A fiscal deficit indicates the amount of money the Government needs to borrow, excluding the interest component.
    2. A zero primary deficit indicates that the interest payment obligations of the Government is zero.
    3. Effective Revenue Deficit is the difference between revenue deficit and interest payment.

    Which of the statements given above are correct ?

    (a) 1 and 2 only
    (b) 2 and 3 only
    (c) 1 and 3 only
    (d) **None of the above**

EXPLANATION:

A fiscal deficit is defined as the discrepancy between a government's revenue and its expenditures over a designated timeframe, usually a fiscal year. The interest payments on past loans are a significant part of that expenditure.
In simpler terms, it represents the amount the government needs to borrow to bridge the gap between its expenses and revenues.
A high Fiscal Deficit often stems from excessive or unnecessary government spending.
Fiscal Deficit = Total Expenditure - Total Revenue Receipts + Recovery of Loans + Other Receipts.
In the case of the calculation of the primary deficit, the interest component is excluded.
So, Statement 1 is not correct.

Primary Deficit refers to the fiscal deficit of the current year excluding interest payments on previous borrowings. It highlights the government's borrowing needs based solely on current expenditures and revenues, without taking into account the interest liabilities from past debt.
Primary Deficit = Fiscal Deficit – Interest Payments
A zero primary deficit indicates that all borrowing by the government is being used solely to meet interest payments on earlier loans, not for new or current expenditure. This suggests that the government's revenue is sufficient to cover its non-interest expenses. **So, Statement 2 is not correct.**

Effective Revenue Deficit is the difference between Revenue Deficit and Grants in-Aid for Creation of Capital Assets.
Effective revenue deficit (ERD) is a new term introduced in the Union Budget 2011–12. The concept of effective revenue deficit has been suggested by the Rangarajan Committee on Public Expenditure. It is aimed to deduct the money used out of borrowing to finance capital expenditure thus creating space for increased capital spending.
On the other hand, 'revenue deficit' (RD) is the difference between revenue receipts and revenue expenditures. Here, revenue expenditures include all the grants which the Union Government gives to the state governments and the UTs— some of which create assets.
So, Statement 3 is not correct.

58. Consider the following statements :
    1. The PM-Vishwakarma Yojana targets specifically towards particularly vulnerable tribal communities of India.
    2. The PM-JANMAN Yojana offers comprehensive assistance to artisans and craftspeople involved in 18 different professions.

    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 'PM Vishwakarma' scheme, launched by the Government of India, aims to enhance the quality and reach of products and services by artisans and craftspeople, integrating them into domestic and global value chains. Announced in the 2023-24 Budget and launched on September 17, 2023, this scheme seeks to provide comprehensive support to Vishwakarmas, improving their socio-economic status and quality of life.

- PM Vishwakarma envisages to provide end-to-end holistic support to the traditional artisans and craftspeople in scaling up of their conventional products and services.
- Since its launch, the PM Vishwakarma scheme has achieved significant milestones, with over 2.65 crore applications submitted and 27.13 lakh applications successfully registered. Registered applicants will undergo a 5-day 'Basic Training' program, and those opting for credit support will receive collateral-free credit. These accomplishments highlight the scheme's early success in empowering artisans and craftspeople nationwide. **So, Statement 1 is not correct.**

In the financial year 2023-24, the Hon'ble Prime Minister launched the Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyaan (PM JANMAN) to drive the socio-economic upliftment of 75 Particularly Vulnerable Tribal Groups (PVTGs) across 18 states and one Union Territory.

- The mission aims to provide basic facilities such as safe housing, clean drinking water and improved access to education, health and nutrition, road and telecom connectivity, electrification of unelectrified households and sustainable livelihood opportunities in 3 years. **So, Statement 2 is not correct.**

59. The new Asset Monetization Plan 2025-30 aims to :
    (a) Increase public ownership in government PSUs through disinvestment.
    (b) **Generating funds by monetizing government-owned assets and reinvesting the proceeds into new infrastructure projects.**
    (c) Privatize major infrastructure projects in the power and transport sectors.
    (d) Establish a sovereign wealth fund to reinvest revenue from asset monetization.

EXPLANATION:

In the Union Budget 2025, Finance Minister announced India's Asset Monetization Plan 2025-30, a strategic approach to leverage the existing public infrastructure assets and create non-tax revenue to reinvest in new infrastructure projects.

- This new initiative is based on the earlier National Monetization Pipeline (NMP) 2021-25, which plans to generate ₹10 lakh crore through monetizing these functioning brownfield assets across sectors, including Highways, Railways, Power, Telecom, and Aviation. This is also consistent with the government's broader goal of fiscal discipline and sustainable infrastructure development.
- The policy intends to enable greater efficiency, encourage private sector participation and elevate the standards of infrastructure development.

The main goals of the Asset Monetization Plan 2025-30 are:

- Capital Generation: To harness resources by utilizing underused or non-essential public assets.
- Infrastructure Advancement: To reallocate the revenues into fresh infrastructure initiatives to foster economic development.
- Operational Efficiency: To improve the effectiveness and output of public resources by involving the private sector. **So, Option (b) is correct.**

60. Consider the following landforms :
    1. Point Bars
    2. Barrier Bars
    3. River Terraces
    4. Dolines
    5. Barchans
    6. Eskers

Which of the above are formed due to the deposition of earth materials by different agents ?

(a) 1, 2, 5 and 6 only
(b) 1, 2, 3 and 4 only
(c) 2, 4, 5 and 6 only
(d) 1, 2, 3, 5 and 6 only

EXPLANATION:

Deposition develops a floodplain just as erosion makes valleys. Floodplain is a major landform of river deposition. A river bed made of river deposits is the active floodplain. The floodplain above the bank is inactive floodplain. Natural levees and point bars are some of the important landforms found associated with floodplains.

- Point bars are also known as meander bars. They are found on the convex side of meanders of large rivers and are sediments deposited in a linear fashion by flowing waters along the bank. They are almost uniform in profile and in width and contain mixed sizes of sediments. If there more than one ridge, narrow and elongated depressions are found in between the point bars. **So, Statement 1 is correct.**
- Barrier bars are long, narrow ridges of sand or shingle that form parallel to the coast in the near shore zone. They are created by the action of waves and currents that deposit sediments. Normally, bars are submerged under water, but when they rise above the water surface, they are called barrier bars**.** If a barrier bar becomes attached to the mainland at one end, forming across the mouth of a bay, it is called a spit. When barrier bars and spits fully block off a bay, they can create a lagoon, which over time may fill with sediments to form a coastal plain. Thus, Barrier Bars are depositional landforms. **So, Statement 2 is correct.**
- River terraces are surfaces marking old valley floor or flood plain levels. They may be bedrock surfaces without any alluvial cover or alluvial terraces consisting of stream deposits. River terraces are basically products of erosion as they result due to vertical erosion by the stream in to its own depositional floodplain. There can be a number of such terraces at different heights indicating former river bed levels. The river terraces may occur at the same elevation on either side of the rivers in which case they are called paired terraces. Thus, River terraces are not depositional landforms. **So, statement 3 is not correct.**
- Barchans are crescent-shaped depositional landforms formed by wind action in deserts. They develop where winds are strong, steady, and the surface is flat and dry. Their horns or tips point downwind (away from the wind). Barchans are formed when sand supply is limited, and they move slowly over time with the wind. They are common in arid and semi-arid regions. **So, Statement 5 is correct.**
- Eskers are long, winding depositional landforms made of sand, gravel, and boulders, formed by streams flowing beneath glaciers. As the glacier melts, these sediments are deposited in the ice tunnels and, after complete melting, appear as sinuous ridges on the land surface. Eskers can stretch for several kilometres and indicate the path of ancient glacial melt water streams. They are often found in formerly glaciated regions and can vary in height and width depending on the size of the stream and sediment load. **So, Statement 6 is correct.**
- Dolines are erosional landforms found in limestone (karts) areas. They are funnel-shaped depressions formed mainly by the solution of limestone or by the collapse of caves beneath the surface. Dolines are also called sinkholes and can vary in size from a few meters to over a hectare. **So, Statement 4 is not correct.**

61. Consider the following information :

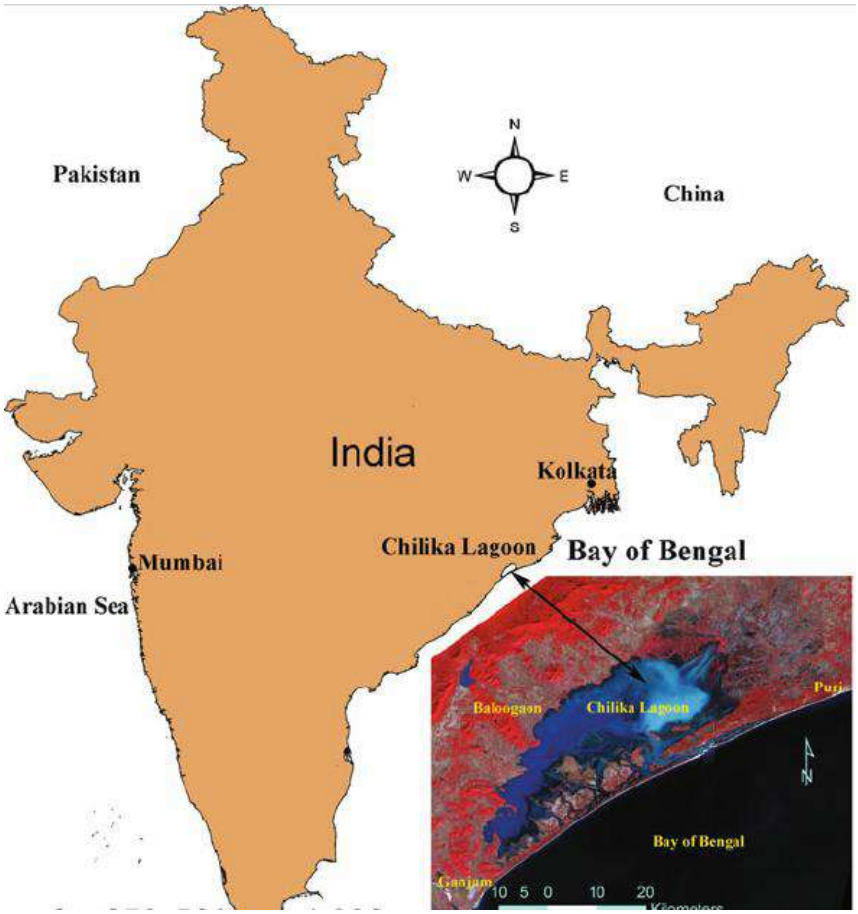
Sl.No.	***Lake names***	***Located State***	***Lake types***
1.	Chilka	Odisha	Lagoon
2.	Kanwar Tal	Uttar Pradesh	Oxbow
3.	Rangeet	Sikkim	Tectonic

How many of the rows given above are correctly matched?

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

EXPLANATION:

Chilika Lake is a brackish water lake and a shallow lagoon with estuarine character spread across the districts of Puri, Khurda and Ganjam in the state of Odisha in eastern India. Fed by 52 rivers and rivulets, the water spread area of Chilika varies between 900 and 1165 sq. km during summers and monsoons, respectively. It hosts a pear-shaped lagoon. It is connected to the Bay of Bengal by a channel that mostly runs parallel to it. **So, Pair (1) is correct.**



Kanwar Lake, locally known as 'Kabartal', is located in the Begusarai district of Bihar (not Uttar Pradesh). It is the first and only wetland of international importance under the Ramsar Convention and Asia's largest freshwater oxbow lake, formed due to the meandering of the Gandak River, a tributary of the Ganges. **So, Pair (2) is not correct.**

The Rangeet or Rangit river , a tectonic lake and its tributaries originate in the Talung glacier in West Sikkim, and join the Teesta River near the border of Sikkim with West Bengal. River Rangit is a major tributary of the river Teesta in Western Sikkim. The geology and tectonics of an area play a very important role in the development of geomorphic features and the drainage of a region. The Rangit River Basin is a part of the Sikkim-Darjeeling Himalaya that contains a very significant geological and tectonically active region, specifically within a tectonic window called the Rangit window. **So, Pair (3) is correct.**

62. Consider the following statements with respect to Mountain passes in India :
    1. The Diphu pass connects the state of Manipur with Myanmar.
    2. Haldighati pass connects the state of Uttarakhand with Nepal.
    3. Shipki La pass connects the state of Himachal Pradesh with Tibet.

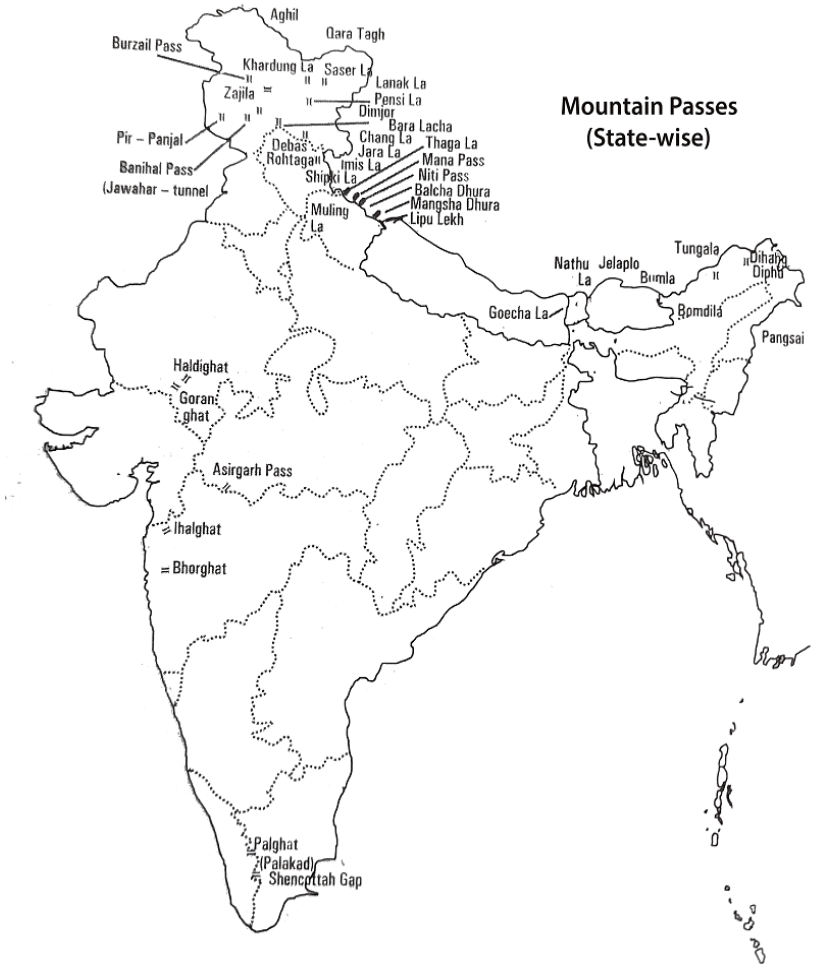
    How many of the above statements is/are ***not*** correct ?
    (a) Only one
    (b) Only two
    (c) All three
    (d) None

EXPLANATION:

The Diphu Pass is located in the Anjaw district of Arunachal Pradesh (not Manipur), India. It serves as a trijunction between India, China, and Myanmar. It is situated at an altitude of approximately 5,900 feet. The pass provides easy access between Arunachal Pradesh and Mandalay in Myanmar and remains open throughout the year. The Diphu La Pass is strategically important for India as it provides access to several border areas with China and Myanmar. **So, Statement 1 is not correct.**

Haldighati Pass is a famed mountain pass located in the Aravalli Hills of Rajasthan, specifically in the district of Rajsamand. It is named for its yellow-coloured soil (reminiscent of turmeric). Haldighati is an indelible part of history, immortalisedas the site of the famous battle between the King of Mewar, Maharana Pratap, and Emperor Akbar's forces in 1576. **So, Statement 2 is not correct.**

Shipki La is a mountain pass and border post on the India-Tibet border. It is located in Kinnaur district in the state of Himachal Pradesh, India. The Sutlej River enters India (from Tibet) through this pass.
The bilateral trade through Shipki La pass, the 18,599-feet mountain pass that connects the Kinnaur district to the Tibetan Autonomous Region in China, reopened in 1993 after it was shut down due to the Indo-China war in 1962. **So, Statement 3 is correct.**



63. Bharal (Blue Sheep) and Kiang (a type of Wild Ass) are commonly found in which part of India ?
(a) Sundarbans Delta
(b) Thar Desert
(c) The Himalayas
(d) Western Ghats

EXPLANATION:

Blue Sheep (Pseudois nayaur) are slate grey to pale brown sheep-looking caprines. It is listed as Least Concern by the IUCN Red List. Their habitat and ecology include shrubland, grassland, rocky areas (Inland cliffs, mountain peaks) and desert. The range of this species includes Bhutan, China, India, Myanmar, Nepal, and Pakistan. It is found in elevations from 5,500 to 2,500 metres. Blue Sheep are fairly continuously distributed in the northern Himalayan and Trans-Himalayan regions of India. They are active throughout the day, feeding on lichens, herbaceous plants, and mosses.

Kiang (Equus kiang) is a species of Tibetan Wild Ass found in the cold, arid highlands of Nepal, India, and Pakistan and in Tibet at elevations above 4,000 metres (13,000 feet). Their habitat and ecology include the shrubland, grassland and desert. The Kiang is the largest species of wild ass. Kiang is found in the high meadows and open plains of Ladakh and is also one of the larger herbivores of Ladakh.

Therefore, Bharal (Blue Sheep) and Kiang (Tibetan Wild Ass) are both native to the high-altitude regions of the Himalayas. **So, Option (c) is correct.**

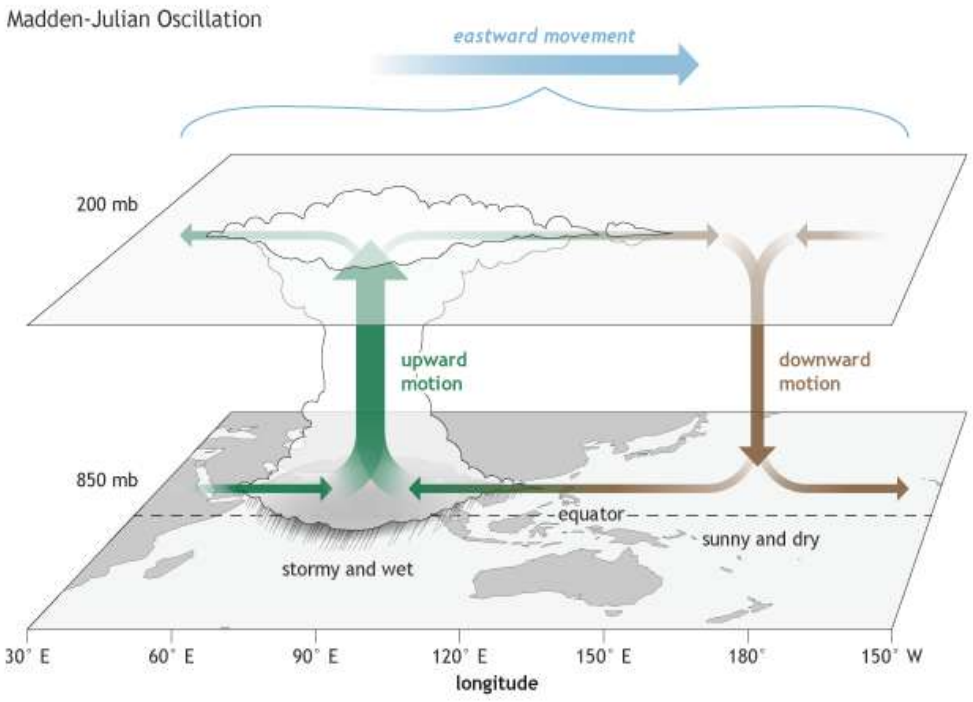
64. With reference to Madden-Julian Oscillation, consider the following statements :
    1. Unlike El Niño Southern Oscillation, it is an eastward-moving disturbance that traverses the planet in the tropics.
    2. It causes intraseasonal tropical climatic variability.
    3. The impact of Madden-Julian Oscillation is restricted to the Southern Hemisphere of the Earth.

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

EXPLANATION:

The Madden-Julian oscillation (MJO) is an equatorial travelling pattern of anomalous rainfall that is planetary in scale. The MJO is characterized by an eastward progression of large regions of both enhanced and suppressed tropical rainfall, observed mainly over the Indian Ocean and Pacific Ocean. Thus, It's a traversing phenomenon and is most prominent over the Indian and Pacific Oceans.

- The El Niño-Southern Oscillation (ENSO) is a recurring climate pattern involving changes in the temperature of waters in the central and eastern tropical Pacific Ocean. On periods ranging from about three to seven years, the surface waters across a large swath of the tropical Pacific Ocean warm or cool by anywhere from 1°C to 3°C, compared to normal.
  Unlike ENSO, which is stationary, the MJO is an eastward moving disturbance of clouds, rainfall, winds, and pressure that traverses the planet in the tropics and returns to its initial starting point in 30 to 60 days, on average. This atmospheric disturbance is distinct from ENSO, which once established, is associated with persistent features that last several seasons or longer over the Pacific Ocean basin. There can be multiple MJO events within a season, and so the MJO is best described as intraseasonal tropical climate variability (i.e. varies on a week-to-week basis). **So, Statements 1 and 2 are correct.**
- The direct influence of MJO can be tracked pole ward as far as 30 degrees latitude from the equator in both northern and southern hemispheres, propagating outward from its origin near the equator at around 1degree latitude, or 111 kilometers (69 mi), per day. **So, Statement 3 is not correct.**



65. Gravity plays a significant and direct role in which of the following ?
    1. Existence of a Black hole.
    2. Revolution of the Earth around the sun.
    3. Rotation of the Earth on its axis.
    4. Heat balance of the Earth.
    5. Formation of tides in the oceans
    6. Occurrence of Rainfall.

    Select the correct answer using the codes given below :

    (a) 1, 2, 3 and 5 correct
    (b) 1, 2, 5 and 6 correct
    (c) 2, 3, 4 and 6 correct
    (d) 1, 2, 3, 4, 5 and 6 correct

EXPLANATION:

Gravity is the force by which a planet or other body draws objects toward its center. The force of gravity keeps all of the planets in orbit around the sun. Gravity is responsible for holding Earth's atmosphere, keeping people grounded, and maintaining the orbits of celestial bodies like the Moon, the International Space Station, Earth, and other planets. The concept of gravitational attraction between all objects was first proposed by Isaac Newton. Although all objects exert gravitational force, the effect is only significant when involving massive bodies like planets or stars.

- A black hole forms when the mass of an object, like a star, suddenly collapses down to a tiny volume. A small object with a large mass causes a gaping dent in space-time. This enormous warp creates a gravitational field so strong that nothing—not even light—can escape from it. Thus, gravity play a significant and direct role in the existence of a Black hole. **So, Option 1 is correct.**

Kepler's laws show the effects of gravity on orbits. They apply to any object that orbits another: planets orbiting the Sun, moons orbiting a planet, spacecraft orbiting Earth.

- Kepler's Second Law states that a planet moves faster in its orbit when it is closer to the Sun and slower when it is farther away. This happens because the Sun's gravitational pull is stronger at closer distances, increasing the planet's speed, and weaker at greater distances, reducing its speed. This law explains the varying orbital speed of planets as they travel around the Sun.

Therefore, gravity plays a significant role in the Revolution of the Earth around the sun **So, Option 2 is correct.**

Gravity does not play a significant or direct role in Earth's daily rotation on its axis. The Earth rotates on its axis relative to the Sun every 24.0 hours mean solar time, with an inclination of 23.45 degrees from the plane of its orbit around the Sun.

- Earth's rotation is primarily the conservation of angular momentum from the collapsing cloud of dust and gas. Once Earth started spinning, there was little to stop it because space is mostly frictionless.
- However, gravity from the Moon and Sun affects Earth's rotation indirectly by causing phenomena like precession (the slow wobble of Earth's axis over ~26,000 years) and tidal friction (which is gradually slowing Earth's spin over millions of years). The Moon's gravitational pull, for instance, causes tidal bulges that, through friction, very slowly reduce the speed of Earth's rotation. **So, Option 3 is not correct.**

The climate of a terrestrial planet depends on an almost uncountable number of factors, including the distance to its host star, the nature of that host star, and the size and rotation rate of the planet, the atmospheric composition and gravity.

- Gravity does not directly affect Earth's heat balance under normal conditions, as atmospheric circulation remains unchanged except for vertical scaling. In atmospheres with radiatively active gases like water vapor or methane, increased gravity shortens their path length, reducing the greenhouse effect and causing cooling. It also lowers specific humidity, affecting heat transport and surface energy balance. Thus, gravity indirectly influences the heat balance through its effects on atmospheric structure and greenhouse gases. **So, Option 4 is not correct.**

Gravity is one major force that creates tides. Newton's law of universal gravitation states that the gravitational attraction between two bodies is directly proportional to their masses, and inversely proportional to the square of the distance between the bodies.
Tidal forces are based on the gravitational attractive force. With regard to tidal forces on the Earth, the distance between two objects usually is more critical than their masses. Tidal generating forces vary inversely as the cube of the distance from the tide generating object. Gravitational attractive forces only vary inversely to the square of the distance between the objects. The effect of distance on tidal forces is seen in the relationship between the sun, the moon, and the Earth's waters. **So, Option 5 is correct.**

Water is found almost everywhere on Earth, from high in the atmosphere (as water vapor) to low in the atmosphere (precipitation, droplets in clouds) to mountain snowcaps and glaciers (solid) to running liquid water on the land, ocean, and underground. Sunlight causes evaporation and propels oceanic and atmospheric circulation, which transports water around the globe. Gravity causes precipitation to fall from clouds and water to flow downward on the land through watersheds.

- Transpiration is the process that a plant takes up water through its roots and then gives off unused water from their leaves. As water vapor cools it condenses. This process changes the water's state from vapor to liquid. When a cloud's droplets join together and get too big to overcome gravity, they fall from the clouds as either rain or snow. When excess water falls on the land it will flow downhill as runoff. **So, Option 6 is correct.**

66. Consider the following statements :
    1. Earthquakes and Volcanic eruptions in oceanic regions can result in high vertical waves in the water.
    2. The speed of the ocean waves is greater in shallow waters than in the deep ocean.
    3. In the deep sea, the Tsunami waves have long wavelengths and limited wave height.

    Which of the statements given above is/are correct ?

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

EXPLANATION:

A tsunami or seismic sea wave is a series of extremely long waves caused by a large and sudden displacement of the ocean, usually the result of an earthquake or volcanic eruption below or near the ocean floor. This force creates waves that radiate outward in all directions away from their source, sometimes crossing entire ocean basins. Unlike wind-driven waves, which only travel through the topmost layer of the ocean, tsunamis move through the entire water column, from the ocean floor to the ocean surface.
Most tsunamis are caused by earthquakes on converging tectonic plate boundaries. However, tsunamis can also be caused by landslides, volcanic activity, certain types of weather, and—possibly—near-earth objects (e.g., asteroids, comets) colliding with or exploding above the ocean. **So, Statement 1 is correct.**

Waves behave differently in deep and shallow waters due to the influence of water depth on wave speed. The speed of the ocean waves is greater in the deep ocean than in shallow waters. As waves move into shallower areas, they begin to interact with the sea floor, which creates friction and causes the waves to slow down. This reduction in speed leads to a decrease in wavelength and an increase in wave height. As a result, waves in shallow water, such as those approaching the coast, become taller and more powerful, potentially leading to phenomena like breaking waves or tsunamis. **So, Statement 2 is not correct.**

A ship at sea is not affected by a tsunami much, and it is difficult to detect a tsunami in the deeper parts of the sea. This is because, over deep water, tsunamis have very long wavelengths and limited wave heights. This causes the waves to raise the ship only by a meter or two, and each rise and fall takes several minutes, making it difficult for those at sea to detect the tsunami.

In contrast, when a tsunami enters shallow water, its wavelength is reduced, and the period remains unchanged, which increases the wave height. Sometimes, this height can reach up to 15 meters or more, causing large-scale destruction along the shores. These waves are, therefore, also known as Shallow Water Waves. **So, Statement 3 is correct.**

67. "Future of jobs" report is released by :
(a) International labour organization
(b) Organization for economic co-operation & development.
(c) United Nations
(d) **World Economic Forum**

EXPLANATION:

The Future of Jobs Report 2025 is published by the World Economic Forum (WEF). According to WEF, the Future of Jobs Report 2025 brings together the perspective of over 1,000 leading global employers, collectively representing more than 14 million workers across 22 industry clusters and 55 economies from around the world.

- The report summarises the macro trends that will impact jobs and skills, and the workforce transformation strategies employers plan to embark on in response, across the 2025 to 2030 timeframe.
- The report mentions that 170 million new jobs will be created and 92 million jobs will be displaced resulting in a net increase of 78 million jobs by 2030.
- India is the second most prepared country after the United States for future work skills, highlighting the country's focus on workforce development and re-skilling initiatives.
- As per the WEF report, Big data specialists, Fin-Tech engineers, AI & machine learning specialists, software & applications developers and security management specialists are among the top 5 fastest growing jobs.

The fastest-growing job roles by 2030, in percentage terms, tend to be driven by technological developments, such as advancements in AI and robotics and increasing digital access. **So, Option (d) is correct.**

68. With reference to the Indus Waters Treaty (IWT), consider the following statements:
1. India is completely prohibited from utilizing the waters of the western rivers as per the treaty.
2. The International Court of Justice (ICJ) is empowered to solve every dispute related to IWT.

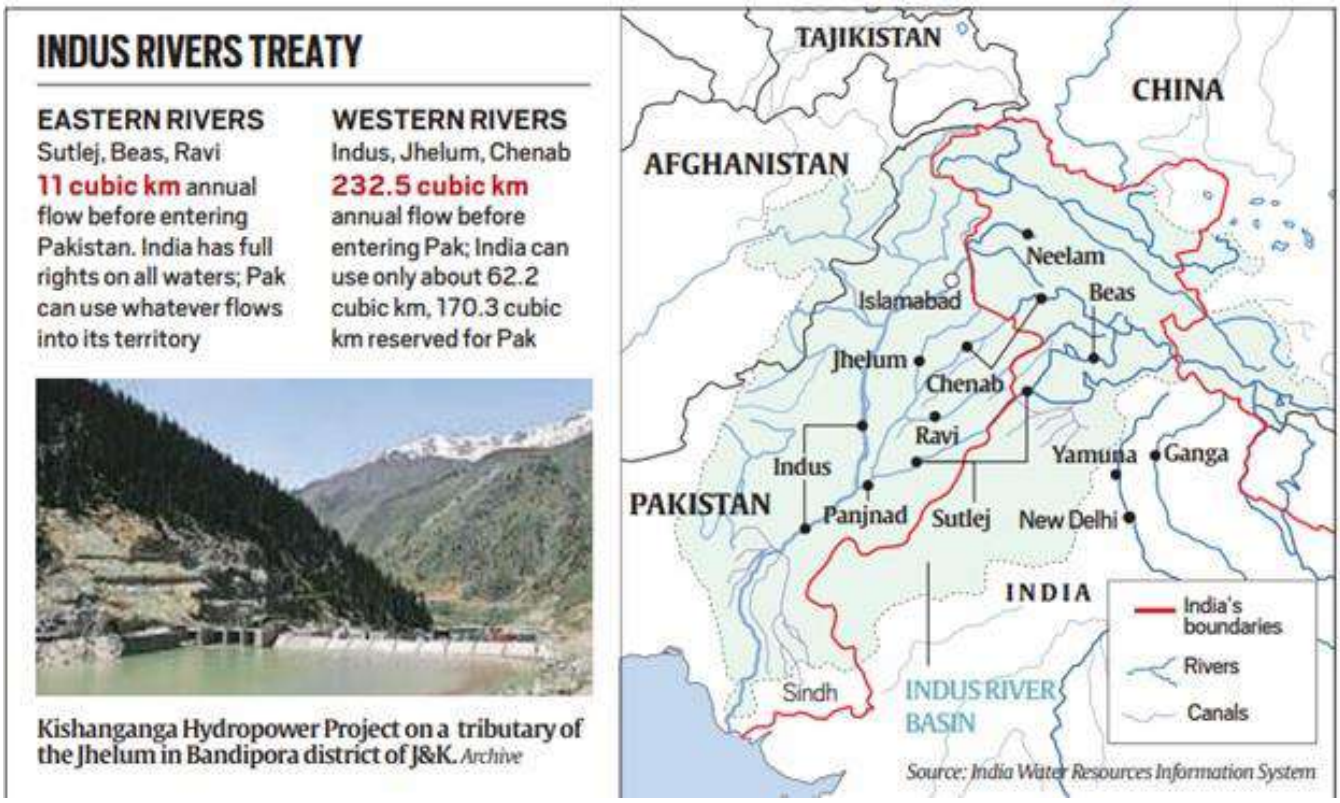
Which of the statements given above is/are correct ?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

EXPLANATION:

Indus Waters Treaty is signed between India and Pakistan, on September 19, 1960, and brokered by the World Bank. The treaty fixed and delimited the rights and obligations of both countries concerning the use of the waters of the Indus River system.

- The Indus river basin has six rivers- Indus, Jhelum, Chenab, Ravi, Beas and Sutlej; originating from Tibet and flowing through the Himalayan ranges to enter Pakistan, ending in the south of Karachi.
- The treaty divides the six major rivers of the Indus basin into two categories:
  - Eastern Rivers: Ravi, Beas, and Sutlej – allocated to India for exclusive and unrestricted use, including for purposes such as irrigation, domestic supply, and hydropower generation.
  - Western Rivers: Indus, Jhelum, and Chenab – largely allocated to Pakistan, but India is permitted limited use of their waters for non-consumptive needs (like hydropower generation, navigation, and domestic use), as well as restricted agricultural usage and small-scale storage, provided these projects do not adversely affect the flow to Pakistan.

This meant that 80% of the share of water or about 135 Million Acre Feet (MAF) went to Pakistan, leaving the rest 33 MAF or 20% of water for use by India.
Thus, India is not completely prohibited from utilizing the waters of the western rivers as per the treaty.
So, Statement 1 is not correct.



The World Bank-brokered treaty does not mention that the UN's judicial arm, the International Court of Justice (ICJ), can intervene, it does establish a three-tiered resolution mechanism.

- According to the three-pronged mechanism, the Permanent Indus Commission (PIC), comprising commissioners from both countries, is the initial point for resolving disputes arising out of water sharing between the two nations.
- However, if the issue fails to be resolved by the PIC, it is then referred to a World Bank-appointed neutral expert, as was the case in the recent disputes between India and Pakistan over the Kishenganga and Ratle hydroelectric projects.
- Finally, the matter can be taken to the Permanent Court of Arbitration (PCA) in The Hague under the provisions of Article IX. **So, Statement 2 is not correct.**

69. Consider the following statements regarding UN Security Council's Counter-Terrorism Committee (CTC) :
    1. It is one among the specialized agencies of the United Nations.
    2. India is a permanent member of the CTC.
    3. It endorsed the Delhi Declaration to counter the use of new and emerging technologies for terrorist purposes.

    How many of the above statements is/are correct ?

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

EXPLANATION:

UN Security Council's Counter-Terrorism Committee (CTC) was established by Security Council resolution 1373 (2001), which was adopted unanimously on 28 September 2001 in the wake of the 11 September terrorist attacks in the United States. The Counter-Terrorism Committee is a subsidiary body (not a specialised agency) of the United Nations. The CTC works to bolster the ability of United Nations Member States to prevent terrorist acts both within their borders and across regions. **So, Statement 1 is not correct.**

UN Security Council's Counter-Terrorism Committee (CTC) consists of 15 Member States. At present, India is not a member of the Counter-Terrorism Committee (CTC).

- The CTC is composed of all 15 members of the UN Security Council, which includes five permanent members (China, France, Russia, the United Kingdom, and the United States) and ten non-permanent members elected for two-year terms.
- Currently, the Committee is composed of 15 Member States: Algeria (2025)-China-Denmark (2026)-France - Greece (2026)- Guyana (2025)- Pakistan (2026)- Panama (2026)- Republic of Korea (2025)-Russian Federation- Sierra Leone (2025)- Slovenia (2025)- Somalia (2026)- United Kingdom- United States.

India, during its 2021-22 tenure as a non-permanent member of the UN Security Council, assumed the chair of the UN Security Council's Counter-Terrorism Committee (CTC) in 2022. Thus, currently India is not a member of CTC. **So, Statement 2 is not correct.**

In October 2022, the Security Council Counter-Terrorism Committee (CTC), chaired by India that year, organised a special meeting in New Delhi and Mumbai on the overarching theme of Countering the use of new and emerging technologies for terrorist purposes. As an outcome of the special meeting, the Committee adopted the Delhi Declaration on countering the use of new and emerging technologies for terrorist purposes.

- The Counter-Terrorism Committee unanimously adopted the Delhi Declaration at the closing of its special meeting on countering the use of new and emerging technologies for terrorist purposes, held in India on 28-29 October 2022. **So, Statement 3 is correct.**

70. With reference to the Indian Ocean Rim Association (IORA), which one of the following statements is correct ?
    (a) IORA has members only from the Asian continent.
    (b) India is currently serving as the chairperson of IORA.
    (c) IORA focuses on disaster management and Maritime security challenges.
    (d) Activities of IORA are funded by the World Bank.

EXPLANATION:

The Indian Ocean Rim Association (IORA) is an inter-governmental organisation formed in 1997 to foster regional economic cooperation. IORA has evolved into the peak regional group spanning the Indian Ocean. The IORA Secretariat is based in Mauritius and is headed by a fixed term Secretary-General.

- IORA has 23 member states: Australia, Bangladesh, the Comoros, France, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Seychelles, Singapore, Somalia, South Africa, Sri Lanka, Tanzania, Thailand, the United Arab Emirates and Yemen.
- IORA has 12 dialogue partners: China, Egypt, European Union, Germany, Italy, Japan, Russia, Saudi Arabia, Türkiye, the Republic of Korea, the United Kingdom and the United States of America. Thus, IORA includes members from Asia, Africa, and Oceania, not just the Asian continent. **So, Option (a) is not correct.**

Australia is a founding member of the Indian Ocean Rim Association (IORA) and chaired the organisation between 2013 and 2015.

- Sri Lanka is the current Chair (2023-25). India, currently Vice-Chair, will succeed Sri Lanka as Chair (2025-27).

- The Indian Ocean Rim Association (IORA) became an observer to the UN General Assembly and the African Union in 2015. Decisions made within IORA are reached by consensus, and commitments are undertaken on a voluntary basis. **So, Option (b) is not correct.**

IORA's objectives are enshrined in the IORA Charter.
The priority areas are:

- Maritime safety and security;
- Trade and investment facilitation;
- Fisheries management;
- Disaster risk management;
- Academic, science and technology cooperation; and
- Tourism and cultural exchange.

The blue economy and women's economic empowerment are two further cross-cutting priority areas. **So, Option (c) is correct.**

The Indian Ocean Rim Association (IORA) Special Fund serves as a central funding mechanism for projects undertaken by the Indian Ocean Rim Association (IORA) Member States.

- The concept of the IORA Special Fund was first explored in 2001 during the IORA Council of Ministers' Meeting in Muscat, Oman. A High-Level Task Force (HLTF) was established to assess the feasibility and potential of creating a dedicated funding mechanism for project implementation.
- Member States interested in applying for funding from the Special Fund can request application materials and information from the IORA Secretariat.
- The Special Fund aims to achieve three key objectives: Economic Cooperation and Connectivity/Knowledge Sharing and Capacity Building/Enhanced Implementation.

Thus, the World Bank is not the central funding mechanism for the Indian Ocean Rim Association (IORA). **So, Option (d) is not correct.**

71. Consider the following countries :
    1. US
    2. India
    3. Australia
    4. Japan
    5. Philippines

    How many of the above are members of both the Squad alliance and QUAD ?

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

EXPLANATION:

QUAD known as the 'Quadrilateral Security Dialogue' (QSD), the Quad is an informal strategic forum comprising four nations, namely United States of America (USA), India, Australia and Japan (Philippines is not a member).

- One of the primary objectives of the Quad is to work for a free, open, prosperous and inclusive Indo-Pacific region. The group met for the first time in 2007 on the sidelines of the Association of Southeast Asian Nations (ASEAN). It is considered an alliance of maritime democracies, and the forum is maintained by meetings, semi-regular summits, information exchanges and military drills of all the member countries. It is basically seen as a strategic grouping to reduce Chinese domination.
- The Squad is an informal alliance formed in 2024 with countries such as Australia, Japan, the Philippines and the United States (India is not a member). The defence forces of this alliance have conducted joint maritime activities in the Philippines' exclusive economic zone in the South China Sea.

The Quad primarily addressed issues in the Indian Ocean, whereas the newly emerging Squad is directed towards managing tensions in areas such as Taiwan and the South China Sea, where the risk of conflict with China is higher. This shift in focus demonstrates a recalibration of priorities and alliances in response to evolving global dynamics. The Squad's broader scope and diverse membership highlight its strategic objective to counter China's influence more effectively.

Thus, three countries (The United States, Australia, and Japan) are members of both alliances.

So, Option (b) is correct.

72. In which of the following occasions the full version of the national anthem shall be played?
    1. On arrival of the President at formal State functions.
    2. On arrival of the Governor/Lieutenant Governor at formal State functions within his State/Union Territory and on his departure from such functions.
    3. When the national flag is brought on parade.

    Select the correct answer using the codes given below :

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

EXPLANATION:

Article 51A of the Constitution of India deals with fundamental duties, which states that it shall be the duty of every citizen of India to abide by the Constitution and respect its ideals and institutions, the national flag, and the national anthem.

The National Anthem of India is played or sung on various occasions. The full version of the national anthem shall be played on the following occasions:

- Civil and Military investitures.
- When a national salute (which means the Command "Rashtriya Salute – Salami Shastr" to the accompaniment of the national anthem is given on ceremonial occasions to the President or the Governor/Lieutenant Governor within their respective States/ Union Territories.
- During parades – irrespective of whether any of the dignitaries referred to the above provision is present or not.

- On arrival of the President at formal State functions and other functions organised by the Government and mass functions and on his departure from such functions. **So, Statement 1 is correct.**
- Immediately before and after, the President addresses the nation over All India Radio.
- On arrival of the Governor/Lieutenant Governor at formal State functions within his State/Union Territory and on his departure from such functions. **So, Statement 2 is correct.**
- When the national flag is brought on parade. **So, Statement 3 is correct.**
- When the regimental colours are presented.
- For hoisting of colours in the Navy.

73. With reference to the Parliamentary Committee on Official Language, consider the following statements :
    1. The committee has separate provisions in the Constitution.
    2. All the members in the committee are from the House of the People.
    3. The committee examines the report of the Official Languages Commission constituted by the President.

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

EXPLANATION:

Article 344 in the Constitution of India deals with the Commission and Committee of Parliament on official language. Accordingly, The Official Languages Act (1963) was enacted. The Act provides for the setting up of a Committee of Parliament on Official Language to review the progress made in the use of Hindi for the official purpose of the Union. Therefore, the Committee has separate provisions in the Constitution. **So, Statement 1 is correct.**

- Under the Act, this Committee was to be constituted after ten years of the promulgation of the Act (i.e., 26th January 1965), on a resolution to that effect being moved in either House of Parliament with the previous sanction of the President and passed by both Houses. Accordingly, this Committee was set up in 1976. This Committee comprises 30 members of Parliament, 20 from Lok Sabha and 10 from Rajya Sabha. **So, Statement 2 is not correct.**
- It shall be the duty of the Committee to review the progress made in the use of Hindi for the official purposes of the Union and submit a report to the President making recommendations thereon, and the President shall cause the report to be laid before each House of Parliament and sent it to all the State Governments.
- The President may, after consideration of the report and the views expressed by the State Governments thereon, issue directions in accordance with the whole or any part of the report. **So, Statement 3 is correct.**

74. Which of the following is/are the outcome(s) of the word 'socialist' in the preamble ?
    1. The state's commitment to be a welfare State.
    2. The state's commitment to ensuring equality of opportunity.

    Select the correct answer using the codes given below :
    (a) 1 only
    (b) 2 only
    (c) **Both 1 and 2**
    (d) Neither 1 nor 2

EXPLANATION:

The term Socialist was added in the Preamble by the 42nd Amendment in 1976, the Constitution had a socialist content in the form of certain Directive Principles of State Policy. In other words, what was hitherto implicit in the Constitution has now been made explicit.

Recently, the Supreme Court in an order upheld the inclusion of 'socialist, secular' in the Preamble of the Constitution. Socialist represents a Republic dedicated to eliminating all forms of exploitation whether social, political, or economic.

- The Judgment in Dr Balram Singh and Others Vs Union of India case, The Supreme Court declare Socialism means commitment to be a Welfare State. Socialist in Preamble doesn't mandate any specific Economic Policy.
- In Other words, the word socialism in the Indian context should not be interpreted as restricting the economic policies of an elected government of the people's choice at a given time. Neither the Constitution nor the Preamble mandates a specific economic policy or structure, whether left or right. Rather, 'socialist' denotes the State's commitment to be a welfare State and its commitment to ensuring equality of opportunity. **So, Statement 1 and 2 are correct.**

75. Which of the following best reflects the essential nature of a liberal constitutional democracy ?
(a) A democracy, where the legislature being the representative institution of the people, has the authority to enact laws reflecting majority opinion.
(b) A system based on majority rule, restricted by constitutional guarantees of individual rights and separation of powers.
(c) A system where the elected executive exercises central authority with minimal judicial interference in policy matters.
(d) A form of government where all decisions are made collectively by the majority with institutional checks and balances.

EXPLANATION:

Democracy is a form of governance in which the people directly or indirectly decide on laws, policies, leadership, and other important matters related to the state.

- Constitutional democracy is a system where a country is governed according to a set of rules laid down in the Constitution. The concept of constitutional democracy and its principles evolved over a long period of time.
- Liberal democracy is a form of democracy where the power of the government is limited, and the freedom and rights of individuals are protected by constitutionally established norms and institutions. Liberal democracy is not simply a system of majority rule; it carefully balances majority rule with the protection of minority rights.

In a constitutional democracy, the Constitution safeguards key freedoms such as freedom of speech, freedom of the press, and freedom of religion. A key feature of constitutional democracy is the separation of powers, where the legislature, executive, and judiciary operate independently within their own spheres. Constitutional democracy is often referred to as liberal democracy, as both share core elements like free and fair elections, separation of powers among the different branches of government, the rule of law, equality before the law, and equal protection under the law. **So, Option (b) is correct.**

76. Which of the following statements is/are correct ?
1. The Governor of a State enjoys complete immunity from arrest in both civil and criminal cases during their term in office.
2. Persons against whom a charge sheet has been filed are disqualified from being appointed as Ministers in the State Council of Ministers.

Select the correct answer using the codes given below :
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) **Neither 1 nor 2**

EXPLANATION:

With reference to the equality before the law, the President of India and the Governor of States enjoy the following immunities (Article 361):

- The President or the Governor is not answerable to any court for the exercise and performance of the powers and duties of office.
- No criminal proceedings shall be instituted or continued against the President or the Governor in any court during his term of office.
- No process for the arrest or imprisonment of the President or Governor shall be issued from any court during his term of office.
- No civil proceedings against the President or the Governor shall be instituted during his term of office in any court in respect of an act done by him in his personal capacity, whether before or after he entered upon his office, until the expiration of two months next after notice has been delivered to him. Thus, civil proceedings can be initiated against the President and Governor for their personal actions only after giving a notice period of two months. **So, Statement 1 is not correct.**

Articles 75 and 164 of the Constitution deal with the appointment, tenure, responsibility, qualifications, oath and, salaries and allowances of the ministers. The Constitution does not contain any limitation as to who can or cannot be included in the Council of Ministers", and hence, no new disqualification could be added to prevent charge-sheeted persons from being appointed as Ministers. **So, Statement 2 is not correct.**

77. With reference to the Secretariats of the Lok Sabha and Rajya Sabha, consider the following statements :
    1. Both Secretariats function under the overall control of the union executive.
    2. The Secretary-General of each House holds a rank equivalent to that of the Cabinet Secretary.
    3. The Secretariats of both Houses help ensure the effective functioning of parliamentary democracy by offering independent procedural guidance and institutional continuity to the legislative process and its committees.

    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:

Article 98 of the Constitution provides the scope of separate secretariats for the two Houses of Parliament. The principle, hence, laid in the Article is that the secretariats should be independent of the executive government.

- The Lok Sabha Secretariat is an independent body which functions under the ultimate guidance and control of the Hon'ble Speaker, Lok Sabha.
- The Secretariat of Rajya Sabha was set up pursuant to the provisions contained in Article 98 of the Constitution. The Rajya Sabha Secretariat functions under the overall guidance and control of the Chairman, Rajya Sabha. **So, Statement 1 is not correct.**

The Secretary-General of Lok Sabha and Rajya sabha holds position and status which is equivalent to that of the highest ranking official in the Government of India i.e. Cabinet Secretary. The Secretary-General in turn is assisted by senior functionaries at the level of Secretary, Additional Secretary, Joint Secretary and other officers and staff of the Secretariat at various levels. **So, Statement 2 is correct.**

The Secretaries-General of both the Houses are mandated with many parliamentary and administrative responsibilities.

- They provide objective and non-partisan secretarial assistance to the Presiding Officers, the Members and the parliamentary committees and sustain the progressive change in the Parliament's work profile, making their own profound contribution to realizing a more secured democratic future.
- They consist of people with sound knowledge of the Constitution, parliamentary practices, procedure or precedents for making Parliament more effective in its key tasks, legislation, oversight of government, etc.

Thus, The Secretariats of both Houses help ensure the effective functioning of parliamentary democracy by offering independent procedural guidance and institutional continuity to the legislative process and its committees. **So, Statement 3 is correct.**

78. Consider the following pairs :

Sl.No.	***Literatures***		***Written by***
1.	Mrichchhkatikam	-	Vishakhadatta
2.	Mudrarakshasa	-	Shudraka
3.	Meghadutam	-	Kalidasa
4.	Ratnavali	-	Harsha

Which of the pairs given above is/are correct ?

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

EXPLANATION:

Mrichchhakatikam is famous as an interesting and colorful episode in Sanskrit drama writing. The great poet Shudraka has composed it on the basis of 'Prakarana' described in ten types of rupakas. In fact, in the tradition of drama writing, this is a prakarana which includes many political and social situations along with the main story in its plot.

Mrichchhakatika is one of the ten types of metaphor described in Natyashastra. The story of Mrichchhakatika has two parts. In the first part, there is the love story of Charudatta and Basant Sena and in the second part; there is the story of Rajviplav and Arya getting the kingdom. The plot of any episode originates from the supernatural or from the imagination of the poet. Its main essence is shringara. **So, Pair (1) is not correct.**

Vishakhadatta is a prominent playwright of Sanskrit literature. His play Mudrarakshas is one of the plays that have occupied an important place in Sanskrit dramatic literature. Mudrarakshasa is a play of an interesting and innovative nature. In this seven-act play, Chanakya, Chandragupta and Nanda's Swamibhakt Amatya are in the center of the Rakshasa. The whole play is based on the diplomatic moves. **So, Pair (b) is not correct.**

Meghadutam, lyric love poem in some 115 verses composed by Kalidasa about the 5th century CE. The verse is unique to Sanskrit literature in that the poet attempts to go beyond the strophic unity of the short lyric, normally the form preferred for love poems, by stringing the stanzas into a narrative.

Some of the works that Kalidasa authored are Meghadutam, Abhijnanashakuntalam, Raghuvamsha, Kumarasambhava and Ritusamhara. **So, Pair (3) is correct.**

Harsha is said to have authored three plays: Priyadarshika, Nagananda and Ratnavali. Of these, Priyadarshika and Ratnavali are Natika and Nagananda is the drama.

Ratnavali Natika which was very popular among dramatists. The extreme development of Harsh's dramatic art is visible in this play. Ratnavali proves to be a great play from all the points of view - maturity in dramatic use, beauty in language, use of imagination and excellence in character portrayal. Experts in drama often use the characters of Ratnavali to illustrate the story, elements of drama, hero-heroine etc. Harsh has made full use of Shringaar Rasa in his play. **So, Pair (4) is correct.**

79. Who among the following played a major role in the founding of the All-India Depressed Classes League ?
    (a) M.C.Rajah
    (b) **Jagjiwan Ram**
    (c) Dr. B.R. Ambedkar
    (d) Jyotirao Phule

EXPLANATION:

M.C Rajah was the first Dalit leader in the Provincial Legislative Council (1919) and the Central Legislative Assembly (1925). He was the first President of the All India Depressed Classes Association.
M.C. Rajah and Dr B.S. Moonje of the Hindu Mahasabha signed an agreement known as the Rajah-Moonje Pact (R-MP) on joint electorates with reserved seats based on the population for the depressed classes. **So, Option (a) is not correct.**

Babu Jagjivan Ram (5 April 1908 - 6 July 1986), endearingly called Babuji, was a freedom fighter and a crusader for social justice.

- He was instrumental in the foundation of the 'All-India Depressed Classes League (1935), an organization dedicated to attaining equality for the oppressed and the downtrodden. Ram founded the Khetihar Mazdoor Sabha, which focused on securing farmers' rights.
- In 1946, he became the youngest Minister in Pt Jawaharlal Nehru's provisional government, the First Union Cabinet of India as a Labour Minister, and also a member of the Constituent Assembly of India, where he ensured that social justice was enshrined in the Constitution.
- A national foundation called "Babu Jagjivan Ram National Foundation" has been established in New Delhi in memory of Babu Jagjivan Ram to propagate his ideology, philosophy of his life, mission, and services rendered for the sake of the underprivileged. **So, Option (b) is correct.**

Babasaheb Ambedkar led Mahad Satyagraha in March 1927 to challenge the regressive customs of the caste Hindus. In 1924, he founded the 'Bahishkrit Hitakarani Sabha' for the social upliftment of the 'depressed classes' with the motto: "Educate, Agitate, Organise".

- He founded the Independent Labour Party of India in 1936 after the Government of India Act 1935 introduced responsible government at the provincial level. The party was able to win 15 of the 17 seats it contested in the Bombay Assembly elections of 1937.
- He then founded the All-India Scheduled Castes Federation in 1942 as a popular political front for the Dalits. **So, Option (c) is not correct.**

Jyotirao Phule founded the Satyashodhak Samaj (Truth Seekers' Society) in 1873, with the leadership of the samaj coming from the backward classes, malis, telis, kunbis, saris and dhangars. The main aims of the movement were (i) social service and (ii) the spread of education among women and lower caste people.

- Phule, a firm believer in gender equality, was a pioneer in women's education; he with the help of his wife, Savitribai, opened a girls' school at Poona.
- He was a pioneer of widow remarriage movement in Maharashtra and also opened a home for widows in 1854.
- Phule was awarded the title 'Mahatma' for his social reform work. **So, Option (d) is not correct**

80. Consider the following personalities :
    1. Sarojini Naidu
    2. Kamla Devi Chattopadhyay
    3. Cornelia Sorabji

    Who was/were the founding members of the All India Women's Conference ?
    (a) 1 only
    (b) **1 and 2 only**
    (c) 2 and 3 only
    (d) 1, 2 and 3

EXPLANATION:

All India Women's Conference (AIWC), organization dedicated to improving women's education and social welfare in India. The All India Women's Conference (AIWC) is one of the oldest women's organizations in the country.

- The idea for the AIWC emerged in 1926, at the suggestion of Irish-born theosophist and feminist Margaret Cousins. Nearly a decade earlier, in 1917, Cousins had helped establish the Women's Indian Association in Madras (now Chennai), one of India's first feminist groups.
- Its first conference was held at Ferguson College, Pune.
- Important founding members included Maharani Chimnabai Gaekwad, Rani Sahiba of Sangli, Sarojini Naidu, Kamla Devi Chattopadhyaya and Lady Dorab Tata. **So, Option (b) is correct.**
- Its objectives were to work for a society based on principles of social justice, integrity, equal rights and opportunities; and to secure for every human being, the essentials of life, not determined by accident of birth or sex but by planned social distribution.
- The AIWC worked towards various legislative reforms before and after India's independence, some examples being Sarda Act (1929), Hindu Women's Right to Property Act (1937), Factory Act (1947), Hindu Marriage and Divorce Act (1954), Special Marriage Act (1954), Hindu Minority and Guardianship Act (1956), Hindu Adoption and Maintenance Act (1956), the Suppression of Immoral Traffic in Women Act (1958), Maternity Benefits Act (1961), Dowry Prohibition Act (1961) and Equal Remuneration Act (1958, 1976).

Cornelia Sorabji, India's first female advocate, broke barriers as the first woman to study law at Oxford and fought for the legal rights of purdahnashin women (women who were forbidden from communicating with the outside male world) in India. Despite her early reform work, her later pro-empire stance and opposition to Gandhi's nationalism left a complex legacy in the struggle for social justice. She was not a founding member of the All India Women Conference.

81. Consider the following statements :
    1. Kurukop is an archaeological site that was formed before the breakup of super-continent Gondwanaland.
    2. It is an eroded sandstone hill transformed by volcanic activity.
    3. This place provides a distinctive echo that ensures the hunter-gatherers have repeatedly visited this place.

    The above place Kurukop is located in which of the following country ?
    (a) Australia
    (b) Peru
    (c) Indonesia
    (d) South Africa

EXPLANATION:

Kurukop is in South Africa's Northern Cape province, in the Nama Karoo region. The geological formation began to accumulate about 300 million years ago, before the breakup of the supercontinent Gondwanaland.

Historically, it is an eroded sandstone hill transformed by volcanic activity. Evidence of human presence at the site includes 112 petroglyphs or rock engravings. The images depict various figures—eland, elephants, zebras, ostriches, wildebeest, rhinoceros and animal-human hybrids. These carvings were created by the hunter-gatherer San people and the Khoe herders, who visited the site repeatedly over time. Kurukop is known for its unique echo, which likely drew hunter-gatherers to the site repeatedly. This distinctive acoustic feature enhanced the creation of rock art, as the people incorporated it into performances that included clapping, singing, and dancing, with the echo amplifying the experience. The echo, a reflection of sound, not only served as a sensory element but also became integral to a local mythological tale, symbolizing the connection between echo, wind, mountains, and breath. **So, Option (d) is correct.**

82. Consider the following statements with reference to the Convention on Cluster Munitions :
    1. It prohibits the use, production, transfer and stockpiling of cluster bombs, which cause indiscriminate harm to civilians.
    2. India is a member of this Convention.
    3. The major military powers like the USA, Russia, and China have signed and ratified the convention.

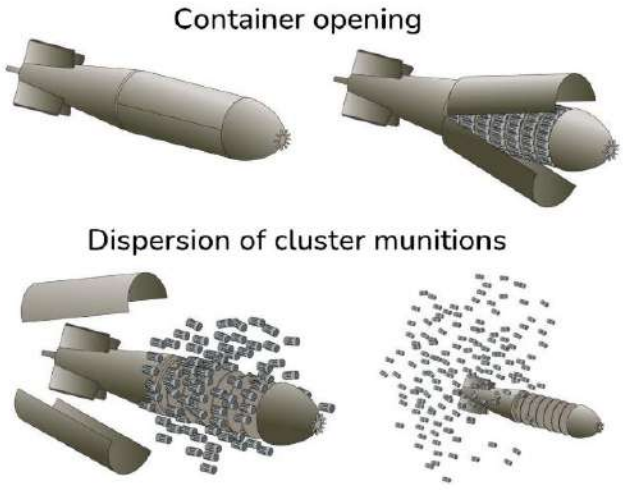
    Which of the statements given above is/are correct ?

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

EXPLANATION:

The Convention on Cluster Munitions (CCM) prohibits under any circumstances the use, development, production, acquisition, stockpiling and transfer of cluster munitions, as well as the assistance or encouragement of anyone to engage in prohibited activities. **So, Statement 1 is correct.**

- A cluster munition is a weapon consisting of a container or dispenser from which many submunitions or bomblets are scattered over wide areas. Many submunitions are unreliable and fail to explode, thus creating a potential humanitarian impact on civilians both during as well as long after the conflict ends.
- The Convention provides a comprehensive international response to the suffering caused by the use of cluster munitions and their remnants, to prevent the proliferation and future use of these weapons.
- The Convention was concluded by the Dublin Diplomatic Conference on Cluster Munitions at Dublin on 30 May 2008.
    - The Convention on Cluster Munitions is an international treaty a total of 123 States have committed to the goals of the Convention. 111 countries are state parties and 12 countries are signatories to this convention.
    - India is not a member of this Convention. **So, Statement 2 is not correct.**
    - The Convention has never been signed or ratified by Major military powers like the US, China, Ukraine, or Russia. **So, Statement 3 is not correct.**
    - Lithuania recently withdrew from the convention due to security concerns over Russia.



83. With reference to the Geological Survey of India (GSI), consider the following statements :
    1. It creates and updates the national geoscientific information and mineral resource assessment.
    2. It is an attached office to the Ministry of Earth Science.
    3. It is headquartered in Kolkata and has six regional offices.

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

EXPLANATION:

The Geological Survey of India (GSI) was set up in 1851 primarily to find coal deposits for the Railways. Over the years, GSI has not only grown into a repository of geo-science information required in various fields in the country but has also attained the status of a geoscientific organisation of international repute. Its main functions relate to creating and updating national geoscientific information and mineral resource assessment.

These objectives are achieved through ground surveys, air-borne and marine surveys, mineral prospecting and investigations, multi-disciplinary geoscientific, geo-technical, geo-environmental and natural hazards studies, glaciology, seism tectonic study, and carrying out fundamental research. **So, Statement 1 is correct.**

Geological Survey of India (GSI), headquartered in Kolkata, has six regional offices located in Lucknow, Jaipur, Nagpur, Hyderabad, Shillong and Kolkata and state unit offices in almost all states of the country. GSI falls under the purview of the Ministry of Mines (Not the Ministry of Earth Science). **So, Statement 2 is not correct, and Statement 3 is correct.**

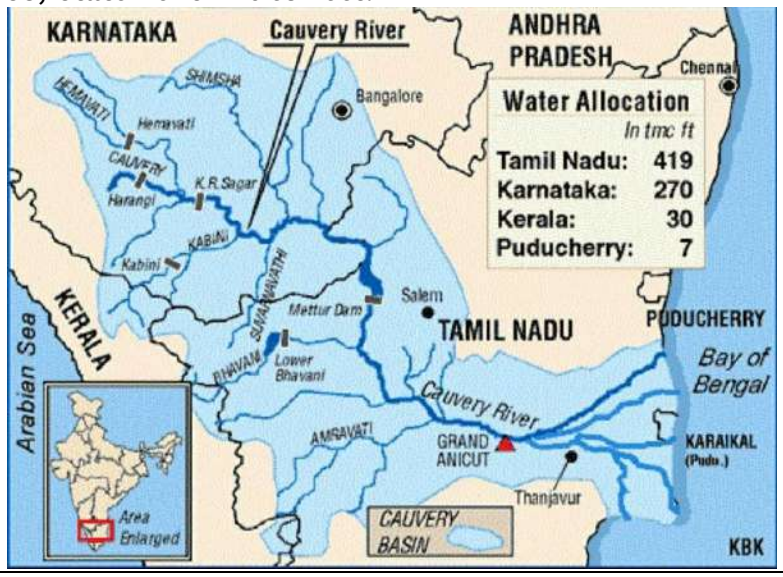
84. Consider the following statements :
1. Hemavathi is a main tributary of the River Kaveri, rising at Chikkamagalore.
2. River Mandovi is the east-flowing river that rises from Jamboti Ghats in Karnataka.
3. The Dhansiri River is the transboundary river, which is an important tributary of the Brahmaputra River.

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

EXPLANATION:

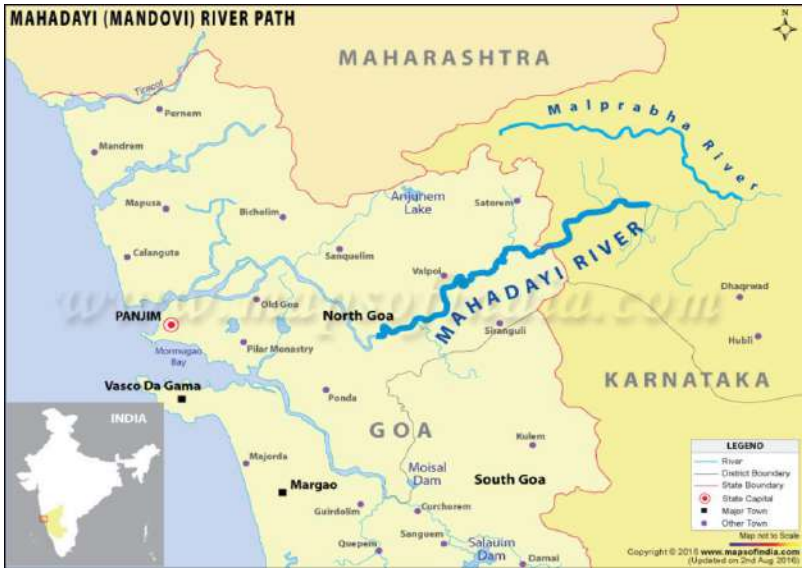
The River Hemavathi originates from the Ballala Rayana Durga in the Chikkamagalore district of Karnataka. The river flows for a distance of 245 kilometres before merging with the River Kaveri. It is considered one of the main tributaries of the Kaveri.

The river flows through the Hassan district and the Mandya district before reaching Krishnarajasagara, where it joins the Kaveri. At Hassan, it is joined by the River Yagachi. The drainage area of the river is spread over an area of 5,410 Square kilometres. The Hemavathi Dam was built across the River Hemavathi in the Hassan district. **So, Statement 1 is correct.**



The Mandovi River is one of the main west-flowing rivers of Goa State. The river runs in the North-East direction for about 5 km and then follows in the Westward direction.

- The Mandovi River rises in the Jamboti Ghats in Karnataka State. At the origin, near the village of Mabulyesheir, it is known as Bhaburnal, which is at an elevation of 600m above M.S.L.
- The total length of this west-flowing river from its origin to its outflow into the Arabian Sea is 62 km.
- The Mandovi River drains an area of 1,550 sq km.
- The important tributaries of the Mandovi River are Sarang, Mahainada, Udel, Lohi, Velvota Bicholim, Mapuce, Nanoda and Khandepar. **So, Statement 2 is not correct.**



The Dhansiri River, situated in northeast India, runs through the states of Assam and Nagaland and forms an important right-bank tributary of the Brahmaputra River.

- The river Dhansiri originates from the southwest corner of Naga Hill below the Laishang Peak. The river course can be divided into two reaches. i) from the source to the confluence of the river Diyung. ii) from a confluence of the Diyung to the Brahmaputra.
- The Dhansiri basin is bounded by the river Brahmaputra in the north, Manipur in the south, Karbianglong district in the west, and the Jhanji basin in the east. There are two major sub-tributaries of the river Dhansiri, Kakodonga and Bhogdoi. **So, Statement 3 is correct.**

85. The 'Ek Ped Maa Ke Naam' campaign is related to,
(a) **Honor the role of mothers in contributing to the health of the planet by raising awareness about sustainable practices.**
(b) Honor the Mother by Planting a tree on International Mother's Day, symbolizing their role in the Environment.
(c) Generate income for mothers by encouraging the planting of trees as a means of environmental conservation and income generation.
(d) Both (a) and (b)

EXPLANATION:

On the occasion of World Environment Day, the Prime Minister launched the 'Ek Ped Maa Ke Naam' campaign, a unique initiative combining environmental responsibility with a heartfelt tribute to mothers. This campaign was inaugurated on June 5, 2024, with the planting of a Peepal tree by the Prime Minister at Buddha Jayanti Park in Delhi.

- Prime Minister emphasized the importance of collective efforts to improve the environment and spoke of India's strides in increasing forest cover over the past decade. This campaign aligns with the nation's quest for sustainable development.
- The essence of 'Ek Ped Maa Ke Naam' is a symbolic gesture—planting a tree in the name of one's mother.
- This simple act serves a dual purpose:
  - honouring the role of mothers in nurturing life and
  - contributing to the health of the planet.
- Through this initiative, participants can create a lasting memory, planting a tree as a living tribute to their mothers, while also addressing the pressing need for environmental preservation.
- Thus, this campaign is not related to generating income, and the campaign was not launched on International Mother's Day. **So, Option (a) is correct.**

86. Consider the following statements about the Vivad se Viswas Scheme 2024 :
1. It aims to reduce income tax litigation by taxpayers filed before various appellate authorities.
2. Under the Vivad Se Vishwas Scheme, taxpayers do not need to pay the disputed tax amount to cancel the litigation case.

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 Vivad se Vishwas. (VSV) Scheme was introduced to provide for dispute resolution in respect of pending income tax litigation.

It allows taxpayers to settle income tax appeals, writs and petitions that are pending before various appellate authorities, including the Supreme Court and high courts, as of July 22, 2024. **So, Statement 1 is correct.**

As per the Finance Act, 2024, the VSV Scheme applies to:

- Taxpayers or the Income Tax Department who have filed appeals, writs, or special leave petitions before an appellate forum and such matters are pending as of the specified date.
- Persons who have filed objections before the Dispute Resolution Panel (DRP) under Section 144C of the Income-tax Act, where the DRP has not issued directions on or before the specified date.
- Persons in whose case the DRP has issued directions under Section 144C(5), but the Assessing Officer has not passed the assessment order under Section 144C(13) by the specified date.
- Persons who have filed an application for revision under Section 264 of the Income-tax Act, and such application is pending as of the specified date.

Under the Vivad Se Vishwas Scheme 2024 (VSV 2.0), more categories of taxpayers are now eligible to apply and settle their pending income tax dispute cases.

As per the scheme, the taxpayers need to pay the disputed tax amount, and then the government will cancel the litigation case and forgo all pending interest and penalty amounts.

The Direct Tax Vivad Se Vishwas Scheme, 2024 (VSV 2.0) would help reduce the income tax litigations which are pending at various levels. The taxpayers availing the scheme would have the benefit of paying only the disputed tax amount to settle the litigation. Any corresponding interest and penalty would stand waived. **So, Statement 2 is not correct.**

87. Consider the following pairs :

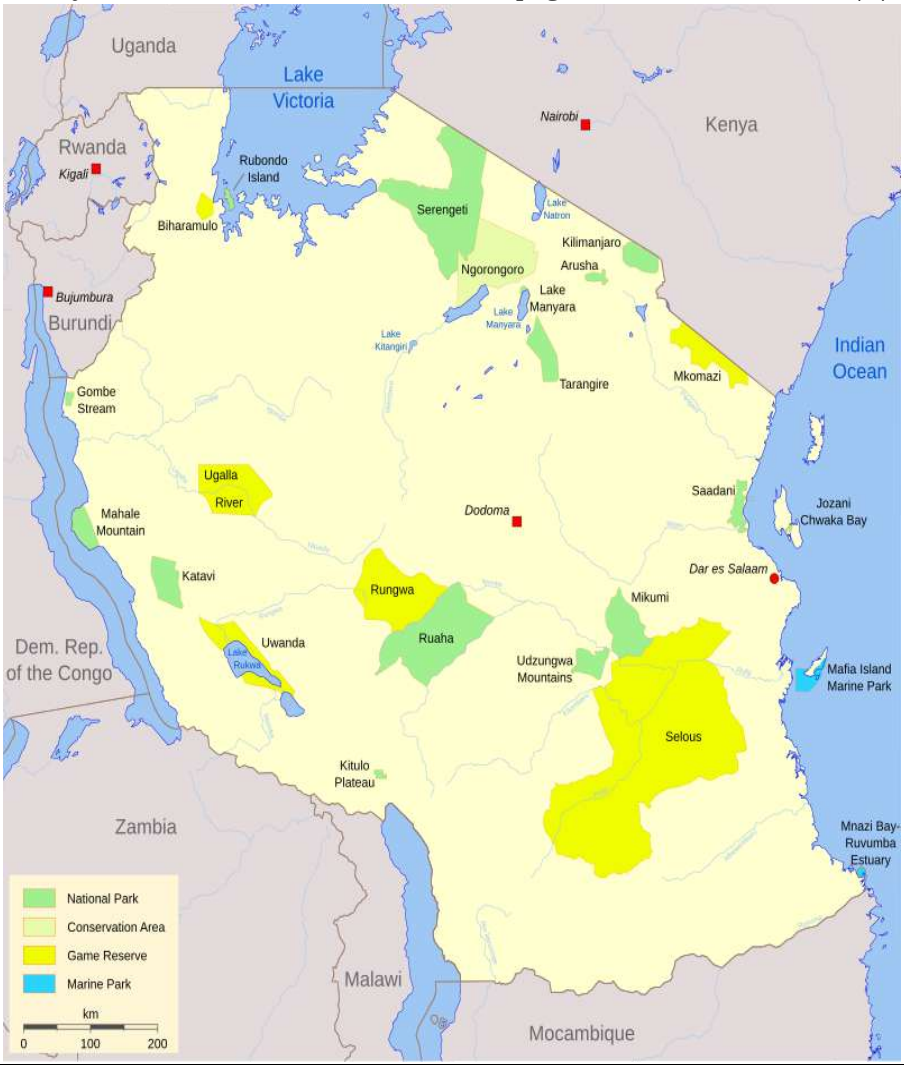
S.No	***Places in the news***		***Countries***
1.	Udzungwa mountain range	-	Kenya
2.	Rottnest Island	-	Myanmar
3.	Itombwe mountain range	-	Democratic Republic of Congo
4.	Ramree Island	-	Australia

How many of the above pairs are correctly matched?

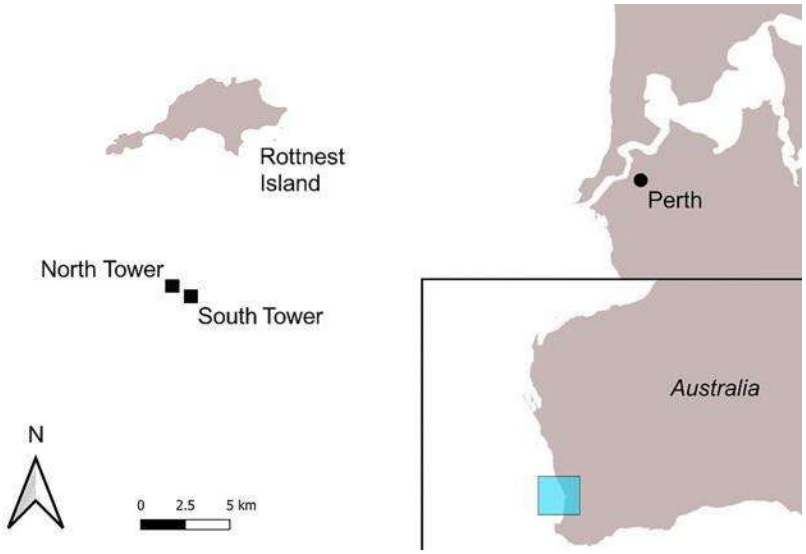
(a) Only one
(b) Only two
(c) Only three
(d) All four

EXPLANATION:

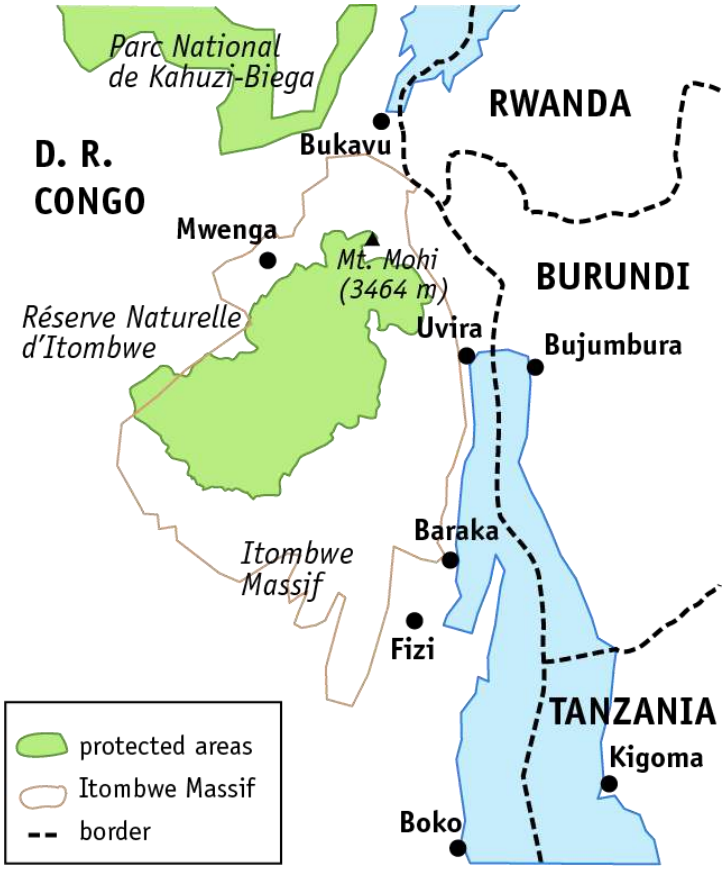
The Udzungwa Mountains are located in Tanzania, specifically in the Iringa and Morogoro regions. They form part of the Eastern Arc Mountains, a biodiversity hotspot in East Africa. Due to their exceptional levels of endemism, they are often referred to as the "Galápagos of Africa." **So, Pair (1) is not correct.**



Rottnest Island is located off the coast of Western Australia, near Fremantle and the city of Perth. It is famous for its unique wildlife, including the quokka, a small marsupial. The island's landscape is composed of limestone and features sand dunes and several salt lakes. Rottnest Island is situated in the Indian Ocean, not in Myanmar. **So, Pair (2) is not correct.**



The Itombwe Mountains (or Itombwe Massif) are located in eastern Democratic Republic of Congo, running north-south beside the Albertine Rift, west of Lake Tanganyika. Several peaks rise above 3,000 m, with Mt. Mohi being the highest at 3,475 m. The Itombwe Nature Reserve is home to an astonishing array of species, including many that are threatened or endangered, such as forest elephants, chimpanzees and Grauer's gorillas. **So, Pair (3) is correct.**



Ramree Island is located off the coast of Rakhine State in Myanmar and is the largest island in the region. Recently, a military airstrike killed over 40 civilians and destroyed more than 500 homes. The island is home to a stalled China-backed deep-sea port project and remains a flashpoint in Myanmar's civil unrest.
So, Pair (4) is not correct.

88. With reference to the species Blackbuck, consider the following statements :
1. It is a herbivorous animal.
2. The males have ringed horns, while females do not have ringed horns.
3. Blackbucks can sustain a cold climate.
4. The females can give birth only once in a year.
5. In India, they are found predominantly in the states of Gujarat, Punjab, Rajasthan and Haryana.

Which of the statements given above are correct ?
(a) 1, 2 and 3
(b) 2 and 5
(c) 3, 4 and 5
(d) **1, 2 and 5**

EXPLANATION:

The Black Buck is an endangered antelope found only in India and Nepal. Blackbuck is a herbivorous animal. They are grazers of grasses. The lifestyle of Black Buck is Solitary or in small group of four.
The IUCN List has declared this species as Nearly Threatened. Hunting of blackbuck is prohibited under Schedule I of the Wildlife Protection Act of 1972. Many national Parks have taken firm steps in the conservation of this species. **So, Statement 1 is correct.**

The blackbuck has sleek dark brown or black fur, with the chest, belly, muzzle, and chin of males covered in white fur. The eyes of the males are covered in white rings.

- They have very good eyesight and are also very fast runners, which comprise its main defence against predators.
- The males have ringed horns that grow up to about 28 inches in length. They weigh about 70 to 95 pounds and grow up to a height of about 32 inches.
- The females are much smaller than their male counterparts. The females also have horns but they are not ringed or spiralled. **So, Statement 2 is correct.**

The black buck mostly lives in open grasslands, dry scrub areas, and thinly forested areas. They are generally seen in areas where there are good sources of water all year round. `Blackbucks cannot sustain a cold climate. **So, Statement 3 is not correct.**

- Hence, they are mostly found in the desert areas of Rajasthan and the coastal areas. It is also found at the foothills of the Himalayas, where the climate is moderate and jungles are not very dense.
- In India, they are found predominantly in the states of Gujarat, Punjab, Rajasthan and Haryana. They are considered one of the fastest running animals on earth. **So, Statement 5 is correct.**

The black bucks are active during the day, and their activities generally slow down with the onset of noon. They generally move in herds.

The size of the herd is usually 3 to 23 individuals, which depends upon the availability of forage and natural habitat. The male attains maturity at the age of 3, while the female attains maturity at the age of 2.

The mating season lasts from August to October and from March to April. The females can give birth twice in a year. **So, Statement 4 is not correct.**

89. Which of the following statements is/are ***not*** correct about Dioxins ?
    1. Dioxins are the by-products of industrial processes.
    2. Dioxins result from natural processes such as volcanic eruptions and forest fires.
    3. The concentration of dioxins is highest in soils and significantly lower in plants.

    Select the correct answer using the codes given below :

    (a) 1, 2 and 3
    (b) 2 only
    (c) 1 and 3
    (d) **None**

EXPLANATION:

Dioxins are a group of chemically related compounds that are persistent environmental pollutants (POPs). They are mainly by-products of industrial processes, but can also result from natural processes, such as volcanic eruptions and forest fires. Dioxins are unwanted by-products of many manufacturing processes, including smelting, chlorine bleaching of paper pulp and the manufacture of some herbicides and pesticides. Uncontrolled waste incinerators (solid waste and hospital waste) are often the worst culprits of environmental release due to incomplete burning. **So, Statements 1 and 2 are correct.**

Dioxins are found throughout the world in the environment and accumulate in the food chain, mainly in animal fatty tissue. Although dioxin formation is local, environmental distribution is global. The highest levels are found in some soils, sediments and food, especially dairy products, meat, fish and shellfish. Very low levels are found in plants, water and air.

More than 90% of human exposure is through food, mainly meat and dairy products, fish and shellfish. Once dioxins enter the body, they last a long time because of their chemical stability and their ability to be absorbed by fat tissue, where they are then stored in the body. Their half-life in the body is estimated to be 7 to 11 years. The higher an animal is in the food chain, the higher the concentration of dioxins. **So, Statement 3 is correct.**

90. With reference to the 'Nickel', consider the following statements :
    1. The natural sources of atmospheric nickel are derived from weathering of rocks and soils, forest fires and volcano activities.
    2. The presence of nickel in the air is due to the combustion of coal and diesel.
    3. It is naturally present in the Earth's crust, usually in combination with oxygen and sulfur.

    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:

Nickel is a hard, ductile, silvery-white transition metal. Natural sources of atmospheric nickel include wind-blown dust, derived from weathering of rocks and soils, forest fires and volcano activities. The presence of nickel in the air also derives from the combustion of coal, diesel oil and fuel oil, and the incineration of waste and sewage. Other environmental sources of nickel include stainless steel kitchen utensils, inexpensive jewelry and tobacco smoking. **So, Statements 1 and 2 are correct.**

Nickel is the 24th most abundant element in the Earth's crust and the 5th most abundant element by weight after iron, oxygen, magnesium and silicon. It belongs to the ferromagnetic elements and is naturally present in the Earth's crust, usually in combination with oxygen and sulfur as oxides and sulfides. Nickel is also found in meteorites and on the ocean floor in lumps of minerals called sea floor nodules. Elemental nickel is a silver-white solid metal with high thermal and electrical conductivity. **So, Statement 3 is correct.**

91. Consider the following :
    1. Cell Membrane
    2. Vacuole
    3. Chloroplast
    4. Lysosomes

    How many of the above-mentioned organelles are present in both the Plant Cell and the Animal Cell?
    (a) Only one
    (b) Only two
    (c) **Only three**
    (d) All four

EXPLANATION:

Generally cells are classified into two types. First one is Prokaryotic cell .It has no true nucleus and no nuclear membrane. Another one is Eukaryotic cell. It has true nucleus consisting of nuclear membrane. Both plant and animals are made up of cells. Both cells are eukaryotic in nature, having a well-defined Cell membrane – bound nucleus.

Plant Cells	Animal Cells
➢ It is usually larger in size. It is hard in nature. ➢ Plant cells have a cell wall in addition to their cell membrane. ➢ Plant cells have chloroplast which contain chlorophyll ➢ Plant cells have large vacuoles. Centrioles are absent.	➢ Animal cells are generally smaller than plant cells. It is not so hard as plant cell. ➢ Cell wall is absent. ➢ Chloroplast is absent. ➢ An animal cell may have many small vacuoles. ➢ Centrioles are found in animal cells.

- Cell Membrane: Present in both plant and animal cells. It regulates the movement of substances in and out of the cell.
- Vacuole: Found in both, but with differences. In plant cells, vacuoles are usually large and central, while in animal cells, they are smaller and less prominent.
- Chloroplast: Only present in plant cells. It is responsible for photosynthesis.
- Lysosomes: Lysosomes are present in almost all animal cells and some non-green plant. They perform intracellular digestion. Lysosomes are called "suicidal bags" as enzymes contained in them can digest the cell's own material when damaged or dead.

Thus, in above-mentioned organelles Cell Membrane, Vacuole and Lysosomes are present in both the Plant Cell and the Animal Cell. **So, Option (c) is correct.**

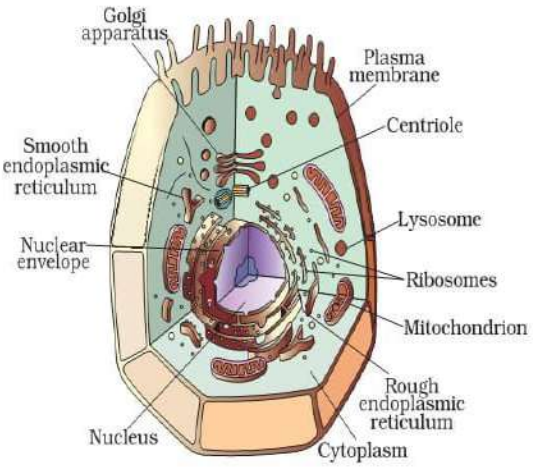


Fig. 5.5: Animal cell

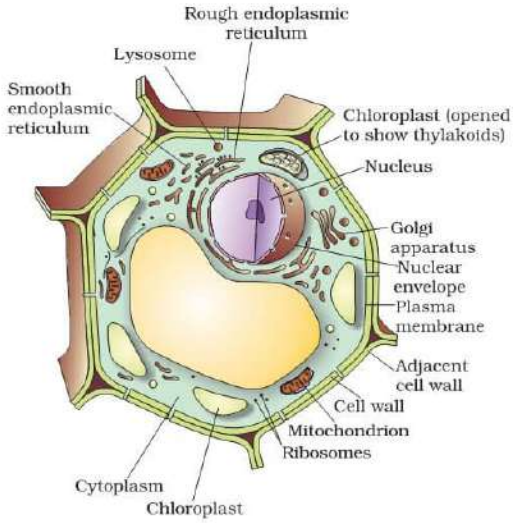


Fig. 5.6: Plant cell

92. Which of the following types of stem cells has the potential to develop into a complete organism?
    (a) **Totipotent**
    (b) Pluripotent
    (c) Multipotent
    (d) Uniponent

EXPLANATION:

Stem cells are cells which have not yet developed a special structure and function but have the capacity to mature into cells with the characteristic shapes and specified functions of other cells in the body, such as heart, skin, muscle and nerve cells. Such cells are microscopic in size and can be found in all multi-cellular organisms.

On the basis of the ability to self-replicate and differentiate into various tissues, stem cells have been categorised into totipotent, pluripotent, multipotent, and unipotent.

- Totipotent (toti = whole, potent = able to) stem cells are the most versatile form and have the utmost potential for differentiation that permits the cells to produce both embryo and extra-embryonic membranes and all the post-embryonic tissues and organs that form an entire functional organism. Zygote is an example of totipotent stem cells, as a few hours after egg fertilisation and division, each cell has the potential to develop into a complete organism.
- Moreover, identical twins are formed as a consequence of the separation of two totipotent cells and their development into two genetically identical embryos. All cells of the early embryo are totipotent until the eight-cell stage; after that, they begin to specialise and form a blastocyst. In this regard, primordial germ cells are also totipotent in nature. After nearly four days, the inner cell mass of the blastocyst becomes pluripotent. **So, Option (a) is correct.**

Pluripotent (pluri = several, potent = able to) stem cells have the potential to differentiate into almost all cell types of the embryo except the cells of the extra embryonic support tissues (placenta and yolk sac). These cells can give rise to all the germ layers but are not able to form extra-embryonic tissues, such as the placenta. As a consequence, they cannot give rise to a complete organism like totipotent stem cells.

- The pluripotent stem cells divide until they begin to specialise in the gastrulation stage.
- Examples comprise embryonic stem cells and cells that are derived from the ectoderm, mesoderm and endoderm germ layers that are formed in the beginning stages of embryonic stem cell differentiation. **So, Option (b) is not correct.**

The multipotent cells (multi = many, potent = able to) have the ability to differentiate into a closely related family of cells. These are the plastic and more differentiated stem cells.

- These multipotent stem cells can specialise into various types of cells within the specific cell lineage. For example, multipotent hematopoietic (adult) stem cells can develop into various types of blood cells, such as red blood cells, white blood cells and platelets.
- Similarly, neural stem cells can give rise to neurons, oligodendrocytes and astrocytes. After differentiation, the abilities of these cells are restricted to the cells of their specific lineage. **So, Option (c) is not correct.**

Unipotent stem cells are undifferentiated cells present in the differentiated tissue with the property of dividing repeatedly. Unipotent stem cells have the ability to only produce cells of their own type and also have the property of self-renewal needed to be labelled as stem cells.

- They can self-renew and differentiate into specialised cells of the tissue, such as epidermal stem cells, muscles, endothelial, etc.
- The repetitive division in unipotent stem cells makes them a promising candidate for therapeutic use in regenerative medicine.

It should be remembered that totipotent and pluripotent stem cells belong to the embryonic life of the organism, whereas multipotent and unipotent stem cells are found in the adult life. In general, multipotent and unipotent stem cells are termed adult stem cells or somatic stem cells. **So, Option (d) is not correct.**

93. Consider the following statements with reference to black plastics :
    1. It is made from renewable materials.
    2. They are used to make cooking spatulas, takeout boxes and kitchen peelers.
    3. It contains heavy metals like mercury, cadmium and lead that are toxic to humans.

    Which of the statements given above is/are correct ?

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

EXPLANATION:

Black plastic is not typically made from renewable materials. It's often made from recycled electronic waste such as computers, TVs, and appliances. **So, Statement 1 is not correct.**

- These electronics typically contain substances such as the flame retardant bromine (to prevent fire hazards), antimony, and heavy metals such as lead, cadmium, and mercury. These substances and heavy metals are known to be toxic to humans at high levels of exposure and are now banned in many countries.
- Black plastics are more likely to contain unregulated amounts of toxic chemicals including heavy metals like mercury, cadmium and lead and flame retardants which can leach into food and pose a hazard to human health. **So, Statement 3 is correct.**
- Black plastic is used to make cooking spatulas, takeout boxes and kitchen peelers. **So, Statement 2 is correct.**
- In addition, black plastics are not recyclable due to their colour.

- The black colour is created by adding a substance called carbon black to the plastic. Carbon black which contains numerous compounds, some of which like polycyclic aromatic hydrocarbons (PAHs) have carcinogenic properties that have lead the International Agency for Research on Cancer (IARC) to classify carbon black as "possibly carcinogenic (substances that may increase risk of cancer) to humans.

94. As per the recent report from the Central Groundwater Board (CGWB), how many of the elements mentioned below was/were found in the ground water across the districts of the country ?
    1. Nitrate contamination
    2. Uranium concentration
    3. Fluoride contamination
    4. Thorium concentration

    Select the correct answer using the codes given below :

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

EXPLANATION:

The Central Ground Water Board (CGWB) is a scientific organization under the Ministry of Jal Shakti, responsible for assessing, monitoring, and managing India's groundwater resources.

The CGWB conducts periodic assessments of groundwater resources at the block, taluka, mandal, tehsil, and firka levels.

- According to the recent report by the Central Groundwater Board, there are 440 districts with excessive nitrates in their groundwater as of 2023, an increase from 359 such districts in 2017. This is a health hazard, particularly for young children, and a source of environmental toxicity.
- The data suggests that about 56% of India's districts have excessive nitrates — defined as more than 45 mg per litre — in their groundwater, largely due to the use of subsidised, nitrogenous, synthetic fertilizer, a key input for farming.
- Other major chemical contaminants affecting groundwater quality are fluoride and uranium.
- Fluoride concentrations exceeding the permissible limit are "a major concern" in Rajasthan, Haryana, Karnataka, Andhra Pradesh, and Telangana. Rajasthan and Punjab reported the highest number of samples with uranium concentration exceeding 100 ppb (parts per billion).
- Anything over 30 ppb of uranium is considered unsafe, and several of these samples were predominant in regions of Rajasthan, Gujarat, Haryana, Punjab, Tamil Nadu, Andhra Pradesh, and Karnataka, where more groundwater is being over-exploited.

Thus, Nitrate, Uranium and Fluoride contaminations were found in the groundwater across the districts of the country, as per the recent report from the Central Groundwater Board (CGWB). **So, Option (c) is correct.**

95. With reference to the 'Farakka barrage', consider the following statements :
1. The Farakka barrage is built to ensure the navigability of the Kolkata port.
2. The barrage is built over the Brahmaputra River.

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:

Farakka Barrage is located in the Murshidabad and Malda districts of West Bengal, about 300 km north of Kolkata.

- It was built to improve the navigability of the Bhagirathi-Hooghly River system and to help in the maintenance of the Kolkata Port.
- The barrage is situated on the Hooghly River (not Bhramaputra), and a feeder canal originating from the right bank of the barrage carries water to the Bhagirathi River, 40 km downstream.
- This project plays a key role in the sharing of Ganga waters between India and Bangladesh. It includes a barrage, feeder canal, navigation facilities, and flood protection measures.
- The feeder canal, with a capacity of 40,000 cusecs, is wider than the Suez Canal, making it one of the largest of its kind in India.
- It also ensures a steady water supply for the NTPC thermal power plant at Farakka (2100 MW) and the Sagardighi power plant (600 MW). **So, Statement 1 is correct and Statement 2 is not correct.**

96. Consider the following pairs :

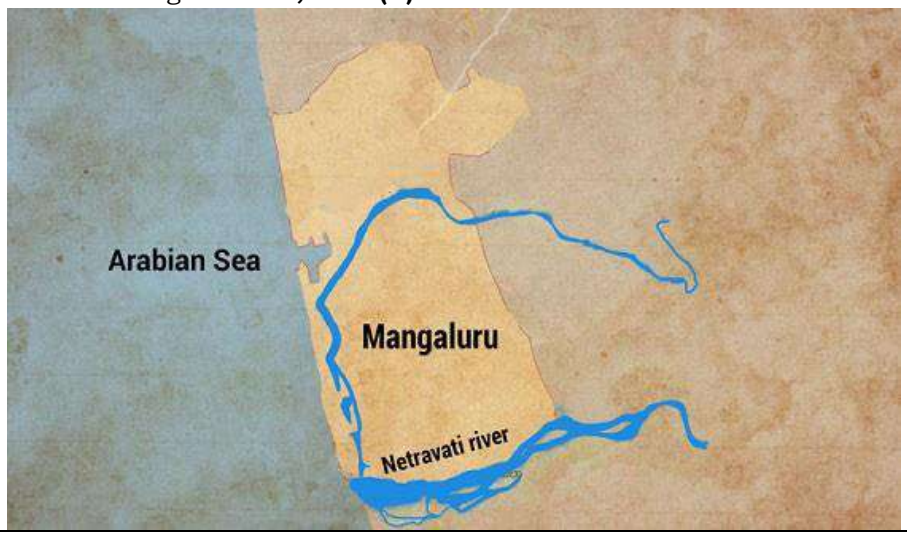
S.No.	***Importance places***		***Associated river***
1.	Mangalore	-	Netravati
2.	Bharuch	-	Tapi
3.	Kochi	-	Bharatapuzha
4.	Mormugao	-	Zuari

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

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

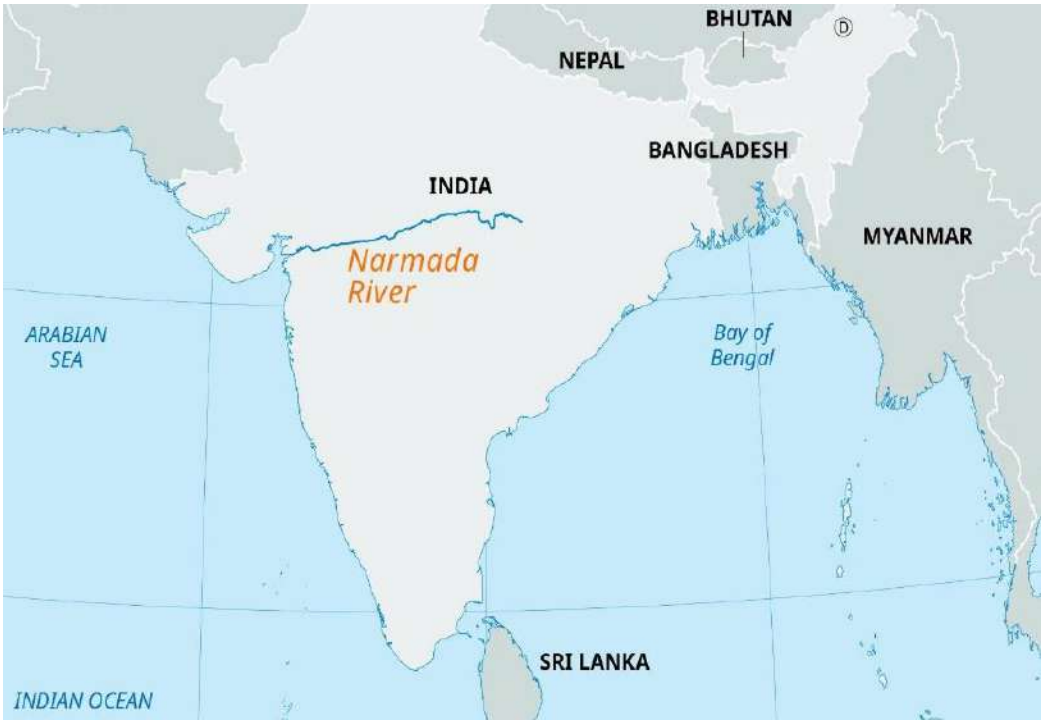
EXPLANATION:

The Netravathi rises between Kudrermukh and Ballalaryan Durga in the Dakshina Kannada district of Karnataka at an elevation of about 1000 m and generally flows in a North-South direction for 40 km up to Gohattu, where it takes a turn towards the West and thereafter flows in East-West direction up to its outfall into the Arabian Sea near Mangalore. **So, Pair (1) is correct.**



Narmada is the largest west-flowing river on the Indian peninsula. It rises from a Kund near Amarkantak in Madhya Pradesh, at an elevation of about 1057 m in the Maikala range. It is also called Rewa. It forms the traditional boundary between North India and South India.

It flows through Madhya Pradesh, Maharashtra, and Gujarat between the Vindhya and Satpura hill ranges before falling into the Gulf of Cambay in the Arabian Sea, which is about 10 km north of Bharuch. Therefore, the river that flows through Bharuch is the Narmada, not the Tapi. **So, Pair (2) is not correct.**



The river that flows through Kochi is the Periyar, not the Bharatapuzha. The River Periyar, 244 km in length, is the longest river in Kerala. It rises at the forest land Sivagiri peak, 80 km South of Devikulam, at an elevation of 2,438m above MSL, and traverses the steep mountainous terrain before joining the Mullayar River. The Bharatapuzha River flows through the Palakkad district, whereas Kochi is located in the Ernakulam district. **So, Pair (3) is not correct.**

The Zuari River is the largest river in Goa and has a total length of 145 kilometres. The 42km stretch of this river is affected by tides and is in a saline zone. The port city of Vasco da Gama lies at the mouth of the Zuari River. This river originates at Hemad-Barshem in the Western Ghats and was earlier known as the Aghanashini in the interior regions of Goa. It flows in the south-west direction through Sanguem, Quepem, Ponda, Salcete, Tiswadi and Mormugao talukas and finally opens up into the Arabian Sea around the Mormugao harbour. **So, Pair (4) is correct.**

97. With reference to Saint Mirabai, consider the following statements :
    1. Saint Mirabai is a disciple of Saint Ravidas.
    2. She is a strict follower of Vaishnavism.
    3. Mirabai was a Rajput princess married into the royal family of Mewar in the sixteenth century.

    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:

Mira Bai was a Hindu mystic and poet whose lyrical songs of devotion to the god Krishna are widely popular in northern India.

- She was born in a family of the devotees of Vishnu; hence, "Mirabai grew up amidst Vaishnava influence. She was an ardent devotee of lord Krishna. **So, Statement 2 is correct.**
- Mira Bai was a Rajput princess, the only child of Ratan Singh, younger brother of the ruler of Merta. Mira Bai was married in 1516 to Bhoj Raj, crown prince of Mewar. **So, Statement 3 is correct.**

- She was devoted to Krishna and composed innumerable, expressing her intense devotion. Her songs also openly challenged the norms of the "upper" castes and became popular with the masses in Rajasthan and Gujarat.
- Mirabai became a disciple of Ravidas, a saint from a caste considered "untouchable", who was part of the then 'untouchable' caste of leather workers. **So, Statement 1 is correct.**
- Mirabai was unique among the poet-saints of the Bhakti movement owing to her socio-economic background as well as her gender.
- Born a princess, she opted for the life of a mendicant and wanderer living a life of austerity and poverty to be spiritual.

98. Consider the following statements :

Statement 1 :

Despite methane remaining in the atmosphere for less time than carbon dioxide, it has a potent impact on near-term global warming.

Statement 2 :

Methane enters into the atmosphere which eventually combines with oxygen to form more carbon dioxide.

Statement 3 :

The decomposition of organic waste in landfills and open dumps contributes to almost 20% of anthropogenic methane emissions.

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:

Methane (CH4) is a powerful greenhouse gas, and is the second-largest contributor to climate warming after carbon dioxide (CO2).

A molecule of methane traps more heat than a molecule of CO2, but methane has a relatively short lifespan of 7 to 12 years in the atmosphere, while CO2 can persist for hundreds of years or more. For example, one tonne of methane can be considered to be equivalent to 28 to 36 tonnes of CO2 if looking at its impact over 100 years.

Methane has accounted for roughly 30 per cent of global warming since pre-industrial times and is proliferating faster than at any other time since record keeping began in the 1980s. **So, Statement 1 is correct.**

Methane (CH_4), composed of one carbon atom bonded to four hydrogen atoms, is the primary component of natural gas and the second most significant greenhouse gas. When released into the atmosphere, methane eventually oxidizes with oxygen, converting into carbon dioxide (CO_2) and contributing to climate change. **So, Statement 2 is correct.**

Methane arises from both natural sources and human activities. Currently, an estimated 60% of global methane emissions are the result of human activities, with the waste sector being one of the fastest-growing sources. The primary contributor to methane emissions in the waste sector is the decomposition of organic waste in landfills, open dumps, and wastewater treatment facilities, which together account for nearly 20% of anthropogenic methane emissions. Other major sources of methane include agriculture and fossil fuel production.

So, Statement 3 is correct, but neither Statement 2 nor Statement 3 explains Statement 1.

99. Consider the following criteria :

Criteria 1 :

The country borders both the Mediterranean Sea and the Red Sea.

Criteria 2 :

The country borders the Gaza Strip of Palestine and Israel to the northeast.

Criteria 3 :

The Nile River is the country's primary water resource.

Which one of the following countries satisfies all the above criteria ?

(a) Sudan
(b) **Egypt**
(c) Algeria
(d) Ethiopia

EXPLANATION:

Sudan is the third largest country in Africa, with an area of 1,886,068 sq. km. It shares borders with seven countries: South Sudan, Ethiopia, Eritrea, Egypt, Libya, Chad, and Central African Republic.

- Sudan has a coastline along the Red Sea, giving it access to the Indian Ocean and indirectly to the Mediterranean Sea via the Suez Canal. It does not directly border the Mediterranean Sea.
- The Nile River is Sudan's most important geographic feature.
- The White Nile enters from the south.
- It joins the Blue Nile (from Ethiopia) at Khartoum to form the main Nile River, which flows northward.

So, Option (a) is not correct.

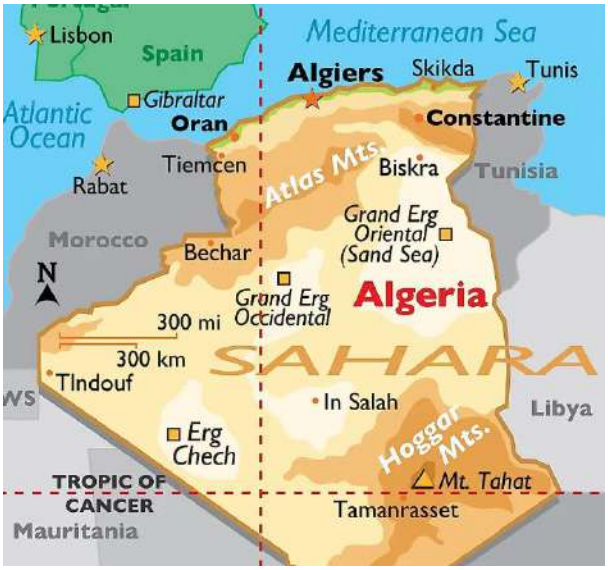
Egypt, located in the northeast corner of Africa, is uniquely positioned with borders touching multiple key regions. It is bordered by Libya to the west, Sudan to the south, the Mediterranean Sea to the north, and the Red Sea to the east.

- Egypt also extends into the Sinai Peninsula, a part of Asia, where it shares a border with Israel. It also borders the Gaza Strip, with the Philadelphia Corridor marking a 13 km buffer zone between Egypt and Gaza.
- The Rafah Border Crossing serves as the main point of contact between the two. This makes Egypt one of the only countries to border both Israel and the Gaza Strip.
- Additionally, the Suez Canal, a strategic man-made waterway cutting through Egypt, connects the Mediterranean Sea to the Red Sea, providing the shortest maritime route from Europe to Asia. Water resources in Egypt are dominated by the Nile River, which supplies about 90% of the country's freshwater.
- The annual water share from the Nile remains fixed at 55 billion cubic meters since 1954, with a minor supplement from non-renewable underground sources.

Therefore, Egypt is the only country that fulfills all three specified criteria: it borders both the Mediterranean Sea and the Red Sea, shares borders with both Israel and the Gaza Strip, and depends primarily on the Nile River for its water supply. **So, Option (b) is correct**.

Algeria is a country located in the Maghreb region of North Africa. It is located in the Northern Hemisphere. As the Prime Meridian passes through the country, it has territory in both the Eastern and Western Hemispheres.

- Algeria is bordered by seven countries. These are Tunisia, Libya, and Niger to the northeast, east, and southeast respectively. Mali, Mauritania, and Western Sahara lie to the southwest. Morocco borders Algeria to the west.
- The country has a coastline on the Mediterranean Sea to the north but it does not have its border with red sea.
- River Nile is not the primary water source of Algeria. **So, Option (c) is not correct.**



Ethiopia is a country in East Africa in the Northern and Eastern Hemispheres of the Earth. It is a landlocked country bordered by six countries. These are Eritrea, Djibouti, Somalia, Kenya, South Sudan, and Sudan to the north, northeast, east, south, west, and northwest respectively.

Ethiopia does not share its border with Israel and Gaza.

- Ethiopia has three main drainage systems. To the east, the Genale and Shebele Rivers rise in the Eastern Highlands and drain into the Indian Ocean.
- To the southwest, the lakes and Awash River form the Rift Valley internal drainage system.
- To the west is the system formed by the Baro, Tekeze, and the Blue Nile Rivers that flow into Sudan.

So, Option (d) is not correct.

100. Consider the following information :

Sl. No.	Inscriptions of kingdoms during the post-Mauryan period		Description of the inscription
1.	Uttaramerur inscriptions	-	It provides details on how the Gram Sabha was organized during the Chola period
2.	Naneghat cave inscription	-	It records the celebrations, sacrifices, and gifts made by the Satavahana rulers
3.	Hathigumpha inscription	-	It mentions that King Kharavela of the Chedi dynasty was a follower of Jainism

How many of the pairs given above is/are correct?

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

EXPLANATION:

Uttaramerur inscriptions is a 1,100-year-old inscription from Tamil Nadu, built during the reign of Chola king Parantaka I, describing processes of village self-governance. The inscription gives details of the functioning of the local sabha, i.e. the village assembly. A sabha was an assembly exclusively of Brahmans and had specialized committees tasked with different things. The Uttaramerur inscription details how members were selected, the required qualifications, their roles and responsibilities, and even the circumstances in which they could be removed. **So, Pair (1) is correct.**

- Two inscriptions (919 A.D and 921 A.D) on a Brahmadeya (tax-free land gifted to Brahamans) from Uttaramerur (historically called Uttaramallur Caturvedimangalam) give details of the process of electing members to various committees that administered the affairs of a Brahmin settlement.
- This village was divided into 30 wards. One member was to be elected from each ward. These members would become members of different committees: public works committee, tank committee, garden committee, famine committee and gold committee.
- The prescribed qualifications for becoming a ward member were clearly spelt out. A male above 35 but below 70 who had a share of the property and a house of his own and knowledge of Vedas and bhasyas was considered eligible.
- The names of qualified candidates from each ward were written on the palm leaf slips and put into a pot (kudavolai). The eldest of the assembly engaged a boy to pull out one slip and read the name of the person selected.

The Naneghat cave inscription near Pune records the celebration of sacrifices and gifts in the form of land and animals by Naganika to the priests for officiating in these ceremonies, reflecting her high political position. Naganika was a Satavahana queen and the wife of King Satakarni, who performed a number of Vedic sacrifices. This inscription has several very important and interesting cultural aspects, such as Kings, Dynasties, and Religious influences, and most importantly, it paints a vivid picture of Queen Naganika. **So, Pair (2) is correct.**

The Hathigumpha inscription is the most important record regarding the history and achievements of King Kharavela. He belonged to the third generation of the Chedi-Mahameghavahana dynasty of Kalinga. The inscription indicates that Karavela was Jaina by Birth. The Hathigumpha inscription contains a detailed account of Kharavela from his childhood to the thirteenth year of his reign in perfect chronological order. No epigraphical record so far discovered in India maintains such a chronological sequence about a ruler and his achievements. **So, Pair (3) is correct.**

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