

## UPSC PRELIMS 2023

### *Answer Key with Explanation*

#### 1. Consider the following statements with reference to India:

1. According to the 'Micro, Small and Medium Enterprises Development (MSMED) Act, 2006', the 'medium enterprises' are those with investments in plant and machinery between Rs. 15 crore and Rs. 25 crore.
2. All bank loans to the Micro, Small and Medium Enterprises qualify under the priority sector.

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

**Correct Option: (b)**

#### **Explanation:**

- ◆ **Option 1 is incorrect:** Union Ministry of Micro, Small and Medium Enterprises (M/o MSMEs) has issued Gazette notification to pave way for implementation of the upward revision in the definition and criteria of MSMEs in the country. The new definition and criterion will come into effect from 1st July, 2020.
- ◆ After 14 years since the MSME Development Act came into existence in 2006, a revision in MSME definition was announced in the Atmnirbhar Bharat package on 13th May, 2020. As per this announcement, the definition of Micro manufacturing and services units was increased to Rs. 1 Crore of investment and Rs. 5 Crore of turnover. The limit of small unit was increased to Rs. 10 Crore of investment and Rs 50 Crore of turnover. Similarly, the limit of medium unit was increased to Rs. 20 Crore of investment and Rs. 100 Crore of turnover. The Government of India on 01.06.2020 decided for further upward revision of the MSME Definition. For medium Enterprises, now it will be Rs. 50 Crore of investment and Rs. 250 Crore of turnover.
- ◆ **Option 2 is correct:** The Government has taken measures for easing access to credit for MSMEs. As reported by Reserve Bank of India (RBI) some of the measures taken by RBI for improving flow of credit to MSME sector are as under:
- ◆ **Priority Sector Lending Guidelines:** In terms of Master Direction on 'Priority Sector Lending (PSL) – Targets and Classification' dated September 4, 2020, all bank loans to MSMEs conforming to the conditions prescribed therein qualify for classification under priority sector lending.
- ◆ **Collateral requirements of MSME units:** Scheduled Commercial Banks have been mandated not to accept collateral security in the case of loans up to ₹10 lakh extended to units in the MSE sector.

- ◆ **Trade Receivables Discounting System (TReDS):** In order to address the problem of delayed payments to MSMEs, RBI has issued guidelines for setting up and operating Trade Receivables Discounting System (TReDS). The scheme facilitates the financing of trade receivables of MSMEs from corporate and other buyers, including government departments and public sector undertakings (PSUs) through multiple financiers electronically.

Link: <https://msme.gov.in/faqs/q1-what-definition-msme>

<https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1909926#:~:text=Priority%20Sector%20Lending%20Guidelines%3A%20In,classification%20under%20priority%20sector%20lending.>

**2. With reference to Central Bank digital currencies, consider the following statements:**

1. It is possible to make payments in a digital currency without using US dollar or SWIFT system.
2. A digital currency can be distributed with a condition programmed into it such as a time-frame for spending it.

With of the statements given above is/are correct?

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

**Correct Option: (c)**

**Explanation:**

- ◆ Statement 1 is correct: Alternatives to SWIFT and the U.S. dollar are coming from two directions: cryptocurrencies and central bank digital currencies. Cryptocurrencies (or “crypto”) are a form of payment that can circulate without the need for a central monetary authority such as a government or bank and are created using distributed ledger technologies and cryptographic techniques that enable people to buy, sell or trade them securely in a decentralized way. These decentralized networks are controlled by no one and enable privacy from government intrusion or intervention.

Link: <https://www.brookings.edu/techstream/the-innovators-dilemma-and-u-s-adoption-of-a-digital-dollar/>

- ◆ Statement 2 is correct: Currently, access to digital central bank money is limited to central bank operating hours, traditionally less than 24 hours a day and usually five days a week. CBDCs could be available 24 hours a day and seven days a week or only during certain specified times (such as the operating hours of large value payment systems). CBDC could be available permanently or for a limited duration (eg it could be created, issued and redeemed on an intraday basis).

Link: <https://www.bis.org/cpmi/publ/d174.pdf>

**3. In the context of finance, the term ‘beta’ refers to**

- (a) the process of simultaneous buying and selling of an asset from different platforms
- (b) an investment strategy of a portfolio manager to balance risk versus reward
- (c) a type of systemic risk that arises where perfect hedging is not possible
- (d) a numeric value that measures the fluctuations of a stock to changes in the overall stock market

**Correct Option: (d)**

**Explanation:**

- ◆ Beta is a numeric value that measures the fluctuations of a stock to changes in the overall stock market. Beta measures the responsiveness of a stock's price to changes in the overall stock market. On comparison of the benchmark index for e.g. NSE Nifty to a particular stock returns, a pattern develops that shows the stock's openness to the market risk. This helps the investor to decide whether he wants to go for the riskier stock that is highly correlated with the market (beta above 1), or with a less volatile one (beta below 1).
- ◆ Beta is the key factor used in the Capital Asset Price Model (CAPM) which is a model that measures the return of a stock. The volatility of the stock and systematic risk can be judged by calculating beta. A positive beta value indicates that stocks generally move in the same direction with that of the market and the vice versa.

Link: <https://economictimes.indiatimes.com/definition/beta>

**4. Consider the following statements:**

1. The Self-Help Group (SHG) programme was originally initiated by the State Bank of India by providing microcredit to the financially deprived.
2. In an SHG, all members of a group take responsibility for a loan that an individual member takes.
3. The Regional Rural Banks and Scheduled Commercial Banks support SHGs.

How many of the above statements are correct

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

**Correct Option: (b)**

**5. Consider the following statements:**

Statement-I:

India's public sector health care system largely focuses on curative care with limited preventive, promotive and rehabilitative care.

Statement-II:

Under India's decentralized approach to health care delivery, the States are primarily responsible for organizing health services.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Correct Option: (b)**

**6. Consider the following statements:**

Statement-I:

According to the United Nations' 'World Water Development Report, 2022', India extracts more than quarter of the world's groundwater withdrawal each year.

Statement-II:

India needs to extract more than a quarter of the World's groundwater each year to satisfy the drinking water and sanitation needs of almost 18% of world's population living in its territory.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Correct Option: (c)**

**7. Consider the following statements:**

1. According to the Constitution of India, the Central Government has a duty to protect States from internal disturbances.
2. The Constitution of India exempts the States from providing legal counsel to a person being held for preventive detention.
3. According to the Prevention of Terrorism Act, 2002, confession of the accused before the police cannot be used as evidence.

How many of the above statements are correct?

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

**Correct Option: (a)**

**Explanation:**

- ◆ Option (a): Article 355, It shall be the duty of the Union to protect every State against external aggression and internal disturbance and to ensure that the government of every State is carried on in accordance with the provisions of this Constitution.
- ◆ Option (b) : It doesn't exempt
- ◆ Option (c): A confession is an explicit admission of guilt from an accused. Evidence extracted from an accused often proves to be substantive as no evidence can supersede an explicit confession from an accused.

**8. Which one of the following countries has been suffering from decades of civil strife and food shortages and was in news in the recent past for its very severe famine?**

- (a) Angola
- (b) Costa Rica

(c) Ecuador

(d) Somalia

**Correct Option: (d)**

**9. Consider the following statements:**

1. In India, the Biodiversity Management Committees are key to the realization of the objectives of the Nagoya Protocol.
2. The Biodiversity Management Committees have important functions in determining access and benefit sharing, including the power to levy collection fees on the access of biological resources within its jurisdiction.

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

**Correct Option: (c)**

**Explanation:**

- ◆ Biodiversity Management Committees (BMC) are created as per the Biological Diversity Act 2002 for promoting conservation, sustainable use, and documentation of biological diversity.

**Option 1 is correct**

**Option 2 is also correct**

- ◆ The People's Biodiversity Registers shall be maintained and validated by the Biodiversity Management Committees. It shall then be counter signed by the Board through its authorized officer.
- ◆ The BMC shall also maintain a Register giving information about the details of the access to biological resources and traditional knowledge granted, details of the collection fee imposed and details of the benefits derived and the mode of their sharing from area within its jurisdiction.

**10. Consider the following statements in respect of election to the President of India:**

1. The members nominated to either House of the Parliament or the Legislative Assemblies of States are also eligible to be included in the Electoral College.
2. Higher the number of elective Assembly seats, higher is the value of vote of each MLA of that State.
3. The value of vote of each MLA of Puducherry is higher than that of Arunachal Pradesh because the ratio of total population to total number of elective seats in Puducherry is greater as compared to Arunachal Pradesh.

How many of the above statements are correct?

(a) Only one

(b) Only two

(c) Only three

(d) All four

**Correct Option: (d)**

**Explanation:**

- ◆ Option 1 and 2 and 3 is wrong

**11. Consider the following countries:**

1. Bulgaria
2. Czech Republic
3. Hungary
4. Latvia
5. Lithuania
6. Romania

How many of the above-mentioned countries share a land border the Ukraine?

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

**Correct Option: (a)**

**Explanation:**

- ◆ Statements 3 and 6 are correct: With an area of 600,000 km<sup>2</sup>, it is the second-largest country in Europe after European Russia, twice the size of Italy or slightly smaller than the US state of Texas. Ukraine borders Belarus, Hungary, Moldova, Poland, Romania, Russia, and Slovakia.



**12. With reference to the Earth's atmosphere, which one of the following statements is correct?**

- (a) The total amount of insolation received at the equator is roughly about 10 times of that received at the poles.

- (b) Infrared rays constitute roughly two-thirds of insolation.
- (c) Infrared waves are largely absorbed by water vapour that is concentrated in the lower atmosphere.
- (d) Infrared waves are a part of visible spectrum of electromagnetic waves of solar radiation.

**Correct Option: (c)**

**Explanation:**

- ◆ **Option a is incorrect:** On average, the insolation received at the equator is roughly two to three times that received at the poles, rather than 10 times. This variation in insolation is one of the primary factors contributing to the temperature differences between equatorial and polar regions.
- ◆ **Option b is incorrect:** Solar radiation consists of various wavelengths, including ultraviolet (UV), visible light, and infrared (IR). While it is true that a significant portion of solar radiation is in the form of infrared rays, it is not accurate to state that they constitute two-thirds of insolation. The exact proportion of infrared radiation in insolation can vary depending on multiple factors, such as atmospheric conditions and the position of the sun.
- ◆ **Option c is correct:** Infrared waves, specifically in the form of longwave radiation, are absorbed by certain greenhouse gases, including water vapor, in the lower atmosphere. Water vapor is the most abundant greenhouse gas in the Earth's atmosphere, and it has strong absorption properties in the infrared portion of the electromagnetic spectrum. As infrared radiation passes through the atmosphere, water vapor molecules can absorb and re-emit a significant portion of the longwave radiation. This process contributes to the greenhouse effect, where certain gases trap heat in the atmosphere, leading to an overall increase in global temperatures.
- ◆ **Option d is incorrect:** Infrared waves are not part of the visible spectrum of electromagnetic waves in solar radiation. The visible spectrum refers to the range of electromagnetic waves that are visible to the human eye, which includes wavelengths between approximately 400 to 700 nanometers. Infrared waves, on the other hand, exist at longer wavelengths beyond the red end of the visible spectrum. They have wavelengths longer than approximately 700 nanometers. Infrared radiation is typically divided into three categories: near-infrared (NIR), mid-infrared (MIR), and far-infrared (FIR), with increasing wavelengths.

**13. Consider the following statements:**

Statements-I:

The soil in tropical rain forests is rich in nutrients.

Statements-II:

The high temperature and moisture of tropical rain forests cause dead organic matter in the soil to decompose quickly.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Correct Option: (d)**

**Explanation:**

- ◆ Statement 1 is incorrect
- ◆ **Statement 2 is correct:** The high levels of precipitation and year-round warmth in tropical rainforest regions contribute to the breakdown of organic matter and the rapid recycling of nutrients within the ecosystem. This process, known as nutrient cycling, leads to the accumulation of nutrients in the soil. Tropical rainforest soils are often classified as “oxisols” or “ultisols.” Oxisols are typically found in older rainforest regions and are characterized by their highly weathered nature. Despite being highly weathered, oxisols can still contain substantial amounts of nutrients due to the efficient nutrient cycling processes.

**14. Consider the following statements:**

Statements-I:

The temperature contrast between continents and oceans is greater during summer than in winter.

Statements-II:

The specific heat of water is more than that of land surface.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Correct Option: (d)**

**Explanation:**

- ◆ **Statement 1 is incorrect:** The temperature contrast between continents and oceans is generally greater during summer than in winter. This phenomenon is primarily due to the differences in heat capacity and thermal properties of land and water. Water has a higher heat capacity than land, meaning it requires more energy to raise its temperature compared to an equivalent mass of land. As a result, oceans tend to heat up and cool down more slowly than landmasses. During the summer, when solar radiation is at its peak, land surfaces absorb and retain heat more efficiently than bodies of water. This leads to higher land temperatures during the summer season.
- ◆ **Statement 2 is correct:** The specific heat capacity of water is higher than that of land surfaces. Specific heat capacity refers to the amount of heat energy required to raise the temperature of a given substance by a certain amount. Water has a higher specific heat capacity compared to land surfaces, which means it can absorb and store more heat energy for a given mass. As a result, water takes longer to heat up and cool down compared to land. During the summer, when solar radiation is more intense, land surfaces heat up quickly and reach higher temperatures compared to bodies of water. Conversely, during the winter, land surfaces cool down more rapidly than water, leading to relatively warmer ocean temperatures.

**15. Consider the following statements:**

1. In a seismograph, P waves are recorded earlier than S waves.
2. In P waves, the individual particles vibrate to and fro in the direction of wave propagation whereas in S waves, the particles vibrate up and down at right angles to the direction of wave propagation.



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

**Correct Option: (c)**

**Explanation:**

- ◆ **Statement 1 is correct:** P waves are generally recorded earlier than S waves. P waves, also known as primary waves or compressional waves, are the first waves to arrive at a seismograph station after an earthquake occurs. These waves are characterized by their ability to travel through solids, liquids, and gases. S waves travel slower and arrive at the seismograph station after the P waves. Unlike P waves, S waves can only travel through solids and are responsible for the side-to-side shaking motion during an earthquake.
- ◆ **Statement 2 is correct:** In P waves (primary waves or compressional waves), the individual particles vibrate back and forth in the same direction as the wave propagation. This means that as the P wave moves through a medium, such as the Earth's crust during an earthquake, the particles within the medium oscillate parallel to the direction of the wave. In S waves (secondary waves or shear waves), the particles vibrate in a perpendicular direction to the direction of wave propagation. Unlike P waves, which cause particles to compress and expand parallel to the wave's direction, S waves cause particles to move in a perpendicular direction. This motion is commonly described as an up-and-down or side-to-side motion, where the particles oscillate at right angles to the direction of wave propagation.

**16. With reference to coal-based thermal power plants in India, consider the following statements:**

1. None of them uses seawater.
2. None of them is set up in water-stressed district.
3. None of them is privately owned.

How many of the above statements are correct?

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

**Correct Option: (d)**

**17. 'Wolbachia method' is sometimes talked about with reference to which one of the following?**

- (a) Controlling the viral diseases spread by mosquitoes
- (b) Converting crop residues into packing material
- (c) Producing biodegradable plastics
- (d) Producing biochar from thermo-chemical conversion of biomass

**Correct Option: (a)**

**Explanation:**

- ◆ Wolbachia are extremely common bacteria that occur naturally in 50 per cent of insect species, including some mosquitoes, fruit flies, moths, dragonflies and butterflies.
- ◆ The World Mosquito Program's innovative Wolbachia method is helping communities around the world prevent the spread of mosquito-borne disease.
- ◆ It works everywhere that *Aedes aegypti* is found, it complements other techniques and has proven potential for long-term success.

<https://www.indiatimes.com/explainers/news/wolbachia-method-to-curb-the-spread-of-dengue-fever-565682.html>

**18. Consider the following activities:**

1. Spreading finely ground basalt rock on farmlands extensively
2. Increasing the alkalinity of oceans by adding lime
3. Capturing carbon dioxide released by various industries and pumping it into abandoned subterranean mines in the form of carbonated waters

How many of the above activities are often considered and discussed for carbon capture and sequestration?

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

**Correct Option: (c)**

**19. 'Aerial metagenomics' best refers to which one of the following situations?**

- (a) Collecting DNA samples from air in a habitat at one go
- (b) Understanding the genetic makeup of avian species of a habitat
- (c) Using air-borne devices to collect blood samples from moving animals
- (d) Sending drones to inaccessible areas to collect plant and animal samples from land surfaces and water bodies

**Correct Option: (a)**

**Explanation:**

- ◆ Genome-centric metagenomics is a field occupied with the retrieval of genomes from samples containing a mixture of microbes, such as soil, wastewater, or the gastrointestinal system. Typically, the overall aim is to study the structure and function of the microbes, often in the dynamic context of their natural environments or by their association with a host (microbiomics).
- ◆ Metagenomics | From sample-to-answer | DNASense

**20. 'Microsatellite DNA' is used in the case of which one of the following?**

- (a) Studying the evolutionary relationships among various species of fauna
- (b) Stimulating 'stem cells' to transform into diverse functional tissues
- (c) Promoting clonal propagation of horticultural plants
- (d) Assessing the efficacy of drugs by conducting series of drug trials in a population

**Correct Option: (a)**

**Explanation:**

- ◆ Microsatellites are distributed nonrandomly in the genomic region, most probably due to their effect on cell cycle, DNA replication, chromatin organization, recombination, and gene activity, etc. (Li et al., 2002). Microsatellites are present in both prokaryotes and eukaryotes, but infrequent in Human Immunodeficiency Virus Type 1 (HIV-1). Thus A seems to be correct answer
- ◆ Microsatellite DNA - an overview | ScienceDirect Topics

**21. With reference to the Indian History, Alexander Rea, A. H. Longhurst, Robert Sewell, James Burgess and Walter Elliot were associated with**

- (a) archaeological excavations
- (b) establishment of English Press in Colonial India]
- (c) establishment of Churches in Princely States
- (d) construction of railways in Colonial India

**Correct Option: (a)**

**Explanation:**

- ◆ These are names of archaeologist who worked mainly in South British India.

**22. Consider the following pairs:**

	State	Well known for
1.	Besnagar	Shaivite cave shrine
2.	Bhaja	Buddhist cave shrine
3.	Sittanavasal	Jain cave shrine

How many of the above pairs are correctly matched?

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

**Correct Option: (b)**

**Explanation:**

- ◆ Bhaja Caves are a group of 22 rock-cut caves dating back to the 2nd century BC located in the city of Pune, India. Bhaja Caves are the best example of Buddhist cave architecture in India.
- ◆ Sittanavasal Cave (also, Arivar Koil) is a 2nd-century Tamil ?rama?a complex of caves in Sittanavasal village in Pudukottai district of Tamil Nadu, India. The Sittanavasal Cave, also known as Arivar Kovil, is a Jain monastery of the 7th century
- ◆ Besnagar was probably an important ancient temples and pilgrimage site. Two major archaeological excavations in the 20th-century have revealed the pillar to be a part of an ancient V?sudeva temple site.

**23. Consider the following statements:**

Statement-I:

7th August is declared as the National Handloom Day.

Statement-II:

It was in 1905 that the Swadeshi Movement was launched on the same day.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Correct Option: (a)**

**Explanation:**

- ◆ In 2015, the Government of India decided to designate the 7th August every year, as the National Handloom Day.
- ◆ August 7 was designated to celebrate National Handloom Day to memorialize the 'Swadeshi' Movement.
- ◆ An official declaration began in Calcutta Town Hall to boycott foreign goods in favour of Indian-made items on August 7, 1905.
- ◆ National Handloom Day | MyGov.in

**24. Consider the following statements in respect of the National Flag of India according to the Flag Code of India, 2002:**

Statement-I:

One of the standard sizes of the National Flag of India is 600 mm \* 400 mm.

Statement-II:

The ratio of the length to the height (width) of the Flag shall be 3:2.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Correct Option: (d)**

**Explanation:**

The standard sizes of the National Flag shall be as follows:

- ◆ Flag Size No 1 – Dimensions in mm = 6300 x 4200
- ◆ Flag Size No 2 – Dimensions in mm = 3600 x 2400
- ◆ Flag Size No 3 – Dimensions in mm = 2700 x 1800
- ◆ Flag Size No 4 – Dimensions in mm = 1800 x 1200
- ◆ Flag Size No 5 – Dimensions in mm = 1350 x 900

- ◆ Flag Size No 6 – Dimensions in mm = 900 x 600
- ◆ Flag Size No 7 – Dimensions in mm = 450 x 300
- ◆ Flag Size No 8 – Dimensions in mm = 225 x 150
- ◆ Flag Size No 9 – Dimensions in mm = 150 x 100

The ratio of width of the flag to its length is two to three.

National Flag - Embassy of India | Finland and Estonia - (indembhelsinki.gov.in)

**25. Consider the following statements in respect of the Constitution Day:**

Statement-I:

The Constitution Day is celebrated on 26th November every year to promote constitutional values among citizens.

Statement-II:

On 26th November, 1949, the constituent Assembly of India set up a Drafting Committee under the Chairmanship of Dr. B. R. Ambedkar to prepare a Draft Constitution of India.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Correct Option: (d)**

**Explanation:**

- ◆ Constitution Day also known as ‘Samvidhan Divas’, is celebrated in our country on 26th November every year to commemorate the adoption of the Constitution of India.
- ◆ On 26th November 1949, the Constituent Assembly of India adopted the Constitution of India, which came into effect from 26th January 1950.

**26. Consider the following statements:**

Statement – I:

Switzerland is one of the leading exporters of gold in terms of value.

Statement – II:

Switzerland has the second largest gold reserves in the world.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect.
- (d) Statement-I is incorrect but Statement-II is correct.

**Correct Option: (c)**

**Explanation:**

- ◆ In 2021, Switzerland exported \$86.7B in Gold, making it the 1st largest exporter of Gold in the world. At the same year, Gold was the 1st most exported product in Switzerland.
- ◆ The USA has held its first position in gold reserves for several years. Gold makes up 79% of the USA's foreign reserve (the only countries above this are Venezuela with 82.4% and Portugal with 80.1%). It has nearly the stock of the following top three countries combined. USA is followed by the Germany and Italy.
- ◆ Top 10 Countries With The Largest Gold Reserves (tomorrowmakers.com)
- ◆ Gold in Switzerland | OEC - The Observatory of Economic Complexity

**27. Consider the following statements:**

Statement-I:

Recently, the United States of America (USA) and the European Union (EU) have launched the Trade and technology council.

Statement-II:

The USA and the EU claim that through this they are trying to bring technological progress and physical productivity under their control.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect.
- (d) Statement-I- is incorrect but Statement-II is correct.

**Correct Option: (b)**

**28. Consider the following statement:**

Statement – I:

India accounts for 3.2% of global export of goods.

Statement-II:

Many local companies and some foreign companies operating in India have taken advantage of India's 'Production-linked Incentive' scheme.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect.
- (d) Statement-I- is incorrect but Statement-II is correct.

**Correct Option: (d)**

**Explanation:**

- ◆ As per the WTO data released in 2022, India's share in global exports for merchandise was 1.9 % and in global imports was 4.1 %. India's share in global exports was 3.5 % and imports was 3.2 %.

**29. Consider the following statements:**

The 'Stability and Growth Pact' of the European Union is a treaty that

1. Limits the levels of budgetary deficit of the countries of the European Union.
2. Makes the countries of the European Union to share their infrastructure facilities.
3. Enables the countries of the European Union to share their technologies.

How many of the above statements are correct?

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

**Correct Option: (a)**

**Explanation:**

**Stability and Growth Pact**

- ◆ The Stability and Growth Pact (SGP) is a set of rules designed to ensure that countries in the European Union pursue sound public finances and coordinate their fiscal policies.
- ◆ The Stability and Growth Pact (SGP) is a set of fiscal rules designed to prevent countries in the EU from spending beyond their means.
- ◆ Stability and Growth Pact (europa.eu)
- ◆ Stability and Growth Pact (SGP) Definition (investopedia.com)

**30. Consider the following statements:**

1. Recently, all the countries of the United Nations have adopted the first-ever compact for international migration, the 'Global Compact for Safe, Orderly and Regular Migration (GCM)'.
2. The objective and commitments stated in the GCM are binding on the UN member countries.
3. The GCM address internal migration or internally displaced people also in its objectives and commitments.

How many of the above statements are correct?

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

**Correct Option: (a)**

**Explanation:**

- ◆ The Global Compact for Safe, Orderly and Regular Migration (A/RES/73/195), is the first intergovernmental agreement, prepared under the auspices of the United Nations, to cover all dimensions of international migration in a holistic and comprehensive manner. It was adopted at an intergovernmental conference on migration in Marrakesh, Morocco on 10 December 2018.

- ◆ It is a non-binding document that respects states' sovereign right to determine who enters and stays in their territory and demonstrates commitment to international cooperation on migration.
- ◆ Global Compact for Safe, Orderly and Regular Migration (GCM) | OHCHR

**31. Consider the following statements in relation to Janani Suraksha Yojana:**

1. It is a safe motherhood intervention of the State Health Departments.
2. Its objective is reduce maternal and neonatal mortality among poor pregnant women.
3. It aims to promote institutional delivery among poor pregnant women.
4. Its objective includes providing public health facilities to sick infants up one year of age.

How many of the statements given above are correct?

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

**Correct Option: (b)**

**Explanation:**

**JananiSurakshaYojana**

- ◆ Statement 1 is incorrect:JananiSurakshaYojana (JSY) is a safe motherhood intervention under the National Rural Health Mission (NHM).
- ◆ Statement 2 is correct:JSY is a safe motherhood intervention under the National Rural Health Mission (NRHM) being implemented with the objective of reducing maternal and neo-natal mortality by promoting institutional delivery among the poor pregnant women.
- ◆ Statement 3 is correct:JananiSurakshaYojana (JSY), a demand promotion and conditional cash transfer scheme for promoting institutional delivery.
- ◆ Statement 4 is incorrect:JananiShishuSurakshaKaryakaram (JSSK) has been launched with the objective to eliminate out of pocket expenses for both pregnant women and sick infants accessing public health institution for treatment.
- ◆ The JSSK entitlements for pregnant women and sick infants upto one year of age is operational across all states, resulting in considerable reduction in out of pocket expenditures.

**32. Consider the following statements in the context of intervention being undertaken under Anaemia Mukh Bharat Strategy:**

1. It provides prophylactic calcium supplementation for pre-school children, adolescents and pregnant women.
2. It runs a campaign for delayed cord clamping at the time of child birth.
3. It provides for periodic deworming to children and adolescents.
4. It addresses non-nutritional causes of anemia in endemic pockets with special focus on malaria, hemoglobinopathies and fluorosis.

How many of the statements given above are correct?

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



**Correct Option: (c)**

**Explanation:**

**AnameiaMukt Bharat Strategy**

- ◆ Statement 1 is incorrect: Prophylactic Iron Folic Acid Supplementation to all six beneficiaries age group - pre-school children, adolescents and pregnant women.
- ◆ Statement 2 is correct: It runs a campaign for promotion and monitoring of delayed clamping of the umbilical cord for at least 3 minutes (or until cord pulsations cease) for newborns across all health facilities will be carried out for improving the infant's iron reserves up to 6 months after birth. Simultaneously, all birth attendants should make an effort to ensure early initiation of breastfeeding within 1 hour of birth.
- ◆ Statement 3 is correct: Bi-annual mass deworming for children in the age groups between 1-19 years is carried out on designated dates – 10th February and 10th August every year under National Deworming Day (NDD) programme.
- ◆ Statement 4 is correct: It addressing non-nutritional causes of anemia in endemic pockets, with special focus on malaria, haemoglobinopathies and fluorosis.

Source:

<https://pib.gov.in/PressReleasePage.aspx?PRID=1910377>  
<https://anemiamukt Bharat.info/interventions/>

**33. Consider the following statements:**

1. Carbon fibres are used in the manufacture of components used in automobiles and aircrafts.
2. Carbon fibres once used cannot be recycled.

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

**Correct Option: (a)**

**Explanation:**

**Carbon fibres**

- ◆ **Statement 1 is correct:** Carbon fiber-reinforced composite materials are used to make aircraft and spacecraft parts, racing car bodies, golf club shafts, bicycle frames, fishing rods, automobile springs, sailboat masts, and many other components where light weight and high strength are needed.
- ◆ **Carbon Fiber Increases Fuel Efficiency:** Using carbon fiber composites to build an airplane reduces its weight by up to 20%, versus the weight of a traditional aluminum plane.
- ◆ **Statement 2 is incorrect:** Carbon fibre waste can be recycled using four types of technologies.

**34. Consider the following action:**

1. Detection of car crash/collision which results in the deployment of airbags almost instantaneously.
2. Detection of accidental free fall of a laptop towards the ground which results in the immediate turning off the hard drive.
3. Detection of the tilt of the smart-phone which results in the rotation of display between portrait and landscape mode.

In how many of the above actions is the function of accelerometer required?

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

**Correct Option: (c)**

**Explanation:**

**Accelerometer**

- ◆ **All statements are correct:** The accelerometer sensor measures constant (gravity), time varying (vibrations) and quasi static (tilt) acceleration forces, which affect the device on the three axes (x, y and z) in meter per second squared (m/s<sup>2</sup>).
- ◆ The accelerometer is a built-in component for measuring the acceleration of any mobile device. Motions like swinging, tilting, rotating, shaking is detected using accelerometer. The value of XYZ is used to calculate and detect the motions.

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9824767/#:~:text=The%20accelerometer%20sensor%20measures%20constant,s2\)%20%5B14%5D](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9824767/#:~:text=The%20accelerometer%20sensor%20measures%20constant,s2)%20%5B14%5D).

<https://www.contus.com/blog/how-to-measure-acceleration-in-smartphones-using-accelerometer/#:~:text=The%20accelerometer%20is%20a%20built,calculate%20and%20detect%20the%20motions>.

**35. Which reference to the role of biofilter in Recirculating Aquaculture System, consider the following statement**

1. Biofilters provide waste treatment by removing uneaten fish feed.
2. Biofilters convert ammonia present in fish waste in nitrate.
3. Biofilters increase phosphorus as nutrient for fish in water.

How many of the statements given above are correct?

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

**Correct Option: (c)**

**Explanation:**

**Biofilter**

- ◆ Statement 1 is correct: The use of biofilters to removal of contaminants from wastewater and waste gases is being developed.
- ◆ Statement 2 is correct: Ammonia is removed from an aquarium system through the use of a biofilter. The biofilter provides a substrate on which nitrifying bacteria grow. These nitrifying bacteria consume ammonia and produce nitrite, which is also toxic to fish.
- ◆ Statement 3 is correct: Phosphorus is one of the most essential minerals for fish growth and bone mineralization which function primarily as structural component of hard tissues e.g., bone, exoskeleton, scale and teeth.

36. Consider the following pairs:

	Object in space	Description
1	Cepheids	Giant clouds of dust and gas in space
2.	Nebulae	Stars which brighten and dim periodically
3.	Pulsars	Neutron stars that, are formed when massive stars run out of fuel and collapse

How many of the above pairs are correctly matched?

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

**Correct Option: (a)**

**Explanation:**

- ◆ **Pair 1 is incorrectly matched:** A nebula is a giant cloud of dust and gas in space.
- ◆ **Pair 2 is incorrectly matched:** Cepheids are stars which brighten and dim periodically.
- ◆ **Pair 3 is correctly matched:** A neutron star forms when the core of a massive star runs out of fuel and collapses. This produces a shock wave that blows away the rest of the star in a supernova explosion. Neutron stars typically pack more mass than our Sun into a ball about the size of a city, but above a certain mass, they must collapse into black holes.
- ◆ Pulsars are rotating neutron stars observed to have pulses of radiation at very regular intervals that typically range from milliseconds to seconds. Pulsars have very strong magnetic fields which funnel jets of particles out along the two magnetic poles. These accelerated particles produce very powerful beams of light.

37. Which one of the following countries has its own Satellite Navigation System?

- (a) Australia
- (b) Canada
- (c) Israel
- (d) Japan

**Correct Option: (d)**

**Explanation:**

- ◆ **Option (d) is correct:** Quasi-Zenith Satellite System (QZSS) is a regional GNSS owned by the Government of Japan and operated by QZS System Service Inc. (QSS). QZSS complements GPS to improve coverage in East Asia and Oceania. Japan declared the official start of QZSS services in 2018 with 4 operational satellites, and plans to expand the constellation to 7 satellites by 2023 for autonomous capability.

<https://www.gps.gov/systems/gnss/>

38. Consider the following statements:

1. Ballistic missiles are jet-propelled at subsonic speeds throughout their flights, while cruise missiles are rocket-powered only in the initial phase of flight.
2. Agni-V is a medium-range supersonic cruise missile, while BrahMos is a solid-fuelled intercontinental ballistic missile.

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

**Correct Option: (d)**

**Explanation:**

- ◆ **Statement 1 is incorrect:** Cruise missiles are jet-propelled at subsonic speeds throughout their flights, while ballistic missiles are rocket-powered only in the initial phase of flight.
- ◆ **Statement 2 is incorrect:** Agni-V is an Inter-Continental Ballistic Missile (ICBM) with a range of over 5,000 km.

<https://www.thehindu.com/news/national/india-test-fires-agni-v-ballistic-missile-having-range-of-5000-km/article66268636.ece>

**39. Consider the following statements regarding mercury pollution:**

1. Gold mining activity is a source of mercury pollution in the world.
2. Coal-based thermal power plants cause mercury pollution
3. There is no known safe level of exposure to mercury

How many of the above statements are correct?

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

**Correct Option: (c)**

**Explanation:**

- ◆ **Statement 1 is correct:** Gold mining is one of the most destructive industries in the world. It can displace communities, contaminate drinking water, hurt workers, and destroy pristine environments. It pollutes water and land with mercury and cyanide, endangering the health of people and ecosystems.
- ◆ **Statement 2 is correct:** Mercury emitted from the smokestacks of coal-fired power plants can fall from the atmosphere with rain, mist or chemical reactions.
- ◆ **Statement 3 is correct:** Mercury is a highly toxic element; there is no known safe level of exposure. Ideally, neither children nor adults should have any mercury in their bodies because it provides no physiological benefit.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3096006/#:~:text=Mercury%20is%20a%20highly%20toxic,it%20provides%20no%20physiological%20benefit.>

**40. With reference to green hydrogen, consider the following statements:**

1. It can be used directly as a fuel for internal combustion.
2. It can be blended with natural gas and used as fuel for heat or power generation.
3. It can be used in the hydrogen fuel cell to run vehicles.

How many of the above statements are correct?

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

**Correct Option: (c)**

**Explanation:**

- ◆ **Statement 1 is correct:** Hydrogen can also serve as fuel for internal combustion engines. However, unlike FCEVs, these produce tailpipe emissions and are less efficient. Hydrogen engines burn hydrogen in an internal combustion engine, in just the same way gasoline is used in an engine.
- ◆ **Statement 2 is correct:** Hydrogen blends of up to 5 percent in the natural gas stream are generally safe.
- ◆ **Statement 3 is correct:** Cars that run on this clean energy have a hydrogen tank that connects to the fuel cell, where the electricity that powers the engine is generated. Fuel cell electric vehicles (FCEVs) signify a revolution in the energy and transport sector towards using fuel with a carbon-neutral footprint.

<https://afdc.energy.gov/vehicles/how-do-fuel-cell-electric-cars-work>

**41. With reference to Home Guards, consider the following statements:**

1. Home Guards are raised under the Home Guards Act and Rules of the Central Government.
2. The role of the Home Guards is to serve as an auxiliary force to the police in maintenance of the internal security
3. To prevent infiltration on the international border/coastal areas, the Border Wings Home Guards Battalions have been raised in some States.

How many of the above statements are correct?

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

**Correct Option: (b)**

**Explanation:**

- ◆ **Statement 1 is incorrect:** The Delhi Home Guards has been raised under the Bombay Home Guards Act 1947 as extended to the NCT of Delhi in 1959. The Delhi Home Guards Rules were framed in 1959.
- ◆ **Statement 2 is correct:** The role of Home Guards is to serve as an auxiliary to the police in maintenance of internal security, help the community in any kind of emergency such as an air-raid, fire, cyclone, earthquake, epidemic etc., help in maintenance of essential services, promote communal harmony and assist the administration in protecting weaker sections, participate in socio-economic and welfare activities and perform Civil Defence duties.
- ◆ **Statement 3 is correct:** Fifteen Border Wing Home Guards (BWHG) Battalions have been raised in the border States viz. Punjab (6 Bns.), Rajasthan (4 Bns.), Gujarat (2 Bns.) and one each Battalion for Meghalaya, Tripura and West Bengal to serve as an auxiliary to Border Security Force for preventing infiltration on the international border/coastal areas, guarding of VA/VPs and lines of communication in vulnerable area at the time of external aggression.

42. With reference to India, consider the following pairs:

	Action	The Act under which it is covered
1	Unauthorized wearing of police or military uniforms	The Official Secrets Act, 1923
2.	Knowingly misleading or otherwise interfering with a police officer or military officer when engaged in their duties	The Indian Evidence Act, 1872
3.	Celebratory gunfire which can endanger the personal safety of others	The Arms (Amendment) Act, 2019

How many of the above pairs are correctly matched?

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

**Correct Option: (b)**

**Explanation:**

- ◆ **Pair 1 is correctly matched:** The Indian Official Secrets Act, 1923, applies to government officials, government servants, citizens framed with the charges of sedition, threatening the integrity of the nation, spying, unlawful use of government uniform, causing interventions in the armed forces, and so on.
- ◆ **Pair 2 is incorrectly matched:** Under the Official Secrets Act, 1923, No person in the vicinity of any prohibited place shall obstruct, knowingly mislead or otherwise interfere with or impede, any police officer, or any member.
- ◆ **Pair 3 is correctly matched:** It seeks to decrease the number of licensed firearms allowed per person and increase penalties for certain offences under the Act.

43. Consider the following pairs:

	Regions often mentioned in news	Reason for being in news
1	North Kivu and Ituri	War between Armenia and Azerbaijan
2.	Nagorno-Karabakh	Insurgency in Mozambique
3.	Kherson andaporizhzhia	Dispute between Israel and Lebanon

How many of the above pairs are correctly matched?

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

**Correct Option: (d)**

**Explanation:**

- ◆ **Statement 1 is incorrect:** North Kivu and Ituri are provinces of Democratic Republic of the Congo.

- ◆ **Statement 2 is incorrect:** The Nagorno-Karabakh conflict is an ethnic and territorial conflict between Armenia and Azerbaijan over the disputed region of Nagorno-Karabakh, inhabited mostly by ethnic Armenians, and seven surrounding districts, inhabited mostly by Azerbaijanis until their expulsion during the 1990s during a period of Armenian occupation.
- ◆ **Statement 3 is incorrect:** Amid the ongoing invasion of Ukraine, Russia unilaterally declared its annexation of areas in and around four Ukrainian oblasts – Donetsk, Kherson, Luhansk, and Zaporizhzhia.

**44. Consider the following statements:**

Statement-I:

Israel has established diplomatic relations with some Arab States.

Statement-II:

The 'Arab Peace Initiative' mediated by Saudi Arabia was signed by Israel and Arab League.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect.
- (d) Statement-I is incorrect but Statement-II is correct.

**Correct Option: (b)**

**45. Consider the following pairs with regard to sports awards.**

1.	Major Dhyan Chand Khel Ratna Award	For the most spectacular and outstanding performance by a sportsperson over period of last four years
2	Arjuna Award	For the lifetime achievement by a sportsperson
3.	Dronacharya Award	To honour eminent coaches who have successfully trained sportsperson or teams
4.	Rashtriya Khel Protsahan Puraskar	To recognize the contribution made by sportspersons even after their retirement

How many of the above pairs are correctly matched?

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

**Correct Option: (b)**

**Explanation:**

**Option 1 and option 3 is correct**

- ◆ Major Dhyan Chand khelRatna award is correct
- ◆ Dronacharya award is correct

**Arjuna Award:**

- ◆ It was instituted in 1961 by the Government of India to recognise outstanding achievement in national sports events.

- ◆ It is given for good performance over a period of previous four years and showing qualities of leadership, sportsmanship and a sense of discipline.
- ◆ The award carries a cash prize of Rs 15 lakh, a bronze statue of Arjuna and a scroll of honour.

**Dronacharya Award:**

- ◆ It was instituted in 1985 by the Government of India to recognise excellence in sports coaching.
- ◆ It is given to coaches for doing outstanding and meritorious work on a consistent basis and enabling sportspersons to excel in international events.
- ◆ It carries a cash prize of Rs 15 lakh, a bronze statue of Dronacharya and a scroll of honour.

**Dhyan Chand Award:**

- ◆ It was instituted in the year 2002 and comprises a Dhyan Chand statuette, a cash prize of Rs 10 lakh, a certificate and a ceremonial dress.
- ◆ It is given to honour sportspersons who have contributed to sports by their performance and continue to contribute to promotion of sports events after their retirement.

**46. Consider the following statements in respect of the 44th Chess Olympiad, 2022**

1. It was the first time that Chess Olympiad was held in India.
2. The official mascot was named 'Thambi'.
3. The trophy for the winning team in the open section is the Vera Menchik Cup.
4. The trophy for the winning team in the women's section is the Hamilton-Russell Cup.

How many of the statements given above are correct?

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

**Correct Option: (b)**

**Explanation:**

- ◆ **Statement 1 is correct:** The 44th Chess Olympiad was an international team chess event organised by the Fédération Internationale des Échecs (FIDE) in Chennai, India from 28 July to 10 August 2022.
- ◆ This was the first Chess Olympiad to take place in India.
- ◆ **Statement 2 is correct:** The Official Mascot of 44th Chess Olympiad is 'Thambi'. The word 'Thambi' in Tamil language means - little or younger brother.
- ◆ **Statement 3 is incorrect:** The trophy for the winning team in the Open section is the Hamilton-Russell Cup.
- ◆ **Statement 4 is incorrect:** The trophy for the winning team in the women's section is the Vera Menchik Cup.

**47. Consider the following pairs:**

	Area of conflict mentioned in news	Country where it is located
1.	Donbas	Syria
2.	Kachin	Ethiopia
3.	Tigray	North Yemen



How many of the above pairs are correctly matched?

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

**Correct Option: (d)**

**Explanation:**

- ◆ **Statement 1 is incorrect:** The Donbas or Donbass is a historical, cultural, and economic region in eastern Ukraine. Parts of the Donbas are occupied by Russia as a result of the Russo-Ukrainian War
- ◆ **Statement 2 is incorrect:** Kachin State is the northernmost state of The state is witnessing conflict with the Kachin insurgents fighting against the Tatmadaw (Myanmar Armed Forces) since 1961, with only one major ceasefire being brokered between them, which lasted from 1994 to 2011, a total of 17 years.
- ◆ **Statement 3 is incorrect:** The Tigray Region is the northernmost regional state in Armed conflict in the region lasted from 3 November 2020 to 3 November 2022 between the Ethiopian federal government and Eritrea on one side, and the Tigray People's Liberation Front (TPLF) on the other.

**48. In the recent years Chad, Guinea, Mali and Sudan caught the international attention for which one of the following reason common to all the them?**

- (a) Discovery of rich deposits of rare earth elements
- (b) Establishment of Chinese military bases
- (c) Southward expansion of Sahara Desert
- (d) Successful coups

**Correct Option: (d)**

**Explanation:**

- ◆ The recent spate of coups in Chad, Guinea, Mali and Sudan has sparked a flurry of media attention and concern.
- ◆ These four nations that have recently experienced military coups form a broken line that stretches across the wide bulge of Africa, from Guinea on the west coast to Sudan in the east.

**49. Consider the following heavy industries:**

1. Fertilizer plants
2. Oil refineries
3. Steel Plants

Green hydrogen is expected to play a significant role in decarbonizing how many of the above industries?

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

**Correct Option: (c)**

**Explanation:**

- ◆ All the above industries can be decarbonized with the help of Green hydrogen. Green hydrogen is expected to play a prominent role in decarbonising heavy industries, including oil refineries, steel mills and fertiliser plants.
- ◆ Green hydrogen is produced by breaking down water in an electrolyser using only renewable energy, resulting in no carbon emissions.
- ◆ The hydrogen can then be combined with nitrogen to make green ammonia, avoiding hydrocarbons in the process. Green ammonia is used to store energy and make fertilisers. Green hydrogen could become an alternative to coal in steel mills and fossil fuels in long-haul transport like shipping and trucking.

**50. Consider the following statements about G-20:**

1. The G-20 group was originally established as platform for the Finance Ministers and Central Bank Governors to discuss the international economic and financial issues.
2. Digital public infrastructure is one of India's G-20 priorities.

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

**Correct Option: (c)**

**Explanation:**

- ◆ **Statement 1 is correct:** The G20 forum was established in 1999 by the finance ministers and central bank governors of seven countries – Canada, France, Germany, Italy, Japan, the U.K., and the U.S. The forum initially dealt with matters related to macroeconomics, but over the years, its agenda has expanded to cover issues relating to trade, climate change, sustainable development, health, agriculture.
- ◆ **Statement 2 is correct:** G20 India has put forth six agenda priorities for the G20 dialogue in 2023 which include –
  - ◆ Green Development, Climate Finance & LiFE
  - ◆ Accelerated, Inclusive & Resilient Growth
  - ◆ Accelerating progress on SDGs
  - ◆ Technological Transformation & Digital Public Infrastructure
  - ◆ Multilateral Institutions for the 21st century
  - ◆ Women-led development

**51. Consider the following statements:**

1. Jhelum River passes through Wular Lake.
2. Krishna River directly feeds Kolleru Lake.
3. Meandering of Gandak River formed Kanwar Lake.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two

(c) All three

(d) None

**Correct Option: (b)**

**Explanation:**

- ◆ Statement 1 is correct: The Jhelum rises from a deep spring at Vernag, in western Jammu and Kashmir union territory. The river meanders northwestward from the northern slope of the PirPanjal Range through the Vale of Kashmir to Wular Lake at Srinagar, which controls its flow.
- ◆ Statement 2 is incorrect: Kolleru Lake is one of the largest freshwater lakes in India located in state of Andhra Pradesh and forms the largest shallow freshwater. It is located between Krishna and Godavari deltas. The lake is fed directly by water from the seasonal Budameru and Tammileru streams.
- ◆ Statement 3 is correct: Kanwar Lake is located 22 km north-west of Begusarai town. It is a residual oxbow lake, formed due to meandering of Gandak River, a tributary of Ganga, in the geological past.

**52. Consider the following pairs:**

	Port	Well known as
1.	Kamarajar Port	First major port in India registered as a company
2.	Mundra Port	Largest privately owned port in India
3.	Visakhapatnam Port	Largest container port in India

How many of the above pairs are correctly matched?

(a) Only one pair

(b) Only two pairs

(c) All three pairs

(d) None of the pairs

**Correct Option: (b)**

**Explanation:**

- ◆ Statement 1 is correct: Kamarajar Port, located on the Coromandel Coast about 24 km north of Chennai Port, Chennai, it is the 12th major port of India, and the first port in India which is a public company.
- ◆ Statement 2 is correct: Mundra Port is the India's first private port and largest container port, located on the northern shores of the Gulf of Kutch near Mundra, Kutch district, Gujarat.
- ◆ Statement 3 is incorrect: Jawaharlal Nehru Port Trust (JNPT) Known as NhavaSheva, JNPT is the largest container port in India (not Vishakhapatnam) and one of the most essential subcontinents harbours on the Western coast.

**53. Consider the following trees:**

1. Jackfruit (*Artocarpus heterophyllus*)
2. Mahua (*Madhuca indica*)
3. Teak (*Tectona grandis*)

How many of the above are deciduous trees?

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

**Correct Option: (b)**

**Explanation:**

- ◆ Statement 1 is incorrect: Jackfruit are evergreen tree that are native to India and Malaysia, that have spread to Sri Lanka, China, South-east Asia and to tropical Africa. They are cultivated for the large fruits that can vary in shape and size, and for timber.
- ◆ Statement 2 is correct: Mahua is a medium-sized deciduous tree, which grows to a height of 16-20 m.
- ◆ Statement 3 is correct: teak, (genus *Tectonagrandis*), large deciduous tree of the family Verbenaceae, or its wood, one of the most valuable timbers. Teak has been widely used in India for more than 2,000 years.

**54. Consider the following statements:**

1. India has more arable area than China.
2. The proportion of irrigated area is more in India as compared to China.
3. The average productivity per - hectare in Indian agriculture is higher than that in China.

How many of the above statements are correct?

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

**Correct Option: (a)**

**55. Which one of the following is the best example of repeated falls in sea level, giving rise to present-day extensive marshland?**

- (a) Bhitarkanika Mangroves
- (b) Marakkanam Salt Pans
- (c) Naupada Swamp
- (d) Rann of Kutch

**Correct Option: (d)**

**56. Ilmenite and rutile, abundantly available in certain coastal tracts of India, are rich sources of which one of the following?**

- (a) Aluminium
- (b) Copper

- (c) Iron
- (d) Titanium

**Correct Option: (d)**

**Explanation:**

- ◆ Ilmenite (FeO. TiO<sub>2</sub>) and rutile (TiO<sub>2</sub>) are the two chief minerals of

**57. About three-fourths world's cobalt, a metal required for the manufacture of batteries for electric motor vehicles, is produced by:**

- (a) Argentina
- (b) Botswana
- (c) the Democratic Republic of the Congo
- (d) Kazakhstan

**Correct Option: (c)**

**Explanation:**

- ◆ The Democratic Republic of Congo is the leader among the world's top cobalt-producing countries, accounting for more than 70% of global output.

**58. Which one of the following is a part of the Congo Basin?**

- (a) Cameroon
- (b) Nigeria
- (c) South Sudan
- (d) Uganda

**Correct Option: (a)**

**Explanation:**

- ◆ The Congo Basin spans across six countries—Cameroon, Central African Republic, Democratic Republic of the Congo, Republic of the Congo, Equatorial Guinea and Gabon.

**59. Consider the following statements:**

1. Amarkantak Hills are at the confluence of Vindhya and Sahyadri Ranges.
2. Biligirirangan Hills constitute the easternmost part of Satpura Range.
3. Seshachalam Hills constitute the southernmost part of Western Ghats.

How many of the statements given above are correct?

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

**Correct Option: (d)**

**Explanation:**

- ◆ Statement 1 is incorrect: The Amarkantak region is a unique natural heritage area and is the meeting point of the Vindhya and the Satpura Ranges.
- ◆ Statement 2 is incorrect: The Biligirirangana Hills is a hill range situated in south-western Karnataka, at its border with Tamil Nadu (Erode District) in South India. The Satpura Range is a range of hills in central India which rises in eastern Gujarat running east through the border of Maharashtra and Madhya Pradesh and ends in Chhattisgarh.
- ◆ Statement 3 is incorrect: Seshachalam Hills are part of the Eastern Ghats in southern Andhra Pradesh. These ranges are predominantly present in Tirupati district of the Rayalaseema region in Andhra Pradesh, India.

**60. With reference to India's projects on connectivity, consider the following statements:**

1. East-West Corridor under Golden Quadrilateral Project connects Dibrugarh and Surat.
2. Trilateral Highway connects Moreh in Manipur and Chiang Mai in Thailand via Myanmar.
3. Bangladesh - China -India - Myanmar Economic Corridor connects Varanasi in Uttar Pradesh with Kunming in China.

How many of the above statements are correct?

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

**Correct Option: (d)**

**Explanation:**

- ◆ **Statement 1 is incorrect:** East-West Corridor runs through Porbandar–Rajkot–Samakhiali–Radhanpur (in Gujarat)–to Bongaigaon - Nalbari–Bijni–Guwahati–Nagaon–Dabaka–Silchar) in Assam).
- ◆ **Statement 2 is incorrect:** India–Myanmar–Thailand Trilateral Highway (IMT Highway, is a highway under upgrade under India's Look East policy that will connect Moreh (Manipur), India with Mae Sot, Thailand via Myanmar.
- ◆ **Statement 3 is incorrect:** BCIM corridor proposes to link Kunming in China's Yunnan province with Kolkata, passing through nodes such as Mandalay in Myanmar and Dhaka in Bangladesh before heading to Kolkata.

**61. Consider the following statements:**

Statement-I:

Interest income from the deposits in Infrastructure Investment Trusts (InvITs) distributed to their investors is exempted from tax, but the dividend is taxable.

Statement-II:

InvITs are recognized as borrowers under the "Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest-Act, 2002:

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 for Statement-I

- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Correct Option: (d)**

**62. Consider the following statements**

Statement-I:

In the post-pandemic recent past, many Central Banks worldwide had carried out interest rate hikes.

Statement-II:

Central Banks generally assume that they have the ability to counteract the rising consumer prices via monetary policy means.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement II is incorrect
- (d) Statement-I is incorrect but Statement –II ic correct

**Correct Option: (a)**

**Explanation:**

**Option 1 is correct:** (a)

- ◆ Condition during the pandemic: During the pandemic, central banks in both advanced and emerging market economies took unprecedented measures to ease financial conditions and support the economic recovery, including interest-rate cuts and asset purchases.
- ◆ Condition post pandemic: With inflation at multi-decade highs in many countries and pressures broadening beyond food and energy prices, policymakers have pivoted toward tighter policy, where central banks in many emerging markets proactively started to hike rates, followed by their counterparts in advanced economies in the final months of 2021.
- ◆ **Link:** <https://www.imf.org/en/Blogs/Articles/2022/08/10/central-banks-hike-interest-rates-in-sync-to-tame-inflation-pressures>.
- ◆ **Option 2 is correct:** Central banks use monetary policy to manage economic fluctuations and achieve price stability, which means that inflation is low and stable. Central banks in many advanced economies set explicit inflation targets. Central bank assumes that they have the ability to counteract the rising consumer prices via monetary policy.
- ◆ Reason why option 2 is a correct explanation for option no. 1?
- ◆ In response to the COVID-19 pandemic, central banks took actions to ease monetary policy, provide liquidity to markets, and maintain the flow of credit. To mitigate stress in currency and bond markets, many emerging market central banks used foreign exchange interventions, and for the first time, asset purchase programs. More recently, in response to rapidly growing inflation, central banks around the world have tightened monetary policy by increasing interest rates.

**Link:** <https://www.imf.org/en/About/Factsheets/Sheets/2023/monetary-policy-and-central-banking>

**63. Consider the following statements:**

Statement-I:

Carbon markets are likely to be one of the most widespread tools in the fight against climate change

Statement-II:

Carbon markets transfer resources from the private sector to the State.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Correct Option: (c)**

**Explanation:**

- ◆ **Option 1 is correct:** Carbon markets are a very important tool to reach global climate goals, particularly in the short and medium term. They mobilize resources and reduce costs to give countries and company the space to smooth the low-carbon transition and be able to achieve the goal of net zero emissions in the most effective way possible. Carbon markets incentivize climate action by enabling parties to trade carbon credits generated by the reduction or removal of GHGs from the atmosphere, such as by switching from fossil fuels to renewable energy or enhancing or conserving carbon stocks in ecosystems such as a forest.
- ◆ Carbon markets are perhaps one of the most effective mechanisms available to encourage decarbonization of all kinds. Put simply, these markets put a price on carbon to incentivize businesses to reduce their carbon emissions where it is most financially feasible, and act now to manage the negative effects they can't eliminate.
- ◆ **Link:** <https://www.worldbank.org/en/news/feature/2022/05/17/what-you-need-to-know-about-article-6-of-the-paris-agreement>.
- ◆ **Option 2 is incorrect:** Carbon markets transfer resources are mostly from the private sector to the private
- ◆ **Link:** <https://www.economist.com/finance-and-economics/2022/05/26/carbon-markets-are-going-global>.
- ◆ Both answer 1 and 2 are correct but statement 2 is not correct explanation of statement 1.

**64. Which one of the following activities of the Reserve Bank of India is considered to be part of 'sterilization'?**

- (a) Conducting 'Open Market Operations'
- (b) Oversight of settlement and payment systems
- (c) Debt and cash management for the Central and State Governments
- (d) Regulating the functions of Non-banking Financial Institutions

**Correct Option: (a)**

**Explanation:**

- ◆ **Operation a is correct:** Sterilization usually takes the form of an open market operation, in which a central bank sells or purchases government bonds on an open market in the amount



it purchases or sells foreign currency on the foreign exchange market, so that the amount of domestic currency in circulation remains unchanged. The open market operation effectively offsets or sterilizes the impact of the intervention on the monetary base.

### What is Sterilization?

- ◆ Sterilization is a form of monetary action in which a central bank seeks to limit the effect of inflows and outflows of capital on the money supply. Sterilization most frequently involves the purchase or sale of financial assets by a central bank and is designed to offset the effect of foreign exchange intervention.
- ◆ **Link:** <https://www.investopedia.com/terms/s/sterilizedintervention.asp#:~:text=The%20open%20market%20operation%20effectively,amount%20to%20an%20unsterilized%20intervention.>
- ◆ [https://www.encyclopedia.com/social-sciences/applied-and-social-sciences-magazines/sterilization-economic.](https://www.encyclopedia.com/social-sciences/applied-and-social-sciences-magazines/sterilization-economic)

### 65. Consider the following markets:

1. Government Bond Market
2. Call Money Market
3. Treasury Bill Market
4. Stock Market

How many of the above are included in capital markets?

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

**Correct Option: (b)**

#### Explanation:

- ◆ **Statement 1 and 4 are correct:** Bond market and stock markets are part of capital market.
- ◆ **Statement 2 and 3 are incorrect:** Call Money market is concerned with short term financial assets and Treasury bills are issued when the government needs money for a short period.

### 66. Which one of the following best describes the concept of ‘Small Farmer Large Field’?

- (a) Resettlement of a large number of people, uprooted from their countries due to war, by giving them a large cultivable land which they cultivate collectively and share the produce
- (b) Many marginal farmers in an area organize themselves into groups and synchronize and harmonize selected agricultural operations
- (c) Many marginal farmers in an area together make a contract with a corporate body and surrender their land to the corporate body of a fixed term for which the corporate body makes a payment of agreed amount to the farmers
- (d) A company extends loans, technical knowledge and material inputs to a number of small farmers in an area so that they produce the agricultural commodity required by the company for its manufacturing process and commercial production

**Correct Option: (b)**

**Explanation:**

- ◆ “Small Farmers Large Field (SFLF)” is a collective action model to overcome the disadvantages faced by millions of small and marginal farmers due to diseconomies of scale and lack of bargaining power in the supply chain.
- ◆ This model is participatory and flexible and allows small farmers to benefit from achieving economies of scale by organizing themselves into groups and synchronizing and harmonizing selected operations.
- ◆ **Link:** [https://www.researchgate.net/publication/356730837\\_Small\\_Farmers\\_Large\\_Field\\_SFLF\\_a\\_synchronized\\_collective\\_action\\_model\\_for\\_improving\\_the\\_livelihood\\_of\\_small\\_farmers\\_in\\_India](https://www.researchgate.net/publication/356730837_Small_Farmers_Large_Field_SFLF_a_synchronized_collective_action_model_for_improving_the_livelihood_of_small_farmers_in_India)

**67. Consider the following statements:**

1. The Government of India provides Minimum Support Price for niger (*Guizotia abyssinica*) seeds.
2. Niger is cultivated as a Kharif crop.
3. Some tribal people in India use niger seed oil for cooking.

How many of the above statements are correct?

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

**Correct Option: (c)**

**Explanation:**

- ◆ Statement 1 is correct: Government announces minimum support prices (MSPs) for 22 mandated crops.
- ◆ Cereals (7) - paddy, wheat, barley, jowar, bajra, maize and ragi
- ◆ Pulses (5) - gram, arhar/tur, moong, urad and lentil
- ◆ Oilseeds (8) - groundnut, rapeseed/mustard, toria, soyabean, sunflower seed, sesamum, safflower seed and nigerseed
- ◆ Raw cotton
- ◆ Raw jute
- ◆ Copra
- ◆ De-husked coconut
- ◆ Sugarcane (Fair and remunerative price)
- ◆ Virginia flu cured (VFC) tobacco
- ◆ **Statement 2 is Correct:** In India, niger is grown on an area of 2.61 lakh ha mainly during kharif.
- ◆ However, in Odisha it is a rabi crop.
- ◆ **Statement 3 is correct:** The tribal population uses niger seed oil for cooking.
- ◆ **Link:** <https://www.downtoearth.org.in/news/agriculture/illusive-oilseed-india-s-niger-seed-cultivation-is-declining-here-is-why-84380>

**68. Consider the investments in the following assets:**

1. Brand recognition
2. Inventory

3. Intellectual property
4. Mailing list of clients

How many of the above intangible investments?

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

**Correct Option: (c)**

**Explanation:**

- ◆ Only 3 statements are correct
- ◆ What is an intangible asset?
- ◆ An intangible asset is an identifiable non-monetary asset, without physical substance, held for use in the production or supply of goods or services, for rental to others, or for administrative purposes.
- ◆ (Some intangible assets may be contained in or on a physical substance such as a compact disk (in the case of computer software), legal documentation (in the case of a licence or patent) or film (in the case of motion pictures). The cost of the physical substance containing the intangible assets is usually not significant.)
- ◆ Some examples of intangible assets include brand recognition, goodwill, and intellectual property (patents, domain names, confidential information, inventions, names, and the like).
- ◆ Link: [https://www.mca.gov.in/Ministry/notification/pdf/AS\\_26.pdf](https://www.mca.gov.in/Ministry/notification/pdf/AS_26.pdf).
- ◆ A tangible asset is an asset that has physical substance. Examples include inventory, a building, rolling stock, manufacturing equipment or machinery, and office furniture. There are two types of tangible assets: inventory and fixed assets.

**Link:** <https://www.bdc.ca/en/articles-tools/entrepreneur-toolkit/templates-business-guides/glossary/tangible-and-intangible-assets#:~:text=A%20tangible%20asset%20is%20an,assets%3A%20inventory%20and%20fixed%20assets>.

**69. Consider the following:**

1. Demographic performance
2. Forest and ecology
3. Governance reforms
4. Stable government
5. Tax and fiscal efforts

For the horizontal tax devolution, the Fifteenth Finance Commission used how many of the above as criteria other than population area and income distance?

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

**Correct Option: (b)**

**Explanation:**

- ◆ The Fifteenth Finance Commission (XVFC)'s ToR was unique and wide ranging in many ways. The Commission was asked to recommend performance incentives for States in many areas like power sector, adoption of DBT, solid waste management etc. Another unique ToR was to recommend funding mechanism for defence and internal security.
- ◆ Horizontal devolution:
- ◆ Based on principles of need, equity and performance, overall devolution formula is as follows:
- ◆ On horizontal devolution, while XVFC agreed that the Census 2011 population data better represents the present need of States, to be fair to, as well as reward, the States which have done better on the demographic front, XVFC has assigned a 12.5 per cent weight to the demographic performance criterion.
- ◆ XVFC has re-introduced tax effort criterion to reward fiscal performance.
- ◆ Link: <https://pib.gov.in/PressReleasePage.aspx?PRID=1693868>.

**70. Consider the following infrastructure sectors:**

1. Affordable housing
2. Mass rapid transport
3. Health care
4. Renewable energy

On how many of the above does UNOPS Sustainable Investments in Infrastructure and Innovation (S3i) initiative focus for its investments?

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

**Correct Option: (d)**

**Explanation:**

- ◆ All four options are correct
- ◆ Sustainable investing is very high on the UN agenda, as it has become evident that the Sustainable Development Goals (SDGs) cannot be achieved without substantial input from the private sector. The financing gap is particularly large in infrastructure, where it is further hampered by a lack of bankable infrastructure projects. Leveraging UNOPS' mandate and its core strengths in infrastructure, procurement and project management, S3i - Sustainable Investments in Infrastructure and Innovation is dedicated to helping make the SDGs a reality. Focusing on affordable housing, renewable energy and health infrastructure, the S3i sustainable infrastructure investments aim to crowd public and private financing into large-scale infrastructure projects in regions that have struggled to attract capital. In addition to money, building a sustainable future requires new ideas.
- ◆ The UNOPS S3i Innovation initiative boosts innovation with real impact, aiming to close the gap between market needs and capacities. The S3i Innovation Program helps start-ups with high impact potential, innovation height and scalable solutions, and brings together people from corporations, institutions, and academia to solve real problems on the ground.
- ◆ **Link:** <https://content.unops.org/documents/WANTED-Partnership-Proposals.pdf>

**71. Consider the following statements:**

Statement-I:

India, despite having uranium deposits, depends on coal for most of its electricity production.

Statement-II:

Uranium, enriched to the extent of at least 60%, is required for the production of electricity.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct Statement-II is incorrect
- (d) Statement-I is incorrect Statement-II is correct

**Correct Option: (c)**

**Explanation:**

- ◆ **Statement 1 is correct:** Coal is the most important and abundant fossil fuel in India. It accounts for 55% of the country's energy need. The Atomic Minerals Directorate for Exploration and Research (AMD) has identified a total of 3,50,438 tonne (t) in situ U<sub>3</sub>O<sub>8</sub> (2,97,170t U) uranium deposits in in forty four (44) uranium deposits in Andhra Pradesh, Telangana, Jharkhand, Meghalaya, Rajasthan, Karnataka, Chhattisgarh, Uttar Pradesh, Uttarakhand, Himachal Pradesh and Maharashtra.
- ◆ **Statement 2 is incorrect:** Uranium enriched to at least 60% is not typically required for the production of electricity. The enrichment level necessary for electricity generation in nuclear power plants is much lower. Most commercial nuclear reactors use uranium fuel enriched to around 3% to 5% of the isotope uranium-235 (U-235), with the remaining uranium consisting mostly of the non-fissile isotope uranium-238 (U-238). This level of enrichment is sufficient for sustained nuclear fission reactions that release energy in the form of heat, which is then used to generate electricity.
- ◆ Reference
- ◆ <chrome-extension://efaidnbmninnibpcapjpcglclefindmkaj/https://dae.gov.in/writereaddata/rs%20usq%203368.pdf>
- ◆ [https://world-nuclear.org/information-library/nuclear-fuel-cycle/conversion-enrichment-and-fabrication/uranium-enrichment.aspx#:~:text=Most%20reactors%20are%20light%20water,%2Denriched%20uranium%20\(LEU\).](https://world-nuclear.org/information-library/nuclear-fuel-cycle/conversion-enrichment-and-fabrication/uranium-enrichment.aspx#:~:text=Most%20reactors%20are%20light%20water,%2Denriched%20uranium%20(LEU).)
- ◆ <https://coal.nic.in/en/major-statistics/coal-indian-energy-choice#:~:text=Indian%20Energy%20Choice-,Coal%20%E2%80%93%20Indian%20Energy%20Choice,of%20the%20country's%20energy%20need.>

## 72. Consider the following statements:

Statement-I:

Marsupials are not naturally found in India.

Statement-II:

Marsupials can thrive only in montane grasslands with no predators.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-I is not the correct explanation for Statement-I

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

**Correct Option: (c)**

**Explanation:**

- ◆ **Statement 2 is correct:** Marsupials are not naturally found in India. Marsupials are a group of mammals that give birth to relatively undeveloped young, which then continue to develop and nurse in a pouch on their mother's belly. They are most commonly associated with Australia and nearby islands, where they have diversified into a wide range of species.
- ◆ **Statement 2 is incorrect:** It is not accurate to say that Marsupials can only thrive in montane grasslands with no predators. Marsupials are a diverse group of mammals that occupy a range of habitats, including forests, woodlands, shrublands, and even deserts. Australia, which is home to the majority of marsupial species, has various ecosystems where marsupials thrive. For example, kangaroos and wallabies are well adapted to open grasslands and savannas, where they can graze on vegetation. However, other marsupials like koalas inhabit forested areas and feed on eucalyptus leaves. Some species, such as the sugar glider, are arboreal and live in trees.
- ◆ <https://www.britannica.com/animal/marsupial>

**73. Invasive Species Specialist Group' (that develops Global Invasive Species Database) belongs to which one of the following organizations?**

- (a) The International Union for Conservation of Nature  
(b) The United Nations Environment Programme  
(c) The United Nations World Commission for Environment and Development  
(d) The World Wide Fund for Nature

**Correct Option: (a)**

**Explanation:**

- ◆ **Option a is correct:** The Invasive Species Specialist Group (ISSG) is a global network of scientific and policy experts on invasive species, organized under the auspices of the Species Survival Commission (SSC) of the International Union for Conservation of Nature (IUCN). It was developed between 1998 and 2000 as part of the global initiative on invasive species led by the erstwhile Global Invasive Species Programme (GISP).
- ◆ [https://www.eea.europa.eu/data-and-maps/data-providers-and-partners/invasive-species-specialist-group-issg#:~:text=The%20Invasive%20Species%20Specialist%20Group,Conservation%20of%20Nature%20\(IUCN\).](https://www.eea.europa.eu/data-and-maps/data-providers-and-partners/invasive-species-specialist-group-issg#:~:text=The%20Invasive%20Species%20Specialist%20Group,Conservation%20of%20Nature%20(IUCN).)

**74. Consider the following fauna:**

1. Lion-tailed Macaque
2. Malabar Civet
3. Sambar Deer

How many of the above are generally nocturnal or most active after sunset?

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

**Correct Option: (b)**

**Explanation:**

- ◆ **Statement 1 is incorrect:** Lion-tailed macaque is diurnal, meaning it is active exclusively in daylight hours. When they're active, they will spend half the day foraging, and the other half will be spent resting or finding new areas to forage.[4] Unlike other macaques, it typically avoids humans when possible. In group behavior, the lion-tailed macaque is much like other macaques, living in hierarchical groups of usually 10 to 20 members, which usually consist of few males, typically 1-3, and many females.
- ◆ **Statement 2 is correct:** The Malabar civet is considered nocturnal and so elusive that little is known about its biology and ecology apart from habitat use. The Malabar Civet is a critically endangered species found in the Western Ghats of India. It is a solitary and secretive animal that inhabits dense tropical forests and is known for its distinctive black or dark brown fur with large white spots. It has a long body, a pointed snout, and a long tail. Being primarily nocturnal, the Malabar Civet has adaptations such as excellent night vision and acute senses that allow it to navigate and hunt in low-light conditions. It feeds on a variety of small mammals, birds, insects, fruits, and other vegetation.
- ◆ **Statement 2 is correct:** Sambar are nocturnal or crepuscular. During the day, Sambar Deer typically seek shade and rest in dense vegetation or near water bodies to avoid the heat. As the evening approaches, they become more active and start foraging for food, such as grasses, leaves, shoots, fruits, and other plant materials. They may continue their activities into the night, making them partially nocturnal. The Sambar Deer (*Rusa unicolor*) is a large deer species found in various parts of South and Southeast Asia, including India. While Sambar Deer are primarily crepuscular, meaning they are most active during dawn and dusk, their activity patterns can vary depending on factors such as habitat, climate, and predation risk.
- ◆ <https://www.worldlandtrust.org/species/mammals/sambar-deer/>
- ◆ <https://www.wti.org.in/news/searching-for-indias-most-endangered-mammal/>
- ◆ <https://programs.wcs.org/india/Newsroom/Blog/ID/12547/Icons-of-Anamalai-Lion-Tailed-Macaque>

**75. Which of the following organisms perform waggle dance for others of their kin to indicate the direction and the distance to a source of their food?**

- (a) Butterflies
- (b) Dragonflies
- (c) Honeybees
- (d) Wasps

**Correct Option: (c)**

**Explanation:**

- ◆ **Option a is correct:** Waggle dance is a term used in beekeeping and ethology for a particular figure-eight dance of the honey bee. By performing this dance, successful foragers can share information about the direction and distance to patches of flowers yielding nectar and pollen, to water sources, or to new nest-site locations with other members of the colony.
- ◆ The waggle dance and the round dance are two forms of dance behaviour that are part of a continuous transition. As the distance between the resource and the hive increases, the round dance transforms into variations of a transitional dance, which, when communicating resources at even greater distances, becomes the waggle dance.
- ◆ <https://www.frontiersin.org/articles/10.3389/fevo.2015.00125/full>

**76. Consider the following statements:**

1. Some mushrooms have medicinal properties.

2. Some mushrooms have psycho-active properties.
3. Some mushrooms have insecticidal properties.
4. Some mushrooms have bioluminescent properties.

How many of the above statements are correct?

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

**Correct Option: (d)**

**Explanation:**

- ◆ Properties and Benefits of Mushrooms
- ◆ St-1: Mushrooms Decrease the risk of cancer, Research shows that shiitake mushrooms, in particular, help to keep cholesterol levels low. Effects of eating mushrooms on mild cognitive impairment (MCI). In a study in Singapore, participants who ate more than two cups of mushrooms a week had a 50% lower risk of developing MCI. (
- ◆ St-2: Magic mushrooms (also called shrooms or mushrooms) are a type of mushroom that contains the drugs psilocybin or psilocin. Multiple clinical trials support psilocybin's ability to reduce depression symptom severity, including in people with treatment-resistant depression.
- ◆ St-3: many mushroom species are substantial sources of biologically active compounds, including those that possess insecticidal activities.
- ◆ St-4: the mushrooms only glow at night. They don't glow bright enough during the day to be extra visible. The glowing parts of the fungi can come from the mycelia, the mushrooms, or both parts. Bioluminescent Fungi. Fungi produce an eerie green light on the mushroom caps.
- ◆ Sources:
- ◆ <https://www.uclahealth.org/news/7-health-benefits-of-mushrooms>
- ◆ (<https://pubmed.ncbi.nlm.nih.gov/8729458/>)
- ◆ <https://www.dl.begellhouse.com/journals/708ae68d64b17c52,284d849a2568dd16,73d24fd24e69fbc9.html#:~:text=In%20the%20search%20for%20novel,promising%20and%20powerful%20bioinsecticidal%20agents.>
- ◆ <https://goldbio.com/articles/article/uncovering-the-mystery-behind-glow-in-the-dark-fungi#:~:text=The%20glowing%20parts%20of%20the,worldwide%20with%20this%20remarkable%20ability.>

**77. Consider the following statements regarding the Indian squirrels:**

1. They build nests by making burrows in the ground.
2. They store their food materials like nuts and seeds in the ground.
3. They are omnivorous.

How many of the above statements are correct?

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

**Correct Option: (c)**



**Explanation:**

- ◆ The Indian palm squirrel or three-striped palm squirrel (*Funambulus palmarum*) is a species of rodent in the family Sciuridae (includes tree squirrels, ground squirrels (including chipmunks and prairie dogs, among others), and flying squirrels.) found naturally in India (south of the Vindhyas) and Sri Lanka.
- ◆ Nesting mostly in self-dug burrows underground, but also make dens in rocky outcroppings and in cavities at the bottom of trees. Ground squirrels nest on the ground, digging burrows, a system of tunnels underground, to live in. They hibernate during the winter in these underground burrows.
- ◆ Tree squirrels hide away in nests or dens in trees and food to keep warm during the winter. Most tree squirrel nests are called dreys, which are made up of clumped-together collections of leaves, twigs, bark, moss, and other compressed materials.
- ◆ They are usually very protective of their food sources, often guarding and defending them from birds and other squirrels. Unlike some other species of squirrel, Indian palm squirrel do not hibernate.
- ◆ Indian palm squirrels are omnivores. They feed mainly on nuts and fruits but will also eat seeds, insects, small mammals and reptiles, eggs, and even sometimes chicks of birds.
- ◆ Sources:
- ◆ <https://animalia.bio/indian-palm-squirrel>
- ◆ <https://www.childhoodbynature.com/the-secret-lives-of-squirrels/>
- ◆ <https://a-z-animals.com/blog/where-do-squirrels-nest/>

**78. Consider the following statements:**

1. Some microorganisms can grow in environments with temperature above the boiling point of water.
  2. Some microorganisms can grow in environments with temperature below the freezing point of water.
  3. Some microorganisms can grow in highly acidic environments with a pH below 3.
- (a) Only one  
(b) Only two  
(c) All three  
(d) None

**Correct Option: (c)****Explanation:**

- ◆ Microbes isolated from the vents achieve optimal growth at temperatures higher than 100 °C. Noteworthy examples are *Pyrobolus* and *Pyrodictium*, archaea that grow at 105 °C and survive autoclaving. Both the thermophiles and the hyperthermophiles require specialized heat-stable enzymes that are resistant to denaturation and unfolding. Archaeobacteria (Thermophiles) are ancient forms of bacteria found in hot water springs and deep-sea hydrothermal vents. They are able to survive in high temperatures (which far exceed 100°C) because their bodies have adapted to such environmental conditions.
- ◆ Microbial growth or metabolic activity has been reported in permafrost bacteria at -10°C (11) and in the antarctic cryptoendolithic microbial community at temperatures between -5 and -10°C (7, 28), and the temperature limit of bacterial growth in frozen food is generally considered to be -8°C (9). In arctic and antarctic lichens, photosynthetic activity has been observed in a similar temperature range (12) and, more recently, at -17°C (23).
- ◆ Microorganisms that grow optimally at pH less than 5.55 are called acidophiles. For example, the sulfur-oxidizing *Sulfolobus* spp. isolated from sulfur mud fields and hot springs in Yellowstone

National Park are extreme acidophiles. These archaea survive at pH values of 2.5–3.5. Species of the archaean genus *Ferroplasma* live in acid mine drainage at pH values of 0–2.9.

Sources:

- ◆ <https://ecampusontario.pressbooks.pub/microbio/chapter/temperature-and-microbial-growth/#:~:text=Microbes%20isolated%20from%20the%20vents,%C2%B0C%20and%20survive%20autoclaving.>
- ◆ [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC92138/#:~:text=Microbial%20growth%20or%20metabolic%20activity,8%C2%B0C%20\(9\).](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC92138/#:~:text=Microbial%20growth%20or%20metabolic%20activity,8%C2%B0C%20(9).)
- ◆ [https://bio.libretexts.org/Bookshelves/Microbiology/Microbiology\\_\(OpenStax\)/09%3A\\_Microbial\\_Growth/9.03%3A\\_The\\_Effects\\_of\\_pH\\_on\\_Microbial\\_Growth#:~:text=Acidophilic%20microorganisms%20display%20a%20number, stabilizes%20them%20at%20low%20pH.](https://bio.libretexts.org/Bookshelves/Microbiology/Microbiology_(OpenStax)/09%3A_Microbial_Growth/9.03%3A_The_Effects_of_pH_on_Microbial_Growth#:~:text=Acidophilic%20microorganisms%20display%20a%20number, stabilizes%20them%20at%20low%20pH.)

**79. Which one of the following makes a tool with a stick to scrape insects from a hole in a tree or a log of wood?**

- (a) Fishing cat
- (b) Orangutan
- (c) Otter Sloth bear
- (d) Sloth bear

**Correct Option: (b)**

**Explanation:**

- ◆ Orangutans are among the most intelligent primates. They have human-like long-term memory, routinely use a variety of sophisticated tools in the wild and construct elaborate sleeping nests each night from foliage and branches
- ◆ Sources:
- ◆ <https://www.sci.news/biology/orangutans-hook-tools-06598.html>

**80. Consider the following:**

1. Aerosols
2. Foam agents
3. Fire retardants
4. Lubricants

In the making of how many of the above are hydrofluorocarbons used?

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

**Correct Option: (d)**

**Explanation:**

- ◆ Hydrofluorocarbons (HFCs) are greenhouse gases (GHGs) commonly used in a wide variety of applications, including refrigeration, air-conditioning (AC), building insulation, fire extinguishing systems, and aerosols.
- ◆ HFCs are entirely man-made. They are primarily produced for use in refrigeration, air-conditioning, insulating foams and aerosol propellants, with minor uses as solvents and for fire

protection. Most HFCs are contained within equipment, so emissions are the result of wear, faulty maintenance, or leakage at the end of a product's lifetime.

Sources:

- ◆ [https://www.epa.gov/snap/reducing-hydrofluorocarbon-hfc-use-and-emissions-federal-sector-through-snap#:~:text=Hydrofluorocarbons%20\(HFCs\)%20are%20greenhouse%20gases,fire%20extinguishing%20systems%2C%20and%20aerosols.](https://www.epa.gov/snap/reducing-hydrofluorocarbon-hfc-use-and-emissions-federal-sector-through-snap#:~:text=Hydrofluorocarbons%20(HFCs)%20are%20greenhouse%20gases,fire%20extinguishing%20systems%2C%20and%20aerosols.)
- ◆ <https://www.ccacoalition.org/fr/slcp/s/hydrofluorocarbons-hfcs#:~:text=HFCs%20are%20entirely%20man%2Dmade,solvents%20and%20for%20fire%20protection.>

**81. In which one of the following regions was Dhanyakataka, which flourished as a prominent Buddhist centre under the Mahasanghikas, located?**

- (a) Andhra
- (b) Gandhara
- (c) Kalinga
- (d) Magadha

**Correct Option: (a)**

**Explanation:**

- ◆ Dhanyakataka located near the present day Amaravati in Andhra was the capital of Satavahana kings (1st century BCE - 3rd AD).
- ◆ who were patrons of Mahayana Buddhism. Remnants of a large Buddhist Mahachaitya built by king Ashoka is located here. Xuanzang in his travels stayed at Dhanyakataka and studied Abhidharma Pitaka. He gives a glorious description of the monasteries and Buddhist temples there. This area was also a Vajrayana stronghold where Shakyamuni Buddha is said to have given the Kalachakra Tantra teachings. A large number of images of Buddhas and Bodhisattvas such as Avalokitesvara, Manjusri, Cunda, Maitreya, Vajrapani and Heruka have been found from Amaravati dating up to the 11th century CE, showing the widespread presence of Mahayana Buddhism at this site (
- ◆ Even though the traditional accounts of the Buddha's visit to Andhra Pradesh are discounted, the literary evidence, as recorded by the Chinese traveller Hiuen-Tsang, shows that Buddhism entered Andhradesa by circa 400 B.C. It was only during the reign of Asoka that the Buddhist establishment at Dhanyakataka (today's Dharanikota) attained great recognition.
- ◆ Dhanyakataka grew as the focal point of Buddhism in Andhradesa. Its importance grew further when it became the capital of the Satavahanas. The Satavahana expansion over coastal Andhra and the shift of the capital to Dhanyakataka

Sources:

- ◆ <https://frontline.thehindu.com/other/advertorial/article30207957.ece>
- ◆ <http://www.wayofbodhi.org/wp-content/uploads/2018/06/History-of-Mahayana-in-South-India.pdf>

**82. With reference to ancient India, consider the following statements:**

1. The concept of Stupa is Buddhist in origin.
2. Stupa was generally a repository of relics.
3. Stupa was a votive and commemorative structure in Buddhist tradition.

How many of the statements given above are correct?

- (a) Only one
- (b) Only two

(c) All three

(d) None

**Correct Option: (b)**

**Explanation:**

- ◆ The origin of the concept of stupa was earlier than Buddhism as archaeologists have pointed out early forms of stupas as much older and prehistoric in origin (megaliths), Indus valley
- ◆ Stupas may have originated as pre-Buddhist tumuli in which sramanas were buried in a seated position called chaitya.
- ◆ At its simplest, a stupa is a dirt burial mound faced with stone. In Buddhism, the earliest stupas contained portions of the Buddha's ashes, and as a result, the stupa began to be associated with the body of the Buddha. Adding the Buddha's ashes to the mound of dirt activated it with the energy of the Buddha himself.
- ◆ Before Buddhism, great teachers were buried in mounds. Some were cremated, but sometimes they were buried in a seated, meditative position. The mound of earth covered them up. Thus, the domed shape of the stupa came to represent a person seated in meditation much as the Buddha was when he achieved Enlightenment and knowledge of the Four Noble Truths.
- ◆ Stupa, Buddhist commemorative monument usually housing sacred relics associated with the Buddha or other saintly persons. Buddhist stupas were originally built to house the earthly remains of the historical Buddha and his associates and are almost invariably found at sites sacred to Buddhism.
- ◆ Archaeological Survey of India (ASI) on Thursday unearthed two miniature votive stupas dating back 1200 years during landscaping work near the Sarai Tila mound within the grounds of "Nalanda Mahavihara," a world heritage site in the state's Nalanda district. The stupas, carved from stone, depict Buddha figures.
- ◆ Beginning in the 7th century CE in India, small miniature terracotta stupas became popular as votive offerings. Devout pilgrims visiting various holy sites and temples throughout Asia would either purchase small votive offerings or make their own.

Sources:

- ◆ <https://www.cnbctv18.com/india/asi-unearths-two-1200-year-old-miniature-stupas-at-nalanda-15651441.htm>
- ◆ <https://www.britannica.com/topic/stupa>

**83. With reference to ancient South India, Korkai, Poompuhar and Muchiri were well known as**

(a) capital cities

(b) ports

(c) centres of iron-and-steel making

(d) Shrines of Jain Tirthankaras

**Correct Option: (b)**

**Explanation:**

- ◆ Muziris (Muchiri) (Chera), Korkai (Pandaya) and the discoveries at Arikamedu, Poompuhar, (Chola) Kodumanal, among other sites, provide evidence of the Tamils' international trade activities.
- ◆ They all are important ports of Sangam period.
- ◆ Sources: NCERT

84. Which one of the following explains the practice of 'Vattakirutal' as mentioned in Sangam poems?

- (a) Kings employing women bodyguards
- (b) Learned persons assembling in royal courts to discuss religious and philosophical matters
- (c) Young girls keeping watch over agricultural fields and driving away birds and animals
- (d) A king defeated in a battle committing ritual suicide by starving himself to death

**Correct Option: (d)**

**Explanation:**

- ◆ Sangam poems are pervaded with warrior ethics. One such is the practice of "Vattakirutal" where the defeated king committed ritual suicide by starving to death and in this he was accompanied by those who were close to him.
- ◆ Source:
- ◆ History of ancient and early medieval India by Upindersingh

85. Consider the following dynasties:

1. Hoysala
2. Gahadavala
3. Kakatiya
4. Yadava

How many of the above dynasties established their kingdoms in early eighth century AD?

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

**Correct Option: (d)**

**Explanation:**

- ◆ The Hoysala Empire was a Kannadiga power originating from the Indian subcontinent that ruled most of what is now Karnataka between the 10th and the 14th centuries.
- ◆ The Gahadavala dynasty also Gahadavalas of Kannauj was a Rajput dynasty that ruled parts of the present-day Indian states of Uttar Pradesh and Bihar, during 11th and 12th centuries. Their capital was located at Banaras (now Varanasi) in the Gangetic plains, and for a brief period, they also controlled Kannauj.
- ◆ The Kakatiya dynasty was a Telugu dynasty that ruled most of eastern Deccan region in present-day India between 12th and 14th centuries. Their territory comprised much of the present day Telangana and Andhra Pradesh, and parts of eastern Karnataka, northern Tamil Nadu, and southern Odisha
- ◆ Yadavas were in The Yadavas of Devagiri was a Medieval Indian dynasty, which at its peak ruled a kingdom stretching from the Narmada river in the north to the Tungabhadra river in the south, in the western part of the Deccan region. Its territory included present-day Maharashtra, North Karnataka and parts of Madhya Pradesh, from its capital at Devagiri.
- ◆ Sources: NCERT

86. With reference to ancient Indian History, consider the following parts:

	Literary work	Author
1.	Devichandragupta	Bilhana
2.	Hammira-Mahakavya	Nayachandra Suri
3.	Milinda-panha	Nagarjuna
4.	Nitivakyamrita	Somadeva Suri

How many of the above pairs are correctly matched?

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

**Correct Option: (b)**

**Explanation:**

- ◆ Devi-Chandraguptam or Devi-Chandragupta is an Indian Sanskrit-language political drama attributed to Vishakhadeva, who is generally identified with Vishakhadatta.
- ◆ HammiraMahakavya is a 15th-century Indian Sanskrit epic poem written by the Jain scholar Nayachandra Suri.
- ◆ The Milindapañha is a Buddhist text which dates from sometime between 100 BC and 200 AD. It purports to record a dialogue between the Indian Buddhist sage N?gasena, and the 2nd century BC Indo-Greek king Menander I (Pali: Milinda) of Bactria, in S?gal?, present-day Sialkot.
- ◆ The Jaina writer Somadeva of tenth century A.D. writes a treatise on n?ti is called N?tiv?ky?m?ta. He quotes fragments of the metrical works on polity attributed to Atri, A?g?ras, Kau?ika, Garga, Devala, N?rada, Par??ara, Bh?guri, Bh?radv?ja, Bh?gu, B?haspati, ?ukra, Vy?sa etc.

(source- <https://www.wisdomlib.org/definition/nitivakyamrita>)

87. “Souls are not only the property of animal and plant life, but also of rocks, running water and many other natural objects not looked on as living by other religious sects.”

The above statement reflects one of the core beliefs of which one of the following religious sects of ancients India?

- (a) Buddhism
- (b) Jainism
- (c) Shaivism
- (d) Vaishnavism

**Correct Option: (b)**

88. Who among the following rulers of Vijayanagara Empire constructed a large dam across Tungabhadra River and a canal-cum-aqueduct several kilometres long from the river to the capital city?

- (a) Devaraya I
- (b) Mallikarjuna

(c) Vira Vijaya

(d) Virupaksha

**Correct Option: (a)**

**Explanation:**

- ◆ In 1410, he had a barrage built across the Tungabhadra River and commissioned a 24-kilometer-long aqueduct from the river to the capital.
- ◆ Nuniz's account details the projects undertaken by Deva Raya I that brought prosperity to the Kingdom.

**89. Who among the following rulers of medieval Gujarat surrendered Diu to Portuguese?**

(a) Ahmad Shah

(b) Mahmud Begarha

(c) Bahadur Shah

(d) Muhammad Shah

**Correct Option: (c)**

**Explanation:**

- ◆ Early in the 16th century, the Sultan of Gujarat, Bahadur Shah, came under immense pressure when his kingdom was invaded by the second Mughal Emperor Humayun.
- ◆ At that juncture, he decided to remain on conciliatory terms with the Portuguese, who had arrived in India at the end of the 15th century, and were at the time an energetic and ambitious maritime power.
- ◆ In 1534, the Shah signed the Treaty of Bassein with the Portuguese, ceding Diu to the latter, as well as other territories of his empire such as Vasai and the islands that today form Mumbai. The Portuguese obtained Daman from the Shah in 1559.

Source;

- ◆ NCERT sathishchandra
- ◆ <https://indianexpress.com/article/explained/daman-diu-dadra-nagar-haveli-a-short-recent-history-6141034/>

**90. By which one of the following Acts was the Governor General of bengal designated as the Governor General of India?**

(a) The Regulating Act

(b) The Pitt's India Act

(c) The Charter Act of 1793

(d) The Charter Act of 1833

**Correct Option: (d)**

**Explanation:**

- ◆ It redesignated the Governor-General of Bengal as the Governor-General of India. For the first time, the government run by him was referred to as the 'Government of India.' His

**91. In essence, what does 'Due Process of Law' means?**

- (a) The principle of natural Justice
- (b) The procedure established by law
- (c) Fair application of law
- (d) Equality before law

**Correct Option: (a)**

**Explanation:**

- ◆ Due process refers to just, rational, fair, and fair treatment under the regular judicial process. It essentially means due process of law needs the legislation to follow the principle of natural justice.
- ◆ The Principle of Due Process of Law was originally adopted by the American Constitution. Its founding fathers stated that the United States Constitution guarantees that the government cannot take away a person's basic rights to "life, liberty or property, without due process of law." For the purpose of safeguarding these rights the Constitution of United States provided power to Judiciary to look into fairness of law.
- ◆ In India the adoption of the principle of Due Process of Law was adopted in the Menaka Gandhi case.

<https://blog.ipleaders.in/due-process-of-law/>

<https://www.upcounsel.com/legal-def-due-process>

**92. Consider the following statements:**

Statement-I:

In India, prisons are managed by State Governments with their own rules and regulations for the day-to-day administration of prisons.

Statement-II:

In India, prisons are governed by the Prisons Act, 1894 which expressly kept the subject of prisons in the control of Provincial Governments.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Correct Option: (a)**

**Explanation:**

- ◆ Prisons Act, 1894 makes it expressly clear that States would have general and specific control over prisons in India.
- ◆ It is also important to note that the Subject of Prisons is mentioned as Entry 4 in List II in Seventh Schedule.

[https://www.mha.gov.in/en/divisionofmha/Women\\_Safety\\_Division/prison-reforms](https://www.mha.gov.in/en/divisionofmha/Women_Safety_Division/prison-reforms)

[https://www.mha.gov.in/sites/default/files/2023-03/Prisons\\_act1894\\_0%5B1%5D%5B1%5D.pdf](https://www.mha.gov.in/sites/default/files/2023-03/Prisons_act1894_0%5B1%5D%5B1%5D.pdf)



**93. Which one of the following statements best reflects the Chief purpose of the 'Constitution' of a country?**

- (a) It determines the objective for the making of necessary laws.
- (b) It enables the creation of political offices and a government.
- (c) It defines and limits the powers of government.
- (d) It secures social justice, social equality and social security.

**Correct Option: (c)**

**Explanation:**

- ◆ The chief objective of the Constitution is to establish a limited government i.e. a government which does not have the right to encroach in all spheres of a citizen's life.
- ◆ [https://constitutionnet.org/sites/default/files/what\\_is\\_a\\_constitution\\_0.pdf](https://constitutionnet.org/sites/default/files/what_is_a_constitution_0.pdf)

**94. In India, which one of the following Constitutional Amendments was widely believed to be enacted to overcome the judicial interpretations of the Fundamental Rights?**

- (a) Ist Amendment
- (b) 42nd Amendment
- (c) 44th Amendment
- (d) 86th Amendment

**Correct Option: (b)**

**Explanation:**

- ◆ The 42nd Constitutional Amendment Act was enacted to overcome the judgement of KeshavandaBharati Case.
- ◆ This amendment resulted in judicial review restricted the power of review provided to the Judiciary by Constitution of India.
- ◆ <https://blog.ipleaders.in/critical-analysis-42nd-amendment-act-1976/>

**95. Consider the following organization/bodies in India:**

1. The National Commission for Backward Classes
2. The National Human Rights Commission
3. The National Law Commission
4. The National Consumer Disputes Redressal Commission

How many of the above are constitutional bodies?

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

**Correct Option: (a)**

**Explanation:**

- ◆ A Constitutional body is a body which is established by the Constitution of India. Such

Constitutional bodies can only be created or changed after a Constitutional Amendment bill is passed and not by a regular government bill or a private bill.

- ◆ National Commission for Backward Classes (NCBC) was initially constituted by the Central Govt by the National Commission for Backward Classes Act, 1993 (27 of 1993) dated 2.4.1993 and so far the Commission had been reconstituted 7 times up to 2016.
- ◆ At present Commission has been accorded Constitutional Status and constituted through “The Constitution (One Hundred and Second Amendment) Act, 2018” Act dated 11.8.2018, whereby Article 338B has been inserted, forming a Commission for the socially and educationally backward classes to be known as National Commission for Backward Classes.
- ◆ National Human Rights Commission is a statutory body established by Protection of Human Rights Act, 1993
- ◆ National Law Commission is neither established a Constitution nor a statutory. It is formed on the directive of Union Law Ministry.
- ◆ National Consumer Dispute Redressal Commission has been established by Consumer Protection Act, 1986.

<https://www.lawinsider.in/columns/which-are-the-constitutional-bodies-in-india>

<https://nhrc.nic.in/>

**96. Consider the following statements:**

1. If the election of the President of India is declared void by the Supreme Court of India, all acts done by him/her in the performance of duties of his/her office of President before the date of decision become invalid.
2. Election for the post of the President of India can be postponed on the ground that some legislative Assemblies have been dissolved and elections are yet to take place.
3. When a Bill is presented to the President of India, the Constitution prescribes time limits within which he/she has to declare his/her assent.

How many of the above statements are correct?

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

**Correct Option: (d)**

**Explanation:**

- ◆ Article 71 of the Constitution states that Matters relating to, or connected with, the election of a president or Vice President
- ◆ All doubts and disputes arising out of or in connection with the election of a president or vice President shall be inquired into and decided by the Supreme court whose decision shall be final
- ◆ If the election of a person as President or Vice President is declared void by the Supreme court, acts done by him in the exercise and performance of the powers and duties of the office of President or Vice President, as the case may be, on or before the date of the decision of the Supreme Court shall not be invalidated by reason of that declaration
- ◆ Subject to the provisions of this constitution, Parliament may by law regulate any matter relating to or connected with the election of a President or Vice President
- ◆ The election of a person as President or Vice President shall not be called in question on the ground of the existence of any vacancy for whatever reason among the members of the electoral college electing him.

**97. With reference to Finance Bill and Money Bill in the Indian Parliament, consider the following statements:**

1. When the Lok Sabha transmits Finance Bill to the Rajya Sabha, it can amend or reject the Bill.
2. When the Lok Sabha transmits Money Bill to the Rajya Sabha, it cannot amend or reject the Bill, it can only make recommendations.
3. In the case of disagreement between the Lok Sabha and the Rajya Sabha, there is not joint sitting for Money Bill, but a joint sitting becomes necessary for Finance Bill.

How many of the above statements are correct?

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

**Correct Option: (c)**

**Explanation:**

- ◆ As per the provisions of Article 117 of the Constitution – Rajya Sabha cannot reject a Finance Bill. Hence Statement 1 is incorrect.
- ◆ Statement 2 is correct, as Rajya Sabha can't amend but only recommend amendment to a Money Bill as per the provisions of Article 110.
- ◆ Statement 3 is also correct according to the provisions of Article 110.
- ◆ <https://indiankanoon.org/doc/1704729/>
- ◆ [https://cms.rajyasabha.nic.in/UploadedFiles/Procedure/PracticeAndProcedure/English/10/financial\\_procedure.pdf](https://cms.rajyasabha.nic.in/UploadedFiles/Procedure/PracticeAndProcedure/English/10/financial_procedure.pdf)
- ◆ <https://indiankanoon.org/doc/72095/>

**98. Consider the following statements:**

Once the Central Government notifies an area as a 'Community Reserve'

1. The Chief Wildlife Warden of the State becomes the governing authority of such forest.
2. Hunting is not allowed in such area.
3. People of such area are allowed to collect non-timber forest produce
4. People of such area are allowed traditional agricultural practices

How many of the above statements are correct?

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

**Correct Option: (c)**

**99. With reference to 'Scheduled Areas' in India, consider the following statements:**

1. Within a State, the notification of an area as Scheduled Area takes place through an Order of the President.
2. The largest administrative unit forming the Scheduled Area is the District and the lowest is the cluster of villages in the Block.

3. The Chief Ministers of the concerned States are required to submit annual reports to the Union Home Ministry on the administration of Scheduled Areas in the States.

How many of the above statements are correct?

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

**Correct Option: (b)**

**Explanation:**

- ◆ **Statement 1-** Is correct. As per the provisions of Article 244 (1) of the Indian Constitution defines Scheduled Areas as the areas defined so by the President of India and are mentioned in the fifth schedule of the Constitution.
- ◆ **Statement 2-** Is correct. The largest administrative unit forming the scheduled areas has been the district and the lowest the cluster of villages in the block. Most of the districts form scheduled areas only partially.
- ◆ **Statement 3-** Is incorrect as the report on administration of schedule areas is send by Governor of the State to President of India.
- ◆ <https://www.mea.gov.in/Images/pdf1/S6.pdf>

**100. Consider the following statements:**

Statement-I:

The Supreme Court of India has held in some judgements that the reservation policies made under Article 16(4) of the Constitution of India would be limited by Article 335 for maintenance of efficiency of administration.

Statement-II:

Article 335 of the Constitution of India defines the term 'efficiency of administration'.

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 for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Correct Option: (c)**

**Explanation:**

- ◆ **Statement 1 is correct.** The Supreme Court in Nagaraj & others vs Union of India and UP Power Corp Ltd vs Rajesh Kumar &Ors has held that there needs to be a balance between reservation provided under Article 16 of the Constitution and efficiency under Article 335.
- ◆ Statement 2 is incorrect as Article 335 does not define efficiency.
- ◆ <https://indiankanoon.org/doc/1113850/>
- ◆ <https://indiankanoon.org/doc/1845552/>