

ForumIAS

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## Prelims Marathon

1 Sept to 30 Sept 2021

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*HISTORY  
ECONOMICS  
POLITY  
SCIENCE AND TECHNOLOGY  
GEOGRAPHY AND ENVIRONMENT*

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## *Laws, Bills and Miscellaneous*

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**Q.1)** Consider the following statements regarding the Government of National Capital Territory of Delhi (Amendment) Bill, 2021:

1. It provides a framework for the functioning of the Legislative Assembly and the government of the National Capital Territory (NCT) of Delhi.
2. The Bill provides that such Rules must be consistent with the Rules of Procedure and Conduct of Business in the Rajya Sabha.

Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** The Government of National Capital Territory of Delhi (Amendment) Bill, 2021 was introduced in Lok Sabha on March 15, 2021.

- The Bill amends the Government of National Capital Territory of Delhi Act, 1991.
- The Act provides a framework for the functioning of the Legislative Assembly and the government of the National Capital Territory (NCT) of Delhi.
- The Bill amends certain powers and responsibilities of the Legislative Assembly and the Lieutenant Governor.
- The Act allows the Legislative Assembly to make Rules to regulate the procedure and conduct of business in the Assembly.
- The Bill provides that such Rules must be consistent with the Rules of Procedure and Conduct of Business in the Lok Sabha.

Source: PRSINDIA

**Q.2)** Consider the following statements regarding the Insurance (Amendment) Bill, 2021:

1. It increases the limit on foreign investment in an Indian insurance company from 24% to 49%.
2. It removes restrictions on ownership and control.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** The Insurance (Amendment) Bill, 2021 was introduced in Rajya Sabha by the Minister of Corporate Affairs, Ms. Nirmala Sitharaman, on March 15, 2021. The Bill amends the Insurance Act, 1938.

- The Act provides the framework for functioning of insurance businesses and regulates the relationship between an insurer, its policyholders, its shareholders, and the regulator (the Insurance Regulatory and Development Authority of India).
- The Bill seeks to increase the maximum foreign investment allowed in an Indian insurance company.

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- The Act allows foreign investors to hold up to 49% of the capital in an Indian insurance company, which must be owned and controlled by an Indian entity.
- The Bill increases the limit on foreign investment in an Indian insurance company from 49% to 74%, and removes restrictions on ownership and control.
- However, such foreign investment may be subject to additional conditions as prescribed by the central government.

Source: PRSINDIA

**Q.3)** The “electricity” falls under which of the following list of 7<sup>th</sup> schedule?

- a) State list
- b) Concurrent list
- c) Union list
- d) Residuary list

**ANS: B**

**Explanation:** Item 38 in List III of the Seventh Schedule of the Constitution of India places electricity in the concurrent list, that is, on which both the central and state governments have jurisdiction.

Source: Laxmikanth

**Q.4)** Highest numbers of PVTGs are located in which of the following state?

- a) Madhya Pradesh
- b) Odisha
- c) Tamil Nadu
- d) Karnataka

**ANS: B**

**Explanation:** 75 tribal groups have been categorized by Ministry of Home Affairs as Particularly Vulnerable Tribal Groups (PVTG)’s.

- PVTGs reside in 18 States and UT of A&N Islands.
- The Ministry of Tribal Affairs implements the Scheme of “Development of Particularly Vulnerable Tribal Groups (PVTGs)” exclusively for them.

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State-wise list of Particularly Vulnerable Tribal Groups (PVTGs)						
Name of States/Union Territory	S.No	Name of the Particularly Vulnerable Tribal Group	Name of States/Union Territory	S.No	Name of the Particularly Vulnerable Tribal Group	
Andhra Pradesh (including Telangana)	1	Chenchu	Maharashtra	41	Katkaria /kathodi	
	2	Bodo Gadaba		42	Kolam	
	3	Gutob Gadaba		43	Maria Gond	
	Bihar (including Jharkhand)	4	Dongaria Khond	Manipur	44	Maram Naga
		5	Kutia Kondha		Orissa	45
		6	Kolam	46		Birhore
		7	Konda Reddi	47		Bondo
		8	Kondasavara	48		Didayi
		9	Bondo Porja	49		Dongaria Khond
		10	Khond Porja	50		Juang
		11	Parengi Porja	51		Kharia
		12	Tothi	52		Kutia Kondha
Gujarat		13	Asur	53		Lanjia Saura
	14	Birhor	54	Lodha		
	15	Birjia	55	Mankirdia		
	16	Hill Kharia	56	Paudi Bhuiya		
	17	Korwa	57	Saura		
	18	Mal Paharia	Rajasthan	58	Saharia	
	19	Parhaiya		59	Irular	
	20	Sauria Paharia	Tamil Nadu	60	Kattunayakan	
	21	Savara		61	Kota	
Karnataka	22	Kolgha		62	Korumba	
	23	Kathodi		63	Paniyan	
	24	Kotwalia		64	Toda	
	25	Padhar	Tripura	65	Raing	
26	Siddi	Uttar Pradesh (including Uttrakhand)		66	Buksa	
Kerala	27		Jenu Kuruba	West Bengal	67	Raji
	28	Koraga	68		Birhor	
	29	Cholanaikayan	69	Lodha		
	30	Kadar	70	Totos		
	31	Kattunayakan	Andaman & Nicobar island	71	Great Andamanics	
32	Koraga	72		Jarawa		
33	Kurumbas	73		Onge		
Madhya Pradesh (including Chhattisgarh)	34	Abujh Maria		74	Sentinelese	
	35	Baiga		75	Shom Pen	
	36	Bharia				
	37	Birhor				
	38	Hill Korba				
	39	Kamar				
	40	Sahariya				

PVTGs are more vulnerable among the tribal groups. Due to this factor, more developed and assertive tribal groups take a major chunk of the tribal development funds, because of which PVTGs need more funds directed for their development.

In this context, in 1975, the Government of India initiated to identify the most vulnerable tribal groups as a separate category called PVTGs and declared 52 such groups, while in 1993 an additional 23 groups were added to the category, making it a total of 75 PVTGs out of 705 Scheduled Tribes, spread over 17 states and one Union Territory (UT), in the country (2011 census).

Source: MOTA

**Q.5)** Which of the following Act/rule defines the “minor forest produce”?

- Indian forests act, 1878
- Indian forests act, 1927
- The Provisions of the Panchayats (Extension to Scheduled Areas) Act, 1996
- Recognition of Forest Rights Act, 2006

**ANS: D**

**Explanation:** The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 defines a Minor Forest Produce (MFP) as all non-timber forest produce of plant origin and includes bamboo, brushwood, stumps, canes, Tusser, cocoon, honey, waxes, Lac, tendu/kendu leaves, medicinal plants and herbs, roots, tuber and the like.

Source: PRSINDIA

**Q.6)** Consider the following statements regarding the “price stabilization fund scheme”:

1. It helps to regulate the price volatility of important agri-horticultural commodities.
2. It provides for maintaining a strategic buffer of aforementioned commodities for subsequent calibrated release to moderate price volatility.
3. Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW) is the nodal agency to implement the scheme.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** The Price Stabilization Fund (PSF) was set up in 2014-15 under the Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW).

- The PSF scheme was later transferred from DAC&FW to the Department of Consumer Affairs (DOCA) in 2016.
- The fund is to help regulate the price volatility of important agri-horticultural commodities like onion, and potatoes. Pulses were also added subsequently.
- The scheme provides for maintaining a strategic buffer of aforementioned commodities for subsequent calibrated release to moderate price volatility and discourages hoarding and unscrupulous speculation.
- For building such stock, the scheme promotes direct purchase from farmers/farmers'association at farm gate/Mandi.
- The PSF is utilized for granting interest free advance of working capital to Central Agencies, State/UT Governments/Agencies to undertake market intervention operations.

Source: PIB

**Q.7)** The “SAKALA scheme” - to curb corruption in public service delivery in key departments is launched by which of the following state?

- a) Tamil Nadu
- b) Maharashtra
- c) Gujarat
- d) Karnataka

**ANS: D**

**Explanation:** The scheme is being implemented in the State of Karnataka to curb corruption in public service delivery in key departments.

- More than 725 services are being provided under this mission.
- Now, the state government has proposed to launch the version 2 of SAKALA scheme with the existing SAKALA-1 fails to curb corruption.

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- SAKALA -2 will address shortcomings in the existing Act by including a provision for imposing penalty of Rs. 250 per day for delay in addressing complaints.

Source: PIB

**Q.8)** Recently, government of India announced the tax cuts for Corporations. What would be the likely impact on economy due to tax cuts?

1. It will raise the animal spirits of investors.
2. It will put more money on the hands of private sector.
3. It will raise the exports.

Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** Finance Minister Nirmala Sitharaman announced a significant cut in corporate tax rates, thus bringing down the effective tax rate (including various cesses and surcharges) on corporations from 35% to 25%.

- Also under the new corporate tax policy, new companies that set up manufacturing facilities in India starting in October and commence production before the end of March, 2023 will be taxed at an effective rate of 17%.
- Following the government's decision, both the NIFTY and the SENSEX rose over 5%, which is their biggest one-day rise in a decade.
- Tax cuts, by putting more money in the hands of the private sector, can offer people more incentive to produce and contribute to the economy. Thus the present tax cut can help the wider economy grow.
- The corporate tax rate, it is worth noting, is also a major determinant of how investors allocate capital across various economies.
- So there is constant pressure on governments across the world to offer the lowest tax rates in order to attract investors.
- The present cut in taxes can make India more competitive on the global stage by making Indian corporate tax rates comparable to that of rates in East Asia.
- The tax cut, however, is expected to cause a yearly revenue loss of ₹1.45 lakh crore to the government which is struggling to meet its fiscal deficit target.
- At the same time, if it manages to sufficiently revive the economy, the present tax cut can help boost tax collections and compensate for the loss of revenue.

Source: The Hindu

**Q.9)** Which part of Indian Constitution deals with the official language?

- a) Part XVII
- b) Part XV
- c) Part XVI
- d) Part XII

**ANS: A**

**Explanation:** Part XVII of the Indian Constitution deals with the official language in Articles 343 to 351. The Constitutional provisions relating to the Eighth Schedule occur in Article 344 (1) and 351 (Part XVII) of the Constitution.

Source: Laxmikanth

**Q.10)** Which of the following species is/are found in National Chambal Sanctuary?

1. Gharials
2. Fresh water river dolphins
3. Smooth-coated otters

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** The National Chambal Sanctuary, that stretches over the Chambal River (that spreads to Madhya Pradesh and Rajasthan).

- The sanctuary was granted Protected Area Status in 1979, to revive the gharial population that was once subject to rampant poaching.
- This *river is home to freshwater river dolphins*.
- The river is home to a variety of birds as well, including sandpipers and egrets and bar-headed geese.
- The *red-naped ibis and Ruddy shelduck*, as well as painted storks that added a dash of colour to the stark landscape.
- The famed gharials, crocodiles and the critically endangered red-crowned roofed turtles.
- The smooth-coated otters reside in Chambal Sanctuary

Source: The Hindu

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## *Bills, Laws & Miscellaneous*

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**Q.1)** Consider the following statements regarding Farmers' Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020:

1. It allows intra-state and inter-state trade of farmers' produce beyond the physical premises of APMC markets.
2. State governments are prohibited to collect any levy, market fee or cess outside the APMCs area.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** Trade of farmers' produce: The Bill allows intra-state and inter-state trade of farmers' produce outside: (i) the physical premises of market yards run by market committees formed under the state APMC Acts and (ii) other markets notified under the state APMC Acts. Such trade can be conducted in an 'outside trade area', i.e., any place of production, collection, and aggregation of farmers' produce including: (i) farm gates, (ii) factory premises, (iii) warehouses, (iv) silos, and (v) cold storages.

- **Electronic trading:** The Bill permits the electronic trading of scheduled farmers' produce (agricultural produce regulated under any state APMC Act) in the specified trade area. An electronic trading and transaction platform may be set up to facilitate the direct and online buying and selling of such produce through electronic devices and internet.
- **The following entities may establish and operate such platforms:** (i) companies, partnership firms, or registered societies, having permanent account number under the Income Tax Act, 1961 or any other document notified by the central government, and (ii) a farmer producer organisation or agricultural cooperative society.
- **Market fee abolished:** The Bill prohibits state governments from levying any market fee, cess or levy on farmers, traders, and electronic trading platforms for trade of farmers' produce conducted in an 'outside trade area'.

Source: PRSINDIA

**Q.2)** Consider the following statements regarding The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Bill, 2020:

1. The price of farming produce should be mentioned in the agreement.
2. The maximum period of an agreement will be is 20 years.

Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** Farming agreement: The bill provides for a farming agreement between a farmer and a buyer prior to the production or rearing of any farm produce. The minimum



period of an agreement will be one crop season, or one production cycle of livestock. The maximum period is five years, unless the production cycle is more than five years.

- Pricing of farming produce: The price of farming produce should be mentioned in the agreement. For prices subjected to variation, a guaranteed price for the produce and a clear reference for any additional amount above the guaranteed price must be specified in the agreement. Further, the process of price determination must be mentioned in the agreement.
- Dispute Settlement: A farming agreement must provide for a conciliation board as well as a conciliation process for settlement of disputes. The Board should have a fair and balanced representation of parties to the agreement. At first, all disputes must be referred to the board for resolution. If the dispute remains unresolved by the Board after thirty days, parties may approach the Sub-divisional Magistrate for resolution. Parties will have a right to appeal to an Appellate Authority (presided by collector or additional collector) against decisions of the Magistrate. Both the Magistrate and Appellate Authority will be required to dispose of a dispute within thirty days from the receipt of application. The Magistrate or the Appellate Authority may impose certain penalties on the party contravening the agreement. However, no action can be taken against the agricultural land of farmer for recovery of any dues.

Source: PRSINDIA

**Q.3)** The Essential Commodities (Amendment) Ordinance, 2020 provides that the central government may regulate the supply of certain food items including cereals, pulses, potatoes, onions, edible oilseeds, and oils, only under extraordinary circumstances. Which of the following is/are comes under extraordinary circumstances?

1. Extraordinary price rise
2. Famine
3. Natural calamity of grave nature

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** The Essential Commodities Act, 1955 empowers the central government to designate certain commodities (such as food items, fertilizers, and petroleum products) as essential commodities.

- The central government may regulate or prohibit the production, supply, distribution, trade, and commerce of such essential commodities.
- The Bill provides that the central government may regulate the supply of certain food items including cereals, pulses, potatoes, onions, edible oilseeds, and oils, only under extraordinary circumstances.
- These include: (i) war, (ii) famine, (iii) extraordinary price rise and (iv) natural calamity of grave nature.

Source: PRSINDIA

**Q.4)** Consider the following statements regarding the Foreign Contribution (Regulation) Amendment Bill, 2020:

1. It regulates the acceptance and utilization of foreign contribution by individuals, associations and companies.

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2. Foreign contribution is the donation or transfer of any currency, security or article by a foreign source.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** The Foreign Contribution (Regulation) Amendment Bill, 2020 was introduced in Lok Sabha on September 20, 2020. The Bill amends the Foreign Contribution (Regulation) Act, 2010.

- The Act regulates the acceptance and utilisation of foreign contribution by individuals, associations and companies. Foreign contribution is the donation or transfer of any currency, security or article (of beyond a specified value) by a foreign source.
- Under the Act, certain persons are prohibited to accept any foreign contribution. These include: election candidates, editor or publisher of a newspaper, judges, government servants, members of any legislature, and political parties, among others.
- The Bill adds public servants (as defined under the Indian Penal Code) to this list.
- Public servant includes any person who is in service or pays of the government, or remunerated by the government for the performance of any public duty.

Source: PRSINDIA

**Q.5)** “Global Environment Outlook” is often seen in news is released by?

- a) UNEP
- b) WEF
- c) IUCN
- d) World Bank

**ANS: A**

**Explanation:** Global Environment Outlook (GEO) is a series of reports on the environment issued periodically by the United Nations Environment Programme (UNEP).

Source: The Hindu

**Q.6)** Which of the following is/are “pioneer species” of ecological succession?

- 1. Lichens
- 2. Fungi
- 3. Bacteria

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** Ecological succession is a series of progressive changes in the species that make up a community over time.

- Primary succession occurs when new land is formed or bare rock is exposed, providing a habitat that can be colonized for the first time.

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- What happens to this land during primary succession? First, weathering and other natural forces break down the substrate, rock, enough for the establishment of certain hearty plants and lichens with few soil requirements, known as pioneer species.
- Algae, fungi, bacteria, lichens colonize on the bare rocks and provide organic materials for further higher level of colonization, while the planktons i.e., phytoplankton's, zooplanktons provide base at the shallow water for further higher levels of succession in hydro sere.

Source: NCERT

**Q.7)** "Global Drylands Initiative" is launched by which of the following?

- a) UNDP
- b) Global Environment Facility
- c) WEF
- d) IUCN

**ANS: D**

**Explanation:** Drylands are found in tropical and temperate latitudes and account for 41.3% of the global terrestrial area. They can be classified into four types - dry sub-humid, semi-arid, arid and hyper-arid lands - encompassing a variety of ecosystems.

- The goal of the Global Drylands Initiative is to restore, sustainably manage and protect dryland ecosystems for multiple environmental, economic and social benefits.
- The Initiative supports countries to adapt ecosystem management policy and practice to the unique conditions of the drylands and to the evolving challenges that the drylands face.
- Further, as the IUCN Focal Point to the United Nations Convention to Combat Desertification, the Global Drylands Initiative leads IUCN's efforts to influence the global discourse on Land Degradation and Sustainable Land Management.
- In this case, the Initiative supports countries to implement their commitments to the Convention by demonstrating good practices on the ground, influencing the science-policy interaction of the Convention itself and working with other stakeholders to achieve Land Degradation Neutrality.

Source: IUCN

**Q.8)** Consider the following statements with respect to "Effective Revenue Deficit" (ERD):

1. It is the difference between revenue deficit and grants for creation of capital assets.
2. It is suggested by the Bimal Jalan Committee on Public Expenditure.
3. The ERD target for 2020-21 has been set under 1% of GDP.

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

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

**ANS: C**

**Explanation:** Effective Revenue Deficit is the difference between revenue deficit and grants for creation of capital assets.

- The concept of effective revenue deficit has been suggested by the Rangarajan Committee on Public Expenditure.

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- It is aimed to deduct the money used out of borrowing to finance capital expenditure.
- The concept has been introduced to ascertain the actual deficit in the revenue account after adjusting for expenditure of capital nature.
- Focusing on this will help in reducing the consumptive component of revenue deficit and create space for increased capital spending.
- Though the Budget documents have given targets for revenue deficit, the amendments to the Fiscal Responsibility and Budget Management Act 2003 has proposed to substitute the definitions of “effective revenue deficit” and “revenue deficit” with those of “Central government debt” and “general government debt” respectively.

Source: The Hindu

**Q.9)** “It is essentially savings and loan associations that help members' savings grow at a higher interest rate”- is related to which of the following?

- a) Multiplier effect
- b) Liquidity trap
- c) Thrift
- d) Fiscal trap

**ANS: C**

**Explanation:** Thrifts, along with commercial banks and credit unions, qualify as depository institutions.

- Most people are familiar with commercial banks and credit unions, but the line becomes fuzzy when defining a thrift.
- Thrifts are essentially savings and loan associations that help members' savings grow at a higher interest rate. More importantly, they are savings banks that specialize in real estate.
- Originally, thrifts only offered savings accounts and time deposits, but over the past 20 years, the banks' scope of services has expanded to meet the needs of the average consumer.
- They now offer the same products as credit unions and commercial banks.

Source: Ramesh Singh

**Q.10)** Consider the following statements regarding Union Public Service Commission (UPSC):

1. Articles 315 to 323 of the Indian Constitution related to UPSC.
2. It consists of a chairman and other members appointed by the President of India.
3. President determines the conditions of service of the chairman and other members of the Commission.

Which of the statements given above is/are correct?

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

**ANS: D**

**Explanation:** Union Public Service Commission (UPSC) is the central recruiting agency in India. It is an independent constitutional body in the sense that it has been directly created by the Constitution.

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- Articles 315 to 323 in Part XIV of the Constitution contain elaborate provisions regarding the composition, appointment and removal of members along with the independence, powers and functions of the UPSC.
- The UPSC consists of a chairman and other members appointed by the president of India. The Constitution, without specifying the strength of the Commission has left the matter to the discretion of the president, who determines its composition. Usually, the Commission consists of nine to eleven members including the chairman.
- Further, no qualifications are prescribed for the Commission's membership except that one-half of the members of the Commission should be such persons who have held office for at least ten years either under the Government of India or under the government of a state.
- The Constitution also authorizes the president to determine the conditions of service of the chairman and other members of the Commission.

Source: Laxmikanth

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## Miscellaneous

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**Q.1)** “Montreux Record” is often seen in news is related to which of the following?

- a) Mangroves
- b) Coral Reefs
- c) Wetlands
- d) Estuaries

**ANS: C**

**Explanation:** Montreux Record is the principal tool under the Ramsar Convention, is a register of wetland sites on the List of Wetlands of International Importance.

- It highlights those sites where adverse changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference and which are therefore in need of priority conservation attention.
- It is maintained as part of the Ramsar List.

Source: Ramsar Convention

**Q.2)** Consider the following statements:

1. The Ganga Action Plan was launched by Prime Minister Rajiv Gandhi.
2. The National Ganga River Basin Authority (NGRBA) is chaired by Prime Minister.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** The Ganga Action Plan was launched on 14th January 1986 with the main objective of pollution abatement, to improve water quality by interception, diversion and treatment of domestic sewage and toxic and industrial chemical wastes present, from identified grossly polluting units entering in to the river.

- After reviewing the effectiveness of the “Ganga Action Plan”, the Government announced the “Mission Clean Ganga” project on 31st December, 2009 with the objective that by 2020, no municipal sewage and industrial waste would be released in the river without treatment, with the total budget of around Rs.15,000 crore.
- The Government also established the National Ganga River Basin Authority (NGRBA), chaired by the Prime Minister, with the objective to ensure effective abatement of pollution and conservation of the river Ganga, by adopting a river basin approach for comprehensive planning and management.

Source: Shankar

**Q.3)** Which of the following are the components of fly ash?

1. Silicon dioxide
2. Calcium oxide
3. Arsenic
4. Plutonium
5. Thorium

Select the correct answer using the code given below:

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

**ANS: A**

**Explanation:** Ash is produced whenever combustion of solid material takes place.

- Fly ash is one such residue which rises with the gases into the atmosphere.
- Fly ash is a very fine powder and tends to travel far in the air. The ash which does not rise is termed as bottom ash.
- Nearly 73% of India's total installed power generation capacity is thermal, of which 90% is coal-based generation, with diesel, wind, gas, and steam making up the rest.

Composition:

- Aluminum silicate (in large amounts)
- Silicon dioxide (SiO<sub>2</sub>) and
- Calcium oxide (CaO).

Fly ash particles are oxide rich and consist of silica, alumina, oxides of iron, calcium, and magnesium and toxic heavy metals like lead, arsenic, cobalt, and copper.

Source: Shankar

**Q.4)** Which of the following pollutants are notified under "National Ambient Air Quality Standards (NAAQS)"?

1. Sulphur Dioxide
2. Nitrogen Dioxide
3. Benzene
4. Ozone
5. Lead

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** National Ambient Air Quality Standards (NAAQS) were notified in the year 1982, duly revised in 1994 based on health criteria and land uses.

The NAAQS have been revisited and revised in November 2009 for 12 pollutants, which include

- sulphur dioxide (SO<sub>2</sub>),
- nitrogen dioxide (NO<sub>2</sub>),
- particulate matter having size less than 10 micron (PM<sub>10</sub>),
- particulate matter having size less than 2.5 micron (PM<sub>2.5</sub>),
- ozone,
- lead,
- carbon monoxide (CO),
- arsenic,
- nickel,
- benzene,
- ammonia, and
- benzopyrene.

Source: The Hindu

**Q.5)** Consider the following statements regarding “Regulating Act, 1833”:

1. It made the Governor-General of Bengal as the Governor - General of India and vested in him military powers and civil powers.
2. The Governor-General of India was given exclusive legislative powers for the entire British India.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** Regulating Act, 1833 was the final step towards centralization in British India.

The features of this Act were as follows:

- It made the Governor-General of Bengal as the Governor - General of India and vested in him all civil and military powers. Thus, the act created, for the first time, Government of India having authority over the entire territorial area possessed by the British in India. Lord William Bentick was the first Governor-General of India.
- It deprived the Governor of Bombay and Madras of their legislative powers. The Governor-General of India was given exclusive legislative powers for the entire British India. The laws made under the previous acts were called as Regulations, while laws made under this act were called as Acts.
- It ended the activities of the East India Company as a commercial body, which became a purely administrative body. It provided that the Company's territories in India were held by it 'in trust for His Majesty, His heirs and successors'.

Source: Laxmikanth

**Q.6)** Which of the following words are found in the Objectives Resolution of 1946?

1. Sovereign
2. Justice
3. Equality
4. Integrity
5. Fraternity

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** On December 13, 1946, Jawaharlal Nehru moved the historic 'Objectives Resolution' in the Assembly. It laid down the fundamentals and philosophy of the constitutional structure. It read:

- “This Constituent Assembly declares its firm and solemn resolve to proclaim India as an Independent Sovereign Republic and to draw up for her future governance a Constitution”.
- Where in shall be guaranteed and secured to all the people of India justice, social, economic and political; equality of status of opportunity, and before the law; freedom



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of thought, expression, belief, faith, worship, vocation, association and action, subject to law and public morality; and

- Where by shall be maintained the integrity of the territory of the Republic and its sovereign rights on land, sea and air according to justice and the law of civilized nations.

Source: Laxmikanth

**Q.7)** Which of the following amendment process (s) is/are come (s) under Article 368?

1. Simple Majority.
2. Special majority of the Parliament.
3. Special majority of the Parliament and with the ratification by half of the total states.

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** The Constitution of India is neither rigid nor flexible, but a synthesis of both. Article 368 provides for two types of amendments:

- Some provisions can be amended by a special majority of the Parliament, i.e., a two-third majority of the members of each House present and voting, and a majority of the total membership of each House.
- Some other provisions can be amended by a special majority of the Parliament and with the ratification by half of the total states.

At the same time, some provisions of the Constitution can be amended by a simple majority of the Parliament in the manner of ordinary legislative process. Notably, these amendments do not come under Article 368.

Source: Laxmikanth

**Q.8)** Which of the following states in India follow the Inner Line Permit (ILP)?

1. Arunachal Pradesh
2. Mizoram
3. Tripura
4. Manipur

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:** Inner Line Permit is a concept drawn by colonial rulers; the Inner Line separated the tribal-populated hill areas in the Northeast from the plains.

- To enter and stay for any period in these areas, Indian citizens from other areas need an Inner Line Permit (ILP).
- The Inner Line protects Arunachal Pradesh, Nagaland and Mizoram, and Manipur was added lately.

Source: Indian Express

**Q.9)** Which of the following are the indicators of “**World Happiness Index**”?

1. GDP per capita
2. Social support
3. Environmental sustainability
4. Healthy life expectancy
5. Generosity

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** The Sustainable Development Solutions Network for the United Nations released the World Happiness Report on 20th March, 2020.

- The World Happiness Report ranks 156 countries by how happy their citizens perceive themselves to be.
- The rankings are based on polling (Gallup World Poll) which looks at six variables: GDP per capita, social support, healthy life expectancy, freedom, generosity, and absence of corruption.
- The 2020 Report for the first time ranked cities around the world by their subjective well-being and looked into how the social, urban and natural environments combine to affect happiness.

Source: The Hindu

**Q.10)** Which of the following countries is/are part of “**East Asian Miracle 1993**”?

1. China
2. Japan
3. South Korea
4. Thailand
5. Philippines

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** Eight countries in East Asia—Japan, South Korea, Taiwan, Hong Kong, Singapore, Thailand, Malaysia, and Indonesia—have become known as the “East Asian miracle” because of their economies’ dramatic growth.

- In these eight countries real per capita GDP rose twice as fast as in any other regional grouping between 1965 and 1990.
- Even more impressive is their simultaneous significant reduction in poverty and income inequality.

Source: Ramesh Singh

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## ***Organisations & Bodies***

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**Q.1)** “Lima Declaration” is related to which of the following organization?

- a) United Nations Industrial Development Organization
- b) World Economic Forum
- c) BRICS
- d) United Nations Conference on Trade and Development

**ANS: A**

**Explanation:** UNIDO is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability.

- As of 1 April 2019, 170 States are Members of UNIDO. They regularly discuss and decide UNIDO’s guiding principles and policies in the sessions of the Policymaking Organs.
- The mission of the United Nations Industrial Development Organization (UNIDO), as described in the Lima Declaration adopted at the fifteenth session of the UNIDO General Conference in 2013, is to promote and accelerate inclusive and sustainable industrial development (ISID) in Member States.

Source: <https://www.unido.org/who-we-are/unido-brief>

**Q.2)** “Trade and Development Report” is released by which of the following?

- a) WTO
- b) WEF
- c) UNCTAD
- d) IMF

**ANS: C**

**Explanation:** Trade and Development Report assesses trends and prospects for the global economy and the international trading system, with a particular focus on the issues of capital formation, structural change and international competitiveness.

Source: <https://unctad.org/webflyer/trade-and-development-report-2020>

**Q.3)** Consider the following statements regarding United Nations (UN):

1. All UN Member States are members of the General Assembly.
2. The Secretary-General of UN is appointed for a 5-year, renewable term.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** The UN’s Membership has grown from the original 51 Member States in 1945 to the current 193 Member States.

- All UN Member States are members of the General Assembly. States are admitted to membership by a decision of the General Assembly upon the recommendation of the Security Council.

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- The Secretary-General is Chief Administrative Officer of the UN – and is also a symbol of the Organization's ideals and an advocate for all the world's peoples, especially the poor and vulnerable.
- The Secretary-General is appointed by the General Assembly on the recommendation of the Security Council for a 5-year, renewable term.
- The current Secretary-General, and the 9th occupant of the post, is António Guterres of Portugal, who took office on 1 January 2017.

Source: <https://www.un.org/en/about-us/>

**Q.4)** The “Infrastructure for tomorrow” call is related to which of the following?

- a) ADB
- b) World Bank
- c) AIIB
- d) WEF

**ANS: C**

**Explanation:** Infrastructure for Tomorrow - AIIB. By investing in sustainable infrastructure, AIIB unlocks new capital, new technologies and new ways in which to address climate change and to connect Asia, and the world. Many of us have an in-built desire for a better quality of life.

Source: <https://www.aiib.org/en/about-aiib/who-we-are/infrastructure-for-tomorrow/overview/index.html>

**Q.5)** Poverty Reduction and Growth Trust is a concessional financial support is related to which of the following Institution?

- a) World Bank
- b) Global Environmental Facility
- c) International Monetary Fund
- d) World Economic Forum

**ANS: C**

**Explanation:** The IMF's various lending instruments are tailored to different types of balance of payments need as well as the specific circumstances of its diverse membership (see table).

All IMF members are eligible to access the Fund's resources in the General Resources Account (GRA) on non-concessional terms, but the IMF also provides concessional financial support (currently at zero interest rates through June 2021) through the Poverty Reduction and Growth Trust (PRGT; see IMF Support for Low-Income Countries), which is better tailored to the diversity and needs of low-income countries.

Source: <https://www.imf.org/en/About/Factsheets/IMF-Lending>

**Q.6)** Consider the following statements regarding International Fund for Agricultural Development (IFAD):

1. It is a specialized agency of the United Nations.
2. Its membership is also open to International Atomic Energy Agency.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** The International Fund for Agricultural Development (IFAD), a specialized agency of the United Nations, was one of the major outcomes of the 1974 World Food Conference.

- The conference was organized by the United Nations in response to the food crises of the early 1970s, when global food shortages were causing widespread famine and malnutrition, primarily in the Sahelian countries of Africa.
- IFAD has 177 Member States comprised of developing, middle and high-income countries from all regions of the world who are dedicated to eradicating poverty in rural areas.
- Membership in IFAD is open to any State that is a member of the United Nations, any of its specialized agencies or the International Atomic Energy Agency.

Source: <https://www.ifad.org/en/member-states>

**Q.7)** “People, Peace and Prosperity” call is related to which of the following?

- IMF
- WTO
- WEF
- World Bank

**ANS: D**

**Explanation:** By 2030, up to two-thirds of the world’s extreme poor will live in fragile and conflict-affected situations, threatening to reverse development gains.

The World Bank Group’s strategy aims to enhance its effectiveness on the ground by scaling up financing, tailoring operations and deepening partnerships to invest in people, secure peace and promote prosperity.

Source: <https://www.worldbank.org/en/who-we-are/news/campaigns/2020/peoplepeaceprosperity>

**Q.8)** Consider the following statements regarding “International Centre for Settlement of Investment Disputes” (ICSID):

1. It is the world’s leading institution devoted to international investment dispute settlement.
  2. It was established in 1947 along with World Bank.
- Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

**ANS: A**

**Explanation:** ICSID is the world’s leading institution devoted to international investment dispute settlement.

- It has extensive experience in this field, having administered the majority of all international investment cases.
- States have agreed on ICSID as a forum for investor-State dispute settlement in most international investment treaties and in numerous investment laws and contracts.
- ICSID was established in 1966 by the Convention on the Settlement of Investment Disputes between States and Nationals of Other States (the ICSID Convention).

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- The ICSID Convention is a multilateral treaty formulated by the Executive Directors of the World Bank to further the Bank's objective of promoting international investment.
- ICSID is an independent, depoliticized and effective dispute-settlement institution. Its availability to investors and States helps to promote international investment by providing confidence in the dispute resolution process.
- It is also available for state-state disputes under investment treaties and free trade agreements, and as an administrative registry.

Source: <https://icsid.worldbank.org/About/ICSID>

**Q.9)** "Uruguay Round" negotiation is related to which of the following?

- a) World Bank
- b) World Trade Organization
- c) World Economic Forum
- d) Asian Development Bank

**ANS: B**

**Explanation:** The agreement establishing the World Trade Organization (WTO) calls for a single institutional framework encompassing the GATT, as modified by the Uruguay Round, all agreements and arrangements concluded under its auspices and the complete results of the Uruguay Round.

Source: [https://www.wto.org/english/docs\\_e/legal\\_e/ursum\\_e.htm](https://www.wto.org/english/docs_e/legal_e/ursum_e.htm)

**Q.10)** United Nations Environment Programme Headquarters is located in which of the following Country?

- a) Switzerland
- b) Austria
- c) France
- d) Kenya

**ANS: D**

**Explanation:** The United Nations Environmental Programme (UNEP) was founded in June 1972 as a result of the Stockholm Conference on the Human Environment.

- The UNEP is the coordinating body for the United Nations' environmental activities. It has played a significant role in identifying and analyzing global environmental problems, developing regional and international environmental programs and conventions, and promoting environmental science and information.
- Among its most important tasks is assisting developing countries in implementing environmentally sound policies and practices.
- Since 1997, in response to the environmental requirements of Agenda 21, UNEP has also published its Global Environment Outlook (GEO), a comprehensive report on global state of the environment. Its headquarters are in Nairobi, Kenya.

Source: <http://www.environmentandsociety.org/tools/keywords/united-nations-environmental-programme-unep-established>

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## ***Organization & Bodies – II***

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**Q.1)** “Multiphase Programmatic Approach” is an approach to achieve development objectives in stages is related to which of the following?

- a) International Monetary Fund
- b) World Bank
- c) World Trade Organization
- d) World Economic Forum

**ANS: B**

**Explanation:** Multiphase Programmatic Approach (MPA) of World Bank allows countries the flexibility to implement an approach to achieve development objectives in stages when:

- the development challenge is complex;
- it would take a longer time to achieve the objectives;
- it would take a longer time to prepare one large project;
- the solution needs a broader and comprehensive approach;
- when a stop-and-go approach is not feasible.

Projects under an MPA program may be financed by Investment Project Financing; or Program-for-Results financing, or their combination.

Source: <https://www.worldbank.org/en/projects-operations/products-and-services#MPA>

**Q.2)** Which of the following is/are the lending instrument of International Monetary Fund (IMF)?

- 1. Standby credit facility.
- 2. Extended Fund facility.
- 3. Rapid Credit Facility.

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** Three types of loans were created under the new Poverty Reduction and Growth Trust (PRGT) as part of this broader reform: the Extended Credit Facility, the Rapid Credit Facility and the Standby Credit Facility.

- The Extended Credit Facility (ECF) provides financial assistance to countries with protracted balance of payments problems. The ECF succeeds the Poverty Reduction and Growth Facility (PRGF) as the Fund’s main tool for providing medium-term support LICs, with higher levels of access, more concessional financing terms, more flexible program design features, as well as streamlined and more focused conditionality.
- The Rapid Credit Facility (RCF) provides rapid financial assistance with limited conditionality to low-income countries (LICs) facing an urgent balance of payments need. The RCF streamlines the Fund’s emergency assistance, provides significantly higher levels of concessionality, can be used flexibly in a wide range of circumstances, and places greater emphasis on the country’s poverty reduction and growth objectives.

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- The Standby Credit Facility (SCF) provides financial assistance to low-income countries (LICs) with short-term balance of payments needs. It provides support under a wide range of circumstances, allows for high access, carries a low interest rate, can be used on a precautionary basis, and places emphasis on countries' poverty reduction and growth objectives.

Program-for-Results of World Bank links disbursement of funds directly to the delivery of defined results, helping countries improve the design and implementation of their own development programs and achieve lasting results by strengthening institutions and building capacity.

Source: <https://www.imf.org/external/about/lending> & <https://www.worldbank.org/en/projects-operations/products-and-services>

**Q.3)** Consider the following statements regarding “Action Plan on Climate Change Adaptation and Resilience”:

1. It was launched by World Economic Forum.
2. Under the plan, 100 billion dollars were raised for climate finance from 2021 to 2025.

Which of the statements given above is/are correct?

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

**ANS: D**

**Explanation:** The World Bank Group launched its Action Plan on Climate Change Adaptation and Resilience.

- Under the plan, the World Bank Group will ramp up direct adaptation climate finance to reach \$50 billion over FY21–25.
- This financing level—an average of \$10 billion a year—is more than double what was achieved during FY15-18.
- The World Bank Group will also pilot new approaches to increasing private finance for adaptation and resilience.

Source: <https://www.worldbank.org/en/news/press-release/2019/01/15/world-bank-group-announces-50-billion-over-five-years-for-climate-adaptation-and-resilience>

**Q.4)** Which of the following is/are the instruments/methods of International Monetary Fund to raise money?

1. Multinational corporations.
2. Quotas.
3. New Arrangements to Borrow (NABs).

Select the correct answer using the codes given below:

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

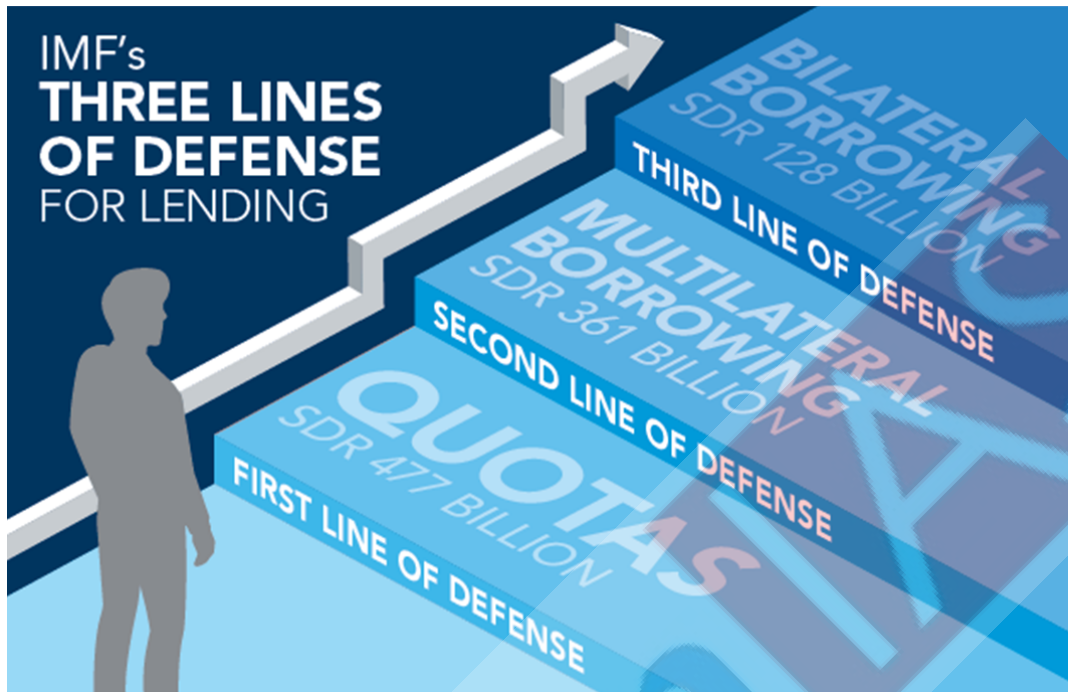
**ANS: C**

**Explanation:** Quotas are the IMF's main source of financing. Each member of the IMF is assigned a quota, based broadly on its relative position in the world economy.

- The New Arrangements to Borrow (NAB) constitutes a second line of defense to supplement IMF resources to forestall or cope with an impairment of the international monetary system.



- Bilateral Borrowing Agreements serve as a third line of defense after quotas and the NAB.



Source: <https://www.imf.org/en/About/Factsheets/Where-the-IMF-Gets-Its-Money>

**Q.5)** Which of the following is headed by the Central Zoo Authority?

- President
- Prime Minister
- Environment Minister
- Animal Board of Wild life Chairman

**ANS: C**

**Explanation:** The CZA is a statutory body under the Ministry of Environment, Forest and Climate Change.

- It was constituted in 1992 under the Wildlife (Protection) Act, 1972.
- It is chaired by the Environment Minister and has 10 members and a member-secretary.
- The main objective of the authority is to complement and strengthen the national effort in conservation of rich biodiversity.

Source: <http://www.cza.nic.in/>

**Q.6)** Under which of the following act the Animal Welfare Board of India was established?

- Wildlife Protection Act, 1972
- Prevention of Cruelty to Animals Act, 1960
- Animal Welfare act, 1980
- Environment protection act, 1986

**ANS: B**

**Explanation:** The Animal Welfare Board of India is a statutory advisory body on Animal Welfare Laws and promotes animal welfare in the country.

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- Established in 1962 under Section 4 of the Prevention of Cruelty to Animals Act, 1960 (No. 59 of 1960), the Animal Welfare Board of India was started under the stewardship of Late Smt. Rukmini Devi Arundale, well known humanitarian.
- From ensuring that animal welfare laws in the country are diligently followed, to provide grants to Animal Welfare Organizations and advising the Government of India on animal welfare issues, the Board has been the face of the animal welfare movement in the country for the last 50 years.

Source: <http://www.awbi.in/about.html>

**Q.7)** “Infrastructure for Tomorrow” initiative is related to which of the following institution?

- a) Asian Infrastructure Investment Bank
- b) Asian Development Bank
- c) World Bank
- d) New Development Bank

**ANS: A**

**Explanation:** Many of us have an in-built desire for a better quality of life. This means accessible physical, digital, commercial, medical, educational and other social infrastructure.

- AIIB, its members and clients, work together to finance infrastructure development—turning aspirations into reality.
- What our clients build and how and where their investments are built will evolve as infrastructure technologies advance and as people, the economy and the world change.
- The way people live, move and work and the way markets develop will shape the Infrastructure for Tomorrow (I4T).

I4T reflects AIIB's firm commitment to sustainability:

- Environmentally: Addresses ecological impacts like water and air quality, biodiversity, pollution and climate change.
- Financially and economically: Projects with sound return on investment that raise economic growth and increase productivity.
- Socially: Gives inclusive access, particularly to citizens excluded from access to infrastructure services.

Source: <https://www.aiib.org/en/about-aiib/who-we-are/infrastructure-for-tomorrow/overview/index.html>

**Q.8)** Which of the following is NOT a member of Shanghai Cooperation Organization (SCO)?

- a) India
- b) Uzbekistan
- c) Pakistan
- d) Mongolia

**ANS: D**

**Explanation:** The SCO comprises eight member states, namely the Republic of India, the Republic of Kazakhstan, the People's Republic of China, the Kyrgyz Republic, the Islamic Republic of Pakistan, the Russian Federation, the Republic of Tajikistan, and the Republic of Uzbekistan;

- The SCO counts four observer states, namely the Islamic Republic of Afghanistan, the Republic of Belarus, the Islamic Republic of Iran and Mongolia;

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- The SCO has six dialogue partners, namely the Republic of Azerbaijan, the Republic of Armenia, the Kingdom of Cambodia, the Federal Democratic Republic of Nepal, the Republic of Turkey, and the Democratic Socialist Republic of Sri Lanka.

Source: [http://eng.sectesco.org/about\\_sco/](http://eng.sectesco.org/about_sco/)

**Q.9)** With reference to the National Human Rights Commission, which of the following statements is/are NOT correct?

1. The chairperson of the commission should be a retired chief justice of India or a judge of the Supreme Court.
2. The chairperson and members are appointed by the Parliament.

Select the correct answer using the codes given below:

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

**ANS: B**

**Explanation:** The commission is a multi-member body consisting of a chairperson and five members.

- The chairperson should be a retired chief justice of India or a judge of the Supreme Court and members should be a serving or retired judge of the Supreme Court, a serving or retired chief justice of a high court and three persons (out of which atleast one should be a woman) having knowledge or practical experience with respect to human rights.
- The chairperson and members are appointed by the president on the recommendations of a six-member committee consisting of the prime minister as its head, the Speaker of the Lok Sabha, the Deputy Chairman of the Rajya Sabha, leaders of the Opposition in both the Houses of Parliament and the Central home minister.

Source: Laxmikanth

**Q.10)** The Central Vigilance Commission was established under the recommendation of which of the following?

- a) Sarkaria Commission
- b) Punchi Commission
- c) Santhanam Committee
- d) Second ARC commission

**ANS: C**

**Explanation:** The Central Vigilance Commission (CVC) is the main agency for preventing corruption in the Central government. It was established in 1964 by an executive resolution of the Central government. Its establishment was recommended by the Santhanam Committee on Prevention of Corruption1 (1962–64).

Source: Laxmikanth

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## *Organization & Bodies - III*

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**Q.1)** Which of the following convention is formed to control of trans-boundary movements of hazardous waste and their disposal?

- a) Basel Convention
- b) London Convention
- c) Paris Convention
- d) Vienna Convention

**ANS: A**

**Explanation:** The Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal was adopted on 22 March 1989 by the Conference of Plenipotentiaries in Basel, Switzerland, in response to a public outcry following the discovery, in the 1980s, in Africa and other parts of the developing world of deposits of toxic wastes imported from abroad.

Source: Basel Convention

**Q.2)** MARPOL Convention is related to which of the following?

- a) Sustainable use of marine resources
- b) Development of renewable energy on sea shores
- c) Prevention of pollution of the marine environment by ships
- d) Offshore wind energy

**ANS: C**

**Explanation:** The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.

- The MARPOL Convention was adopted on 2 November 1973 at IMO. The Protocol of 1978 was adopted in response to a spate of tanker accidents in 1976-1977.
- As the 1973 MARPOL Convention had not yet entered into force, the 1978 MARPOL Protocol absorbed the parent Convention. The combined instrument entered into force on 2 October 1983.
- In 1997, a Protocol was adopted to amend the Convention and a new Annex VI was added which entered into force on 19 May 2005. MARPOL has been updated by amendments through the years.
- The Convention includes regulations aimed at preventing and minimizing pollution from ships - both accidental pollution and that from routine operations - and currently includes six technical Annexes.

Source: Shankar

**Q.3)** Which of the following activities carried out by Wildlife Institute of India (WII)?

1. Training
2. Research
3. Publicity
4. Consultancy services

Select the correct answer using the code given below:

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

d) 1, 2, 3 and 4

**ANS: D**

**Explanation:** Build up scientific knowledge on wildlife resources. Train personnel at various levels for conservation and management of wildlife.

- Carry out research relevant to management including the development of techniques appropriate to Indian conditions.
- Provide information and advice on specific wildlife management problems.
- Collaborate with international organizations on wildlife research, management and training.
- Develop as a regional centre of international importance on wildlife and natural resource conservation.
- Publicity and consultancy services

Source: Shankar

**Q.4)** Which of the following convention is related to Persistent Organic Pollutants?

- a) Basel convention
- b) Paris convention
- c) Stockholm convention
- d) Rotterdam convention

**ANS: C**

**Explanation:** The Stockholm Convention on Persistent Organic Pollutants is a global treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of humans and wildlife, and have harmful impacts on human health or on the environment.

- Exposure to Persistent Organic Pollutants (POPs) can lead to serious health effects including certain cancers, birth defects, dysfunctional immune and reproductive systems, greater susceptibility to disease and damages to the central and peripheral nervous systems.
- Given their long range transport, no one government acting alone can protect its citizens or its environment from POPs.
- In response to this global problem, the Stockholm Convention, which was adopted in 2001 and entered into force in 2004, requires its parties to take measures to eliminate or reduce the release of POPs into the environment.

Source: Stockholm Convention

**Q.5)** Mangroves For the Future (MFF) was an initiative of which of the following institution?

- a) IUCN
- b) World Bank
- c) UNEP
- d) GEF

**ANS: A**

**Explanation:** The devastation caused by the Indian Ocean tsunami of December 2004 laid bare the vital link between coastal ecosystems and human livelihoods.

- It was United States President Bill Clinton's vision that rebuilding in tsunami-hit areas should improve natural infrastructure and strengthen resilience against future natural disasters.

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- In response to this vision, IUCN (International Union for Conservation of Nature) and the United Nations Development Programme (UNDP) developed Mangroves for the Future in 2006.
- Since then, MFF has grown to include eight institutional partners, plus a growing number of countries.

Source: IUCN

**Q.6)** Consider the following statements regarding “National Green Tribunal”:

1. It was created for the effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources.
2. It is mandated to dispose the cases within six months of their respective appeals.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** The Preamble of the act provides for the establishment of a National Green Tribunal for the effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources, including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto (The National Green Tribunal Act, 2010).

NGT is mandated to dispose the cases within six months of their respective appeals.

Source: Shankar IAS

**Q.7)** Consider the following statements regarding “National Wildlife Action Plan (NWAP)”:

1. It was created by the provisions of the wildlife protection act, 1972.
2. The first National Wildlife Action Plan (NWAP) was adopted in 1983.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** The first National Wildlife Action Plan (NWAP) was adopted in 1983, based upon the decision taken in the XV meeting of the Indian Board for Wildlife held in 1982. The plan had outlined the strategies and action points for wildlife conservation which are still relevant.

Source: Shankar page no: 313

**Q.8)** Consider the following statements regarding “Compensatory Afforestation Fund Management and Planning Authority (CAMPA)”:

1. It was created under the provisions of the forest conservation act, 1980.
2. Resources realized from diverting forest resources to commercial purpose should be used for afforestation.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only

- c) Both 1 and 2
- d) Neither 1 nor 2

**ANS: C**

**Explanation:** While according prior approval under the Forest (Conservation) Act, 1980 for diversion of forest land for non-forest purpose, Central Government stipulates conditions that amounts shall be realised from the user agencies to undertake compensatory afforestation and such other activities related to conservation and development of forests, to mitigate impact of diversion of forest land.

Source: Shankar page no: 314

**Q.9)** Which of the following agency would take up the case against corruption under Whistle Blower Resolution?

- a) Central Vigilance Commission
- b) Central Bureau of Investigation
- c) National Human Rights commission
- d) Enforcement Directorate

**ANS: A**

**Explanation:** In 2004, the CVC has been designated as the agency to receive and act on complaints or disclosure on any allegation of corruption or misuse of office from whistle blowers under the “Public Interest Disclosure and Protection of Informers’ Resolution” (PIDPI), which is popularly known as “Whistle Blowers” Resolution.

The Commission is also empowered as the only designated agency to take action against complainants making motivated or vexatious complaints.

Source: Laxmikanth

**Q.10)** With Reference to the Central Bureau of Investigation, which of the following statements is/are correct?

1. It was set up in 1963 by a resolution of the Ministry of Personnel.
2. It derives its powers from the Delhi Special Police Establishment Act, 1946.

Select the correct answer using the codes given below:

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

**ANS: B**

**Explanation:** The Central Bureau of Investigation (CBI) was set up in 1963 by a resolution of the Ministry of Home Affairs.

- Later, it was transferred to the Ministry of Personnel and now it enjoys the status of an attached office.
- The Special Police Establishment (which looked into vigilance cases) setup in 1941 was also merged with the CBI.
- The establishment of the CBI was recommended by the Santhanam Committee on Prevention of Corruption (1962–1964).
- The CBI is not a statutory body. It derives its powers from the Delhi Special Police Establishment Act, 1946.

Source: Laxmikanth

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## Revision

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**Q.1)** Consider the following statements regarding national parks:

1. They are established by respective government in accordance with environment protection act, 1980.
2. They enjoy a greater degree of protection than sanctuaries.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** The Wild Life (Protection) Act (WPA) of 1972 provided for the declaration of National Parks by the State Government in addition to the declaration of wildlife sanctuaries.

- National Parks are declared in areas that are considered to be of adequate ecological, geomorphologic and natural significance although within the law, the difference in conservation value of a National Park from that of a sanctuary is not specified in the WPA 1972.
- National Parks enjoy a greater degree of protection than sanctuaries.
- Certain activities which are regulated in sanctuaries, such as grazing of livestock, are prohibited in National Parks.

Source: Shankar page no: 175

**Q.2)** The Chief Wild Life Warden may, on application, grant to any person a permit to enter or reside in a sanctuary/ National Park for which of the following purposes?

1. Investigation of wildlife
2. Scientific Research
3. Transaction of lawful business with any person residing in the sanctuary

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** The Chief Wild Life Warden may, on application, grant to any person a permit to enter or reside in a sanctuary/ National Park for all or any of the following purposes:

- investigation or study of wildlife and purposes ancillary or incidental thereto
- photography
- scientific research
- tourism
- transaction of lawful business with any person residing in the sanctuary

Source: Shankar Page no: 176



**Q.3)** Consider the following statements regarding “conservation reserves”:

1. It was created under forest conservation act, 1980.
2. It is an area owned by the State Government adjacent to National Parks and sanctuaries for protecting the landscape, seascape and habitat of fauna and flora.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** The Amendment Act (Wildlife Protect Act, 1972) of 2003 provided for the creation of a new type of protected area called a Conservation Reserve.

- It is an area owned by the State Government adjacent to National Parks and sanctuaries for protecting the landscape, seascape and habitat of fauna and flora.
- It is managed through a Conservation Reserve Management Committee
- The State Government may, after having consultations with the local communities, declare any area owned by the Government as conservation reserve.

Source: Shankar Page No: 177

**Q.4)** “Bhitarkanika National Park and Bhitarkanika Sanctuary” is often seen in news is located in which of the following state?

- a) Andhra Pradesh
- b) Kerala
- c) Tamil Nadu
- d) Odisha

**ANS: D**

**Explanation:** The Bhitarkanika Wildlife Sanctuary (Odisha) is one of India’s biggest estuarine crocodile habitats and a major coastal eco-system.

- It was declared as a National Park because of its ecological, faunal, floral, geomorphological and zoological association and importance and for the purpose of protection in 1998.
- In August 2002, it was designated as the second Ramsar site (i.e. Wetland of International importance).

Source: The Hindu

**Q.5)** Who among the following is the pioneer for establishing animal welfare board of India?

- a) Rukmini Devi Arundale
- b) Indira Gandhi
- c) Kasturi Ranjan
- d) Romila Thapar

**ANS: A**

**Explanation:** The Animal Welfare Board of India is a statutory advisory body on Animal Welfare Laws and promotes animal welfare in the country.

- The Animal Welfare Board of India, the first of its kind to be established by any Government in the world, was set up in 1962, in accordance with Section 4 of the Prevention of Cruelty to Animals Acts 1960.

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- Shrimati Rukmini Devi Arundale pioneered the setting up of the Board, with its Headquarters at Chennai. She guided the activities of the Board for nearly twenty years till her demise in 1986.

Source: Shankar page no: 321

**Q.6)** “Atapaka bird sanctuary” is identified as the world’s largest home for the spot-billed pelican is located in which of the following state?

- a) Karnataka
- b) Andhra Pradesh
- c) Goa
- d) Chhattisgarh

**ANS: B**

**Explanation:** The atapaka Bird Sanctuary, part of the Kolleru Lake (Andhra Pradesh), has been identified as the world’s largest home for the spot-billed pelican.

Source: The Hindu

**Q.7)** Consider the following provisions:

1. Directive Principles of State Policy
2. Election of the President and its manner
3. Salaries and allowances of the members of Parliament

Which of the provisions given above is/are amended by a special majority of Parliament?

Select the correct answer using the codes given below:

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

**ANS: B**

**Explanation:** The majority of the provisions in the Constitution need to be amended by a special majority of the Parliament, that is, a majority (that is, more than 50 per cent) of the total membership of each House and a majority of two-thirds of the members of each House present and voting.

- The expression ‘total membership’ means the total number of members comprising the House irrespective of fact whether there are vacancies or absentees.
- ‘Strictly speaking, the special majority is required only for voting at the third reading stage of the bill but by way of abundant caution the requirement for special majority has been provided for in the rules of the Houses in respect of all the effective stages of the bill’.

The provisions which can be amended by this way include:

- (i) Fundamental Rights;
- (ii) Directive Principles of State Policy; and
- (iii) All other provisions which are not covered by the first and third categories.

Source: Indian Polity by Laxmikanth

**Q.8)** Consider the following statements regarding procedure for the amendment of the Constitution:

1. An amendment of the Constitution can be initiated in either House of Parliament or the state legislature.
2. The bill cannot be introduced by a private member.

Which of the statements given above is/are correct?

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

**ANS: D**

**Explanation:** Article 368 in Part XX of the Constitution deals with the powers of Parliament to amend the Constitution and its procedure.

- An amendment of the Constitution can be initiated only by the introduction of a bill for the purpose in either House of Parliament and not in the state legislatures.
- The bill can be introduced either by a minister or by a private member and does not require prior permission of the president.
- The bill must be passed in each House by a special majority, that is, a majority (that is, more than 50 per cent) of the total membership of the House and a majority of two-thirds of the members of the House present and voting.
- Each House must pass the bill separately. In case of a disagreement between the two Houses, there is no provision for holding a joint sitting of the two Houses for the purpose of deliberation and passage of the bill.
- If the bill seeks to amend the federal provisions of the Constitution, it must also be ratified by the legislatures of half of the states by a simple majority, that is, a majority of the members of the House present and voting.
- After duly passed by both the Houses of Parliament and ratified by the state legislatures, where necessary, the bill is presented to the president for assent.
- The president must give his assent to the bill. He can neither withhold his assent to the bill nor return the bill for reconsideration of the Parliament.
- After the president's assent, the bill becomes an Act (i.e., a constitutional amendment act) and the Constitution stands amended in accordance with the terms of the Act.

Source: Indian Polity by Laxmikanth

**Q.9)** Consider the following statement about President's Rule in India:

1. Article 356 and Article 365 mentions the grounds of proclamation of President's Rule in India.
2. The presidential proclamation imposing President's Rule is not subjected to judicial review.

Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** Article 355 imposes a duty on the Centre to ensure that the government of every state is carried on in accordance with the provisions of the Constitution.

- It is this duty in the performance of which the Centre takes over the government of a state under Article 356 in case of failure of constitutional machinery in state.
- This is popularly known as 'President's Rule'. It is also known as 'State Emergency' or 'Constitutional Emergency'.
- The President's Rule can be proclaimed under Article 356 on two grounds —one mentioned in Article 356 itself and another in Article 365.

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- The 38th Amendment Act of 1975 made the satisfaction of the President in invoking Article 356 final and conclusive which could not be challenged in any court on any ground.
- But, this provision was subsequently deleted by the 44th Amendment Act of 1978 implying that the satisfaction of the President is not beyond judicial review.
- In Bommai case (1994), the Supreme Court said that imposition of President's Rule in a state under Article 356 is subject to judicial review.

Source: Indian Polity by Laxmikanth

**Q.10)** With reference to the executive powers of the President, which of the following statements is/are correct?

1. All executive actions of the Government of India are formally taken in his name.
2. He appoints the comptroller and auditor general of India and determines his salary and tenure.

Select the correct answer using the code given below:

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

**ANS: A**

**Explanation:** The Indian President is the head of the state and he is also called the first citizen of India.

- He is a part of Union Executive, provisions of which are dealt with Article 52-78 including articles related to President (Article 52-62).
- All executive actions of the Government of India are formally taken in his name.
- The President appoints the comptroller and auditor general of India and he does not determine his salary and tenure.
- The salary and other conditions of service of the CAG are determined by the Parliament of India through "The Comptroller and Auditor-General (Duties, Powers and Conditions of Service) Act, 1971".

Source: Laxmikanth

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## *Modern History*

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**Q.1)** Which of the following was/were the reasons for increased quest for and discovery of a sea route to India in 15<sup>th</sup> Century by European Nations?

1. Obsession of Prince Henry of Portugal to find India.
2. Red sea trade route was monopolised by Islamic rulers.
3. The art of ship building and navigation had great advances in Europe.

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** Historians have observed that the idea of finding an ocean route to India had become an obsession for Prince Henry of Portugal, who was nicknamed the 'Navigator'.

In 1453, Constantinople fell to the Ottoman Turks, due to which merchandise trade from India to the European markets came under Arab Muslim intermediaries. The Red Sea trade route was a state monopoly from which Islamic rulers earned tremendous revenues.

In 15<sup>th</sup> Century, Europe made great advances in the art of ship-building and navigation. Hence, there was eagerness all over Europe for adventurous sea voyages to reach the unknown corners of the East.

Source: Spectrum Modern India.

**Q.2)** With reference to Europe in 15<sup>th</sup> century, the Treaty of Tordesillas was signed between?

- a) Portugal and Egypt
- b) Spain and Greece
- c) Spain and Portugal
- d) France and Portugal

**ANS: C**

**Explanation:** Under the Treaty of Tordesillas (1494), the rulers of Portugal and Spain divided the non-Christian world between them by an imaginary line in the Atlantic, some 1,300 miles west of the Cape Verde Islands.

Under the treaty, Portugal could claim and occupy everything to the east of the line while Spain could claim everything to the west.

Source: Spectrum Modern India.

**Q.3)** With reference to European powers in India, who among the following introduced Blue Water Policy?

- a) British
- b) Portuguese
- c) French
- d) Danish

**ANS: B**

**Explanation:** In 1505, the King of Portugal appointed a governor Francisco De Almeida in India for a three-year term and he was asked to consolidate the position of the Portuguese in India and to destroy Muslim trade by seizing Aden, Ormuz and Malacca.

- Francisco de Almeida wanted that Portuguese should maintain supremacy on sea and confine their activities to purely commercial transactions and to realize his vision he implemented Blue water policy.
- The Blue Water Policy was the fortification of Indian Ocean, not for the security but for the establishment of Portuguese business in the Indian Ocean.
- The Blue water policy was reversed by Alfonso de Albuquerque.

Source: Spectrum Modern India.

**Q.4)** With reference to the colonial powers in India, which colonial power was most affected by the War of Spanish Succession broke out in Europe?

- a) Portuguese
- b) Dutch
- c) British
- d) French

**ANS: D**

**Explanation:** French position in India from starting days was badly affected with the outbreak of war between the Dutch and the French and when the War of Spanish Succession broke out in Europe.

Due to this they had to abandon their factories at Surat, Masulipatnam and Bantam in the early 18th century.

Source: Spectrum Modern India.

**Q.5)** With reference to Colonial powers in India, arrange the following treaties in chronological order:

1. Treaty of Aix-La Chapelle
2. Treaty of peace of Paris
3. Treaty of Ryswick

Select the correct answer using the codes given below:

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

**ANS: C**

**Explanation:** Treaty of Ryswick: In July 1697 the treaty brought to an end the Nine Years War, in which Louis XIV's France faced a grand coalition of England, the Dutch, and Spain.

- Louis agreed to return most of his territorial acquisitions or réunions made since Nijmegen, but retained the important fortress town of Strasbourg.
- The Dutch were allowed to garrison barrier fortresses in the Spanish Netherlands. In India Pondicherry was restored to French by Dutch.
- The treaty, negotiated with much difficulty, lasted only four years before the War of the Spanish Succession broke out.

Treaty of Aix-La Chapelle: It was signed between British and French in 1748 after first Carnatic war.

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- Treaty of Aix-la-Chapelle 1748 was negotiated largely by Britain and France, with the other powers following their lead, ending the War of the Austrian Succession (1740–48).
- The treaty was marked by the mutual restitution of conquests, including the fortress of Louisburg on Cape Breton Island, Nova Scotia, to France; Madras in India, to England.

Treaty of peace of Paris: The Treaty of Paris of 1763 ended the French and Indian War/Seven Years' War between Great Britain and France, as well as their respective allies.

- In the terms of the treaty, France gave up all its territories in mainland North America, effectively ending any foreign military threat to the British colonies there.
- In India Pondicherry, Karaikal and other French possessions were returned to the French on condition that they should not fortify them and it ended the third Carnatic war in 1763.

Source: Spectrum Modern India.

**Q.6)** With reference to Mughal rule in India, which of the following pair/pairs correctly matched?

Battle	:	Emperor/ruler associated with
1. Battle of Karnal	:	Ahmed Shah
2. Battle of Plassey	:	Muhammad Shah
3. Battle of Buxar	:	Shah Alam II

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** Battle of Karnal: It was held between Nadir Shah and Mughals (Emperor Muhammad Shah) in 1739 and mughals were defeated in the war and later Muhammad Shah was imprisoned and annexed areas west of the Indus into the Persian Empire.

Battle of Plassey: The battle was fought between the East India Company headed by Robert Clive and the Nawab of Bengal (Siraj-Ud-Daulah) and his French Troop in 1757. This battle is often termed as the 'decisive event' which became the source of ultimate rule of the British in India. Mughal emperor Alamgir-II was ruling the empire when the Battle of Plassey took place.

Battle of Buxar: It was a battle fought between the English Forces, and a joint army of the Nawab of Oudh, Nawab of Bengal, and the Mughal Emperor Shah Alam II in 1764. The battle was the result of misuse of trade privileges granted by the Nawab of Bengal and also the colonialist ambitions of East India Company.

Source: Spectrum Modern India.

**Q.7)** With reference to Industrial development of India in 18<sup>th</sup> century, the term "Kunjali Maraikkars" is associated with?

- a) Naval chiefs
- b) Revenue collectors
- c) Merchant Bankers
- d) Trade supervisors

**ANS: A**

**Explanation:** The Kunjali Marakkars were maritime merchants of Arab descent who supported the trade in the Indian Ocean who settled in the coastal regions of Kayalpattinam, Kilakarai, Thoothukudi, Nagore and Karaikal.

- With the emergence of the Portuguese in India, some Marakkars were forced to take up arms and enlist themselves in service of the Hindu king (the zamorin) of Calicut.
- The Marakkar naval chiefs of the Calicut were known as Kunjali Marakkars.

Source: Spectrum Modern India.

**Q.8)** Which of the following are the exports from Bengal to Europe in 18<sup>th</sup> Century?

- a) Saltpetre, gold and silk
- b) Cotton, silk and indigo
- c) Cotton, gold and coffee
- d) Silk, rubber and gold

**ANS: B**

**Explanation:** Bengal, the richest province of the Mughal Empire included present day Bangladesh, and its Nawab had authority over the region constituting present day states of Bihar and Odisha.

Exports from Bengal to Europe consisted of raw products such as saltpetre, rice, indigo, pepper, sugar, silk, cotton textiles, handicrafts, etc.

Source: Spectrum Modern India.

**Q.9)** With reference to the treaty of Allahabad in 1765, which of the following statements is/are correct?

1. Allahabad and Benaras were surrendered to Shah Alam II by Nawab Shuja-ud-Daula.
2. Shah Alam – II was agreed to pay 50lakh to company as war indemnity.

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** Robert Clive concluded two important treaties at Allahabad in August 1765 - one with the Nawab of Awadh and the other with the Mughal Emperor, Shah Alam II.

- Under the treaty Nawab of Awadh Shuja-ud-Daula agreed to surrender Allahabad and Kara to Emperor Shah Alam II.
- Under the treaty Nawab of Awadh Shuja-ud-Daula agreed to pay Rs 50 lakh to the Company as war indemnity.

Source: Spectrum Modern India.

**Q.10)** With reference to the policy of annexation by diplomacy and administrative mechanisms by British, which of the following pair/pairs correctly matched?

Governor – General	:	Policy of annexation
1. Lord Hastings	:	policy of ring fence
2. Lord Wellesley	:	policy of subsidiary alliance
3. Lord Dalhousie	:	policy of doctrine of lapse

Select the correct answer using the codes given below:

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



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

**ANS: C**

**Explanation:** Policy of Ring Fence: It is followed by Warren Hastings, under which aimed at creating buffer zones to defend the Company's frontiers. Broadly speaking, it was the policy of defence of their neighbours' frontiers for safeguarding their own territories. This policy of Warren Hastings was reflected in his war against the Marathas and Mysore.

Policy of Subsidiary Alliance: It is followed by Lord Wellesley, under which the allying Indian state's ruler was compelled to accept the permanent stationing of a British force within his territory and to pay a subsidy for its maintenance.

- Also, the Indian ruler had to agree to the posting of a British resident in his court. Under the system, the Indian ruler could not employ any European in his service without the prior approval of the British.
- Nor could he negotiate with any other Indian ruler without consulting the governor-general. In return for all this, the British would defend the ruler from his enemies and adopt a policy of noninterference in the internal matters of the allied state.

Policy of Doctrine of Lapse: It is followed by Lord Dalhousie, under which the adopted son could be the heir to his foster father's private property, but not the state; it was for the paramount power (the British) to decide whether to bestow the state on the adopted son or to annex it.

Source: Spectrum Modern India.

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## *Modern History – II*

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**Q.1)** Which of the following was/were causes of decline of Mughal Empire?

1. Shift of allegiance of zamindars to Empire from nobles.
2. Mutual rivalry, jealousy and contest of power among various groups during later mughal era.
3. Land scarcity due to rise in amirs and mansabs and their ranks.

Select the correct answer using the codes given below:

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

**Ans: C**

**Explanation:** Two classes shared the power of the State with the emperor during the medieval period—the zamindars and the nobles. During the reign of Aurangzeb itself, there was a marked increase in the power and influence of the zamindars.

- The biggest fallout of this was that regional loyalties were encouraged. Many local zamindars helped the nobility, the other powerful class within the empire, to take advantage of the weakness of the empire and carve out independent kingdoms for themselves.
- Mutual rivalry, jealousy and contest for power among the various groups during the rule of the later Mughals, not only reduced the prestige of the emperor, but also contributed to the decline of the empire.
- The number of amirs and their ranks or mansabs had increased sharply over time; there was little land left to be distributed among them as jagirs.

Source: Spectrum Modern India.

**Q.2)** With reference to the socio – economic conditions on the eve of British conquest, which of the following statements was/were correct?

1. There were forced revenue collections from peasants.
2. India's imports were higher than exports.

Select the correct answer using the codes given below:

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

**ANS: A**

**Explanation:** Even though the agricultural produce supported the rest of the society, a peasant's own reward was miserably inadequate.

- They were forced to pay exorbitant amounts to the state, the zamindars, the jagirdars, and the revenue-farmers. But this worsened under British rule.
- On account of being self-sufficient in handicrafts and agricultural products, India did not import foreign goods on a large scale.
- On the other hand, its industrial and agricultural products were in good demand in foreign markets.

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- Hence its exports were more than its imports; trade was balanced by import of silver and gold. India was known as a sink of precious metals.

Source: Spectrum Modern India.

**Q.3)** The “black hole tragedy” was associated with which of the following?

- a) Shuja-ud-Daula
- b) Siraj-ud-daula
- c) Mir Jafar
- d) Murshad kuli khan

**ANS: B**

**Explanation:** Siraj-ud-daula is believed to have imprisoned 146 English persons (black hole tragedy) who were lodged in a very tiny room due to which 123 of them died of suffocation.

Source: Spectrum Modern India.

**Q.4)** Which of the following states/provinces are covered under the Subsidiary Alliance of British?

1. Bengal Province
2. Hyderabad state
3. Tanjore
4. Mysore

Select the correct answer using the codes given below:

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

**ANS: C**

**Explanation:** The Indian princes who accepted the subsidiary system were: the Nizam of Hyderabad (September 1798 and 1800), the ruler of Mysore (1799), the ruler of Tanjore (October 1799), the Nawab of Awadh (November 1801), the Peshwa (December 1801), the Bhonsle Raja of Berar (December 1803), the Sindhia (February 1804), the Rajput states of Jodhpur, Jaipur, Macheri, Bundi and the ruler of Bharatpur (1818).

The Holkars were the last Maratha confederation to accept the Subsidiary Alliance in 1818.

Source: Spectrum Modern India.

**Q.5)** Which state was annexed by the British on the grounds of misgovernment?

- a) Hyderabad
- b) Baghat
- c) Awadh
- d) Punjab

**ANS: C**

**Explanation:** Lord Dalhousie directed Sleeman, the Resident in Awadh, to make a tour throughout the state and ascertain the actual situation by personal inspection.

- The resident submitted a report describing the anarchical condition in the state.
- He was succeeded as resident in 1854 by Outram who submitted a report supporting that of his predecessor.
- Lord Dalhousie annexed Awadh in 1856 after deposing Nawab Wajid Ali Shah on grounds of misgovernment.

Source: Spectrum Modern India.

**Q.6)** The “Indian National Association” protested against the reduction of age limit in 1877 for candidates of the Indian Civil Service examination, was founded by?

- a) Bala Gangadhar Tilak
- b) Dadabhai Naoroji
- c) Surendranath Banerjea
- d) C Rajagopalachari

**ANS: C**

**Explanation:** The Indian Association of Calcutta (also known as the Indian National Association) was founded in 1876 by younger nationalists of Bengal led by Surendranath Banerjea and Ananda Mohan Bose, who were getting discontented with the conservative and pro-landlord policies of the British Indian Association.

It protested against the reduction of age limit in 1877 for candidates of the Indian Civil Service examination.

Source: Spectrum Modern India.

**Q.7)** With reference to the political association in British India, which of the following pair/pairs correctly matched?

Organization	:	founded by
1. Poona Sarvajanik Sabha	:	Jyotirao Govindrao Phule
2. Bombay Presidency Association	:	Badrudin Tyabji
3. Madras Mahajan Sabha	:	P Anandacharlu

Select the correct answer using the codes given below:

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

**ANS: C**

**Explanation:** Poona Sarvajanik Sabha: It was founded in 1867 by Mahadeo Govind Ranade and others, with the object of serving as a bridge between the government and the people.

- Bombay Presidency Association: It was started by Badruddin Tyabji, Pheroze Shah Mehta and K.T. Telang in 1885.
- Madras Mahajan Sabha: It was founded in 1884 by M. Viraraghavachari, B. Subramaniya Aiyer and P. Anandacharlu.

Source: Spectrum Modern India page no, 272.

**Q.8)** The “revolt of Mopillas” was associated with which of the following region?

- a) Madras
- b) Baluchistan
- c) Kerala
- d) Pune

**ANS: C**

**Explanation:** The Malabar Rebellion (also called the Mappila or Moplah Rebellion by the British) broke out in the southern taluks of Malabar in August 1921.

- By the time the government troops captured Haji in January 1922, the rebellion had fizzled out.
- It largely took the shape of guerrilla-type attacks on janmis (feudal landlords, who were mostly upper caste Hindus) and the police and troops.

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Source: <https://www.thehindu.com/news/national/kerala/the-hindu-explains-why-is-there-a-controversy-over-a-film-project-on-the-protagonist-of-1921-malabar-rebellion/article31935304>.

**Q.9)** “Cowrie currency” was used in British period in which of the following place?

- a) Odisha
- b) Punjab
- c) Mumbai
- d) Travancore

**ANS: A**

**Explanation:** The Paiks of Odisha were the traditional landed militia (‘foot soldiers’ literally) and enjoyed rent free land tenures for their military service and policing functions on a hereditary basis.

- Common masses were affected by the rise in prices of salt due to taxes imposed on it, abolition of cowrie currency and the requirement of payment of taxes in silver, etc.
- Cowrie shells, found abundantly in the Indian Ocean, were among the earliest forms of currency used in the world. In India, they were colloquially referred to as kaudi and were used in certain areas like Odisha even until the early 1800s.

Source: Spectrum Modern India.

**Q.10)** “Satya Prakash” – a weekly was started to promote widow remarriage by?

- a) Ishwar Chandra Vidyasagar
- b) Vishnu Shastri Pandit
- c) D.K. Karve
- d) Karsondas Mulji

**ANS: D**

**Explanation:** Karsandas Mulji, a contemporary of Dadabhai Naoroji, was one of the pioneer Indian social reformers working for the cause of women emancipation.

- In 1850s-60s, Mulji was a prominent member of the “Bombay intelligentsia” in conflict with the “merchant aristocracy” over social issues.
- Mulji’s place in Indian history as a reformer is due to the Maharaj libel case in 1862 which earned him the title of “a Reformer, a Martin Luther of the Banian Cast”.
- He started the Satya Prakash in Gujarati in 1852 to advocate widow remarriage.

Source: Spectrum Modern India page no, 218.

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## Miscellaneous

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

List	:	Subject
1. Union list	:	Major ports
2. State list	:	Non Major ports
3. Concurrent list	:	Fisheries

Select the correct answer using the codes given below:

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

**ANS: A**

**Explanation:** Union list: Ports declared by or under law made by Parliament or existing law to be major ports, including their delimitation, and the constitution and powers of port authorities therein.

State list: Fisheries.

Concurrent list: Ports other than major ports.

Source: Laxmikanth

**Q.2)** Journalism education in India was introduced first time by?

- a) Charles Metcalf
- b) Annie Besant
- c) Mahatma Gandhi
- d) Lord Curzon

**ANS: B**

**Explanation:** Journalism education made its burgeoning beginning in undivided India in early 1920s.

The history of media education cites that Dr. Annie Besant, founder, Home Rule Movement, started the first Journalism course at National University at Adyar, Madras (Chennai) under the aegis of Theosophical Society, in 1920.

Source: <https://mcc.edu.in/journalism>

**Q.3)** In ecosystem, the organisms which are incapable of producing their own food are called as?

- a) Autotrophs
- b) Phagotrophs
- c) Saprotrophs
- d) Carnivorous

**ANS: B**

**Explanation:** Consumers – Heterotrophs or phagotrophs (other nourishing): Consumers are incapable of producing their own food (photosynthesis).

They depend on organic food derived from plants, animals or both.

Source: NCERT

**Q.4)** Which of the following plant/plants is/are NOT “Predator plants”?

1. Birch plant
2. Sarracenia
3. Butterworts

Select the correct answer using the codes given below:

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

**ANS: A**

**Explanation:** Carnivorous plants are usually categorized based on the way they catch the insects. There are wide varieties of common predator plants — pitcher plants, sundews, sarracenia, Venus fly trap and butterworts.

Source: The Hindu

**Q.5)** Srivilliputhur–Megamalai Tiger Reserve is recently in news, is located in which of the following state?

- a) Tamil Nadu
- b) Kerala
- c) Andhra Pradesh
- d) Karnataka

**ANS: A**

**Explanation:** The Central government has given its approval for the creation of a fifth tiger reserve in Tamil Nadu that will encompass the Meghamalai and Srivilliputhur Grizzled Squirrel Wildlife Sanctuaries.

- For nearly a decade now, environmental activists have been seeking a tiger reserve linking these two sanctuaries, adjoining the Periyar Tiger Reserve in Kerala, and then to connect it with the Tirunelveli Wildlife Sanctuary, and then to Kalakkad Mundanthurai Tiger Reserve to make it a contiguous corridor where the big cats can thrive.
- The Forest Department’s proposal was to declare 1.48 lakh hectares of land encompassing Meghamalai Wildlife Sanctuary, Srivilliputhur Grizzled Squirrel Wildlife Sanctuary and Tirunelveli Wildlife Sanctuary as Tamil Nadu’s fifth tiger reserve.

Source: <https://www.thehindu.com/news/national/tamil-nadu/srivilliputhurmegamalai-tiger-reserve-in-tn-approved/article33766578.ece>

**Q.6)** Consider the following statements regarding “Climate Investment Funds (CIFs)”:

1. World Bank is the trustee of CIFs.
  2. They were designed by developed Countries only.
- Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** The Climate Investment Funds (CIFs) are implemented by the Multilateral Development Banks (MDBs) to bridge the financing and learning gap between international climate change agreements.

- They were designed by developed and developing countries. The World Bank is the Trustee of the CIFs.
- It includes a “sunset clause” to ensure that the Fund’s activities do not prejudice the outcome on the UNFCCC negotiations.

CIFs are two distinct funds

- Clean Technology Fund
- Strategic Climate Fund.

The CTF promotes scaled-up financing for demonstration, deployment and transfer of low carbon technologies with a significant potential for long-term greenhouse gas emissions savings.

Source: World Bank

**Q.7)** “Selective Catalytic Reduction” is often seen in news is related to which of the following?

- a) Thermal power stations
- b) Bharat Stage - VI norms
- c) Wind Shield turbines
- d) Solar Concentrators

**ANS: B**

**Explanation:** Diesel Particulate Filter (DPF) and Selective Catalytic Reduction (SCR) are being introduced with the roll-out of BS VI norms, which were not a part of BS IV.

- Real Driving Emission (RDE) will be introduced in India for the first time with the implementation of Bharat Stage VI emission norms.
- It will measure a vehicle’s emission in real-time conditions against laboratory conditions.
- Onboard Diagnostics (OD) has been made mandatory for all vehicles which will give the vehicle owner or repair technician access to the status of the various vehicle sub-systems.

Source: MOEFCC

**Q.8)** The Global Biodiversity Outlook report is released by?

- a) UN CBD
- b) WEF
- c) World Bank
- d) Global Environment Facility

**ANS: A**

**Explanation:** Global Biodiversity Outlook (GBO) of is the flagship publication of the Convention on Biological Diversity (CBD).

It is a periodic report that summarizes the latest data on the status and trends of biodiversity and draws conclusions relevant to the further implementation of the Convention.

Source: <https://www.cbd.int/gbo5>



**PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER, 2021**

**Q.9)** Which of the following countries are comes under Indo – Burma Hotspot?

1. Myanmar
2. Indonesia
3. Thailand
4. Cambodia

Select the correct answer using the codes given below:

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

**ANS: C**

**Explanation:** The Indo-Burma region, one of the largest hotspots, covers Myanmar, Thailand, Cambodia, Vietnam, Laos PDR and also includes the Gangetic plains, areas around the Brahmaputra river and parts of Andaman and Nicobar Islands.

- This hotspot comprises plains that are fed with rich alluvial soil by several large Asian rivers besides the Ganga and Brahmaputra.
- Although it is one of the most biologically rich areas, it is also the most threatened.
- Many of the species found here like the Annamite muntjac and grey-crowned crocias have rarely been seen by human eyes.
- Threats such as illegal wildlife trade and habitat loss hang over them like Damocles' Sword. This region is in dire need of stringent legal protection.

Source: <https://www.thehindu.com/children/wild-wonderlands/article34686553.ece>

**Q.10)** Consider the following statements regarding Sundaland Hotspot:

1. Only Nicobar is part of Sundaland Hotspot.
2. It is home to species like orangutans and pig-tailed langurs.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** The part of India that falls in the Sundaland Hotspot is the Nicobar Islands. Interestingly, it extends to the tectonic plates under the Indian Ocean.

- The hotspot is home to iconic species like orangutans, pig-tailed langurs, Javan and Sumatran rhinos, and proboscis monkeys found only in Borneo.
- Sundaland also has the distinction of being home to the world's largest flowers, the rafflesia, which measure one metre across.

Source: <https://www.thehindu.com/children/wild-wonderlands/article34686553.ece>

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## *Protected areas including parks*

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**Q.1)** "Tadoba Andhari National Park" is often seen in news, is located in which of the following states?

- a) Kerala
- b) Maharashtra
- c) Chhattisgarh
- d) Meghalaya

**ANS: B**

**Explanation:** Notably Maharashtra's oldest and largest National Park, the "Tadoba National Park", also known as the "Tadoba Andhari Tiger Reserve" is one of India's project tiger reserves existing in India.

- It lies in the Chandrapur district of Maharashtra state and is approximately 150 km from Nagpur city.
- The total area of the tiger reserve is 1,727 Sq.km, which includes the Tadoba National Park, created in the year 1955.
- The Andhari Wildlife Sanctuary was formed in the year 1986 and was amalgamated with the park in 1995 to establish the present Tadoba Andheri Tiger Reserve.
- The word 'Tadoba' is derived from the name of God "Tadoba" or "Taru," which is praised by local tribal people of this region and "Andhari" is derived from the name of Andhari river that flows in this area.

Source: <https://www.thehindu.com/news/cities/mumbai/tigress-under-observation-found-dead-in-tadoba/article34742311.ece>

**Q.2)** Which of the following is NOT located in Madhya Pradesh?

- a) Sariska Tiger reserve
- b) Kanha National Park
- c) Bandhavgarh Tiger Reserve
- d) Satpura Tiger reserve

**ANS: A**

**Explanation:** Sariska Tiger Reserve is a national park which contains mountains, grasslands, dry deciduous forests and cliffs which span over 800 square kilometres.

- Situated in Alwar, Rajasthan the Tiger Reserve is nestled in the lap of Aravali hills.
- Currently home to numerous animals apart from tigers, the reserve showcases nature in its best form.
- Animals like jungle cats, rhesus macaque, sambhar, chital, wild boar, etc., are found here.
- Not only animals, you get to see a number of bird species, such as sand grouse, harbor quails, crested serpent eagles, etc. here as well.

Source: <https://indianexpress.com/article/opinion/web-edits/save-the-tiger-save-the-forests-7428812/>

**Q.3)** Which of the following National Park is recently declared as a UNESCO Biosphere Reserve?

- a) Manas National Park
- b) Simlipal National Park

- c) Panna National Park
- d) Periyar National Park

**ANS: C**

**Explanation:** Panna National Park in Madhya Pradesh, a popular tourist spot for wildlife lovers has been declared as a UNESCO Biosphere Reserve.

Union Minister of Environment, Forests and Climate Change, Prakash Javadekar sharing the news on Twitter congratulated the reserve for the status and praised its work on tiger conservation

Source: <https://www.financialexpress.com/lifestyle/travel-tourism/madhya-pradesh-panna-tiger-reserve-gets-unescos-biosphere-reserve-status-environment-minister-praises-its-tiger-conservation-work/2120162/>

**Q.4)** “Nongkhylllem Wildlife Sanctuary” is recently seen in news, is located in which of the following states?

- a) Manipur
- b) Sikkim
- c) Mizoram
- d) Meghalaya

**ANS: D**

**Explanation:** Many wildlife habitats in the Northeast are understaffed, without trained manpower and proper infrastructure, the Management Effectiveness Evaluation (MEE) report of the Ministry of Environment, Forest and Climate Change has said.

- The MEE has marked Meghalaya for fairly good management practices while the evaluated wildlife sanctuaries in Assam were found to have “extremely poor” infrastructure, thus adversely affecting their management.
- The best managed among the 16 evaluated protected areas in the region was found to be Meghalaya’s Nongkhylllem Wildlife Sanctuary because of the continuity of a management plan since 2001 “irrespective of who’s posted”.
- The report largely attributed the significant reduction in biotic interference in the sanctuary to community support.

Source: <https://www.thehindu.com/news/national/other-states/many-northeast-wildlife-habitats-understaffed-says-report/article33708546.ece>

**Q.5)** “Keibul Lamjao National Park” is often seen in news, is located in which of the following states?

- a) Manipur
- b) Arunachal Pradesh
- c) Tripura
- d) Mizoram

**ANS: A**

**Explanation:** The only floating national park of its kind in the world, Keibul Lamjao National Park is a singular wetland ecosystem located on the Loktak Lake. It is home to brow-antlered deer or sangai, the state animal of Manipur.

Source: <https://www.thehindu.com/news/national/other-states/many-northeast-wildlife-habitats-understaffed-says-report/article33708546.ece>

**PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER, 2021**

**Q.6)** “Papikonda National Park (PNP)” is recently seen in news is related to which of the following state?

- a) Kerala
- b) Chhattisgarh
- c) Andhra Pradesh
- d) Karnataka

**ANS: C**

**Explanation:** Papikonda National Park (PNP), with a dominant area covered with moist deciduous forest, has become home for the leopard cat (*Prinailurus bengalensis*) in the Eastern Ghats.

- The 1,012.86 sq km national park is on both sides of river Godavari in the northern Eastern Ghats.
- Of the 13 protected forests in Andhra Pradesh, the leopard cat has been sighted only in the PNP.

Source: <https://www.thehindu.com/news/national/andhra-pradesh/papikonda-national-park-becomes-home-for-leopard-cats/article26981103.ece>

**Q.7)** Which of the following is NOT located in Western Ghats?

- a) Bhadra Tiger Reserve
- b) Bandipur Tiger Reserve
- c) Biligiri Ranganatha (BRT) Tiger Reserve
- d) Nallamalla Forest range

**ANS: D**

**Explanation:** Nallamala Forest is located in the Indian state of Andhra Pradesh and Telangana.

- It is part of the Eastern Ghats.
- Nagarjunsagar-Srisailem Tiger Reserve the largest tiger reserve in India and spread over five districts of Kurnool, Prakasam, Guntur, Nalgonda and Mahabub Nagar falls under it.

Source: <https://www.newindianexpress.com/states/andhra-pradesh/2021/apr/13/water-bodies-in-nallamalas-drying-up-2289374.html>

**Q.8)** The “Nandankanan Zoological Park” is often seen in news is, located in which of the following states/Islands?

- a) Andaman & Nicobar Islands
- b) Karnataka
- c) Tamil Nadu
- d) Odisha

**ANS: D**

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

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

Source: The Hindu

**Q.9)** How many schedules are incorporated in Wildlife Protection Act, 1972 to protect animal species?

- a) Three
- b) Four
- c) Five
- d) Six

**ANS: D**

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

- It extends to the whole of India.
- It has six schedules which give varying degrees of protection.

Source: The Hindu

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

- a) Gulf of Mannar
- b) Bhitarkanika
- c) Chilika Lake
- d) Kolleru Lake

**ANS: B**

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

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

Source: The Hindu

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## *Biodiversity & Conservation*

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**Q.1)** “Peoples’ Biodiversity Register (PBR)” is often seen in news, is associated with which of the following?

- a) India Forest Act, 1927
- b) Forest Conservation Act, 1980
- c) Wildlife Protection Act, 1972
- d) Forest Rights Act, 2006

**ANS: C**

**Explanation:** The path breaking Biological Diversity Act, 2002 not only supports the conservation and the sustainable use of biological resources, it also promotes an equitable sharing of benefits that come from their use.

- This one law has the potential to revolutionise the rights of communities over the natural resources they live with.
- The BDA has made it mandatory for every local self-governing institution in rural and urban areas to constitute a Biodiversity Management Committee (BMC) within their area of jurisdiction.
- Once constituted, the BMC must prepare a Peoples’ Biodiversity Register (PBR) in consultation with local people.
- A PBR comprehensively documents traditional knowledge of local biological resources.
- The BMC is the custodian of these resources, and any industry that extracts biological resources from these areas has to share part of its revenue with the local community.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/the-peoples-biodiversity-register-meant-to-empower-local-communities-is-leaving-them-out/article32869691>.

**Q.2)** “Raikas” – The Nomadic Pastoralists is associated with which of the following states?

- a) Kerala
- b) Karnataka
- c) Rajasthan
- d) Madhya Pradesh

**ANS: C**

**Explanation:** The Raika tribes are a nomadic people, occupying the western districts of Rajasthan and Gujrat, including the Thar Desert.

- One estimate put their number at about 500,000, though Raikas many are abandoning the pastoralist way of life in the face of social, economic and legal pressures.
- They are known for their Arabian camels, or dromedaries, but many Raika families raise sheep and goats.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/the-peoples-biodiversity-register-meant-to-empower-local-communities-is-leaving-them-out/article32869691>

**Q.3)** “Great Himalayan National Park” is often seen in news, is located in which of the following states?

- a) Uttarakhand
- b) Himachal Pradesh
- c) Sikkim
- d) Arunachal Pradesh

**ANS: B**

**Explanation:** MOST wildlife photographers and birders would say that the western tragopan is a tough bird to find.

- This rare and elusive bird of the pheasant family with striking plumage lives in the high altitudes of the Himalaya;
- The highest population of the bird is in the Great Himalayan National Park (GHNP) in Kullu district of Himachal Pradesh, 75 kilometres from Kullu town.
- The Tragopan genus has five species: the western tragopan, the satyr tragopan, Blyth’s tragopan, Temminck’s tragopan and Cabot’s tragopan.
- The first four are found in India and the last one can be found only in China.

Source: The Hindu

**Q.4)** “Sundaland” is often seen in news is related to which of the following?

- a) Island archipelago of Atlantic Ocean
- b) Coral Reef Islands of Tasman Sea
- c) Biodiversity Hotspot
- d) Newly discovered Island of Arctic region

**ANS: C**

**Explanation:** Sundaland covers a small portion of southern Thailand (provinces of Pattani, Yala, and Narathiwat); nearly all of Malaysia (nearly all of Peninsular Malaysia and the East Malaysian states of Sarawak and Sabah in northern Borneo); Singapore at the tip of the Malay Peninsula; all of Brunei Darussalam; and all of the western half of the megadiversity country of Indonesia, including Kalimantan (the Indonesian portion of Borneo, Sumatra, Java, and Bali).

- The Nicobar Islands, which are under Indian jurisdiction, are also included. Sundaland is bordered by three hotspots.
- The boundary between the Sundaland Hotspot and the Indo-Burma Hotspot to the northwest is here taken as the Kangar-Pattani Line, which crosses the Thailand-Malaysia border.
- Wallacea lies immediately to the east of the Sundaland Hotspot, separated by the famous Wallace's Line, while the 7,100 islands of the Philippines Hotspot lie immediately to the northeast.

Source: <http://bsienviis.nic.in/files/Biodiversity%20Hotspots%20in%20India.pdf>

**Q.5)** “Key Biodiversity Areas (KBAs)” is associated with which of the following?

- a) IUCN
- b) WEF
- c) UNEP
- d) UNFCCC

**ANS: A**

**Explanation:** Key Biodiversity Areas (KBAs) is an umbrella term commonly used to include areas that contribute to the global persistence of biodiversity, including vital habitat for threatened plant and animal species in terrestrial, freshwater and marine ecosystems.

- Globally KBAs are designated based on 11 criteria defined under five broad categories of threatened biodiversity; geographically restricted biodiversity; ecological integrity; biological processes; and, irreplaceability.
- The criteria for designating a site as KBA have been described in the document "The Global Standard for the Identification of Key Biodiversity Areas (2016)" by International Union for Conservation of Nature (IUCN).

Source: [http://www.wiienviis.nic.in/Database/Key\\_Biodiversity\\_Areas\\_8647.aspx](http://www.wiienviis.nic.in/Database/Key_Biodiversity_Areas_8647.aspx)

**Q.6)** "Ramsar Convention" is often seen in news, is related to which of the following?

- a) Wetland Conservation
- b) Threatened Species
- c) Intellectual Property Rights
- d) Marine Pollution

**ANS: A**

**Explanation:** The Ramsar Convention is an international treaty for the conservation and sustainable utilization of wetlands, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific, and recreational value.

Source: [http://www.wiienviis.nic.in/Database/ramsar\\_wetland\\_sites\\_8224.aspx](http://www.wiienviis.nic.in/Database/ramsar_wetland_sites_8224.aspx)

**Q.7)** Consider the following statements regarding International Union for Conservation of Nature (IUCN):

1. IUCN Red List of Threatened Species is the world's most comprehensive inventory of the global conservation status of plant and animal species.
2. Every four years, IUCN convenes the IUCN World Conservation Congress to set the global conservation agenda.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** The IUCN is the world's oldest global environmental organization (both government and civil society organizations) to promote nature conservation and the ecologically sustainable use of natural resources.

- Every four years, IUCN convenes the IUCN World Conservation Congress to set the global conservation agenda.
- The IUCN Red List of Threatened Species, founded in 1964, is the world's most comprehensive inventory of the global conservation status of plant and animal species.

Source: The Hindu

**Q.8)** Which of the following is/are declared by state as protected areas for their adequate ecological, geo-morphological and natural significance?

1. National Parks
2. Wildlife sanctuaries



3. Estuaries

Select the correct answer using the codes given below:

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

**ANS: B**

**Explanation:** The Wild Life (Protection) Act of 1972 provided for the declaration of certain areas by the State Government as wildlife sanctuaries if the area was thought to be of adequate ecological, geo-morphological and natural significance.

The Wild Life (Protection) Act (WPA) of 1972 provided for the declaration of National Parks by the State Government in addition to the declaration of wildlife sanctuaries.

Source: Wildlife Protection Act, 1972

**Q.9)** "Conservation Reserve and Community Reserves" were come into effect by amending which of the following act?

- a) Forest Conservation Act, 1980
- b) Wildlife Protection Act, 1972
- c) Forest Rights Act, 2006
- d) India Forest Act, 1927

**ANS: B**

**Explanation:** Conservation Reserve and Community Reserves are the outcome of Amendments to the Wild life protection act in 2003.

- The Amendment Act of 2003 provided for the creation of a new type of protected area called a Conservation Reserve.
- It is an area owned by the State Government adjacent to National Parks and sanctuaries for protecting the landscape, seascape and habitat of fauna and flora.
- It is managed through a Conservation Reserve Management Committee.

Source: Shankar

**Q.10)** "Appiko movement" is started in which of the following states?

- a) Himachal Pradesh
- b) Nagaland
- c) Karnataka
- d) Tamil Nadu

**ANS: C**

**Explanation:** The famous Chipko Andolan (Hug the Trees Movement) of Uttarakhand in the Himalayas inspired the villagers of the Uttara Kannada district of Karnataka Province in southern India to launch a similar movement to save their forests.

- In September 1983, men, women and children of Salkani "hugged the trees" in Kalase forest. (The local term for "hugging" in Kannada is appiko.)
- Appiko Andolan gave birth to a new awareness all over southern India.

Source: NCERT

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## *Environmental Legislations*

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**Q.1)** Consider the following statements regarding the Environment (Protection) Act, 1986:

1. It authorizes the central and state governments to protect and improve environmental quality.
2. It lays down standards for emission or discharge of environmental pollutants from various sources.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** The Environment (Protection) Act, 1986 authorizes the central government to protect and improve environmental quality, control and reduce pollution from all sources, and prohibit or restrict the setting and /or operation of any industrial facility on environmental grounds.

- The Environment (Protection) Act was enacted in 1986 with the objective of providing for the protection and improvement of the environment.
- It empowers the Central Government to establish authorities charged with the mandate of preventing environmental pollution in all its forms and to tackle specific environmental problems that are peculiar to different parts of the country. The Act was last amended in 1991.
- The Environment (Protection) Rules lay down procedures for setting standards of emission or discharge of environmental pollutants.
- The objective of Hazardous Waste (Management and Handling) Rules, 1989 is to control the generation, collection, treatment, import, storage, and handling of hazardous waste.
- The Manufacture, Storage, and Import of Hazardous Rules define the terms used in this context, and sets up an authority to inspect, once a year, the industrial activity connected with hazardous chemicals and isolated storage facilities.

Source: <https://vikaspedia.in/energy/policy-support/environment-1/forests/general-environmental-acts>

**Q.2)** “Fair and equitable sharing of the benefits” is associated with which of the following act?

- a) Biological Diversity Act 2002
- b) Environment (Protection) Act, 1986
- c) Public Liability Insurance Act and Rules 1991
- d) Forest Rights Act, 2006

**ANS: A**

**Explanation:** The Biological Diversity Act 2002 and Biological Diversity Rules provide for the conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of the benefits arising out of the use of biological resources and knowledge associated with it.

**PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER, 2021**

Source: <https://vikaspedia.in/energy/policy-support/environment-1/forests/general-environmental-acts>

**Q.3)** Consider the following statements regarding National Green Tribunal Act:

1. It was enacted in 2005.
2. The Tribunal not bound by the procedure lay down under the Code of Civil Procedure.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** Under the National Green Tribunal Act 2010 for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto.

- It is a specialized body equipped with the necessary expertise to handle environmental disputes involving multidisciplinary issues.
- The Tribunal shall not be bound by the procedure laid down under the Code of Civil Procedure, 1908, but shall be guided by principles of natural justice.

Source: <https://vikaspedia.in/energy/policy-support/environment-1/forests/general-environmental-acts>

**Q.4)** Which of the following article/articles of Indian constitution deals with conservation of the forests?

1. Article 46
2. Article 51A
3. Article 16

Select the correct answer using the codes given below:

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

**ANS: B**

**Explanation:** When the Constitution of India was adopted in 1950, the framers were not aware that in future the issues related to forest conservation may arise.

- This was realized later as the Constitution (Forty-Second Amendment) Act, 1976 was made and Article 48A was added to the part of Directive Principles of State Policy and Article 51A as a fundamental duty of every citizen of India.
- As per Article 48A, the state shall make laws to protect and improve the environment to safeguard the forests of our country.
- According to Article 51A (g), it is the duty of every citizen of India to protect and improve the natural environment including the forests of our country.

Source: Laxmikanth

**Q.5)** The Central Pollution Control Board was established according to which of the following act?

- a) Water (Prevention and Control of Pollution) Act, 1974

- b) Air (Prevention and Control of Pollution) Act, 1981
- c) Environment (Protection) Act, 1986
- d) Forest conservation act, 1980

**ANS: A**

**Explanation:** The Central Pollution Control Board (CPCB), statutory organization, was constituted in September, 1974 under the Water (Prevention and Control of Pollution) Act, 1974.

Further, CPCB was entrusted with the powers and functions under the Air (Prevention and Control of Pollution) Act, 1981.

Source: <https://cpcb.nic.in/Introduction/>

**Q.6)** Which of the following rights are covered under Forest Rights Act, 2006?

- 1. Title Rights
- 2. Use Rights
- 3. Relief & Development Rights
- 4. Forest Management Rights
- 5. Conservation Rights

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** The Forest Rights Act (FRA), 2006 recognizes the rights of the forest dwelling tribal communities and other traditional forest dwellers to forest resources, on which these communities were dependent for a variety of needs, including livelihood, habitation and other socio-cultural needs.

The forest management policies, including the Acts, Rules and Forest Policies of Participatory Forest Management policies in both colonial and post-colonial India, did not, till the enactment of this Act, recognize the symbiotic relationship of the STs with the forests, reflected in their dependence on the forest as well as in their traditional wisdom regarding conservation of the forests.

The act identifies four types of rights:

- Title rights
- Use rights
- Relief and development rights
- Forest management rights

Source: <https://tribal.nic.in/fra.aspx>.

**Q.7)** Which of the following are objectives of “Wild Life Protection Act, 1972”?

- 1. Protection and management of wildlife habitats
- 2. Establishment of protected areas
- 3. Prohibition of taxidermy
- 4. Regulation and control of trade in parts and products derived from wildlife
- 5. Prohibition of hunting

Select the correct answer using the code given below:

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

d) 1, 2, 3, 4 and 5

**ANS: D**

**Explanation:** India has been implementing various laws to save the wildlife and the Wildlife Protection Act 1972 is one of them. The objectives are as follows:

- Prohibition of hunting
- Protection and management of wildlife habitats
- Establishment of protected areas
- Regulation and control of trade in parts and products derived from wildlife
- Management of zoos
- WIPA is also against taxidermy, which is the preservation of a dead wild animal as a trophy, or in the form of rugs, preserved skins, antlers, horns, eggs, teeth, and nails.

Source: Indian Express

**Q.8)** Which of the following statements is/are correct about “BioCarbon Fund Initiative for Sustainable Forest Landscape”?

1. It is managed by Global Environment Facility.
2. It promotes reducing greenhouse gas emissions from the land sector, from deforestation and forest degradation in developed countries (REDD+).

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** The BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL) is a multilateral fund, supported by donor governments and managed by the World Bank.

It promotes reducing greenhouse gas emissions from the land sector, from deforestation and forest degradation in developing countries (REDD+), and from sustainable agriculture, as well as smarter land-use planning, policies and practices.

Source: UNCCD

**Q.9)** Which of the following Acts have been enacted by India for “conservation of the coastal and marine environment”?

1. Environment (Protection) Act, 1986.
2. Wildlife (Protection) Act 1972.
3. National Biodiversity Act, 2002.

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** The Marine Protected Area Network is a tool for managing natural marine resources for biodiversity conservation and for the well-being of people dependent on the resources.

The Coastal Regulation Zone Notification, 1991, National Biodiversity Act, 2002 and the Environment (Protection) Act, 1986 have been enacted by India for conservation of the

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coastal and marine environment along with the Wildlife (Protection) Act 1972, which also provides for establishment of wildlife protected areas (PAs) by state governments.

Source: Indian Express

**Q.10)** The “Clean Seas Campaign” is often seen in news, is launched by which of the following?

- a) World Bank
- b) International Union for Conservation of Nature (IUCN)
- c) World Economic Forum (WEF)
- d) UNEP

**ANS: D**

**Explanation:** UN Environment (UNEP) launched Clean Seas (#CleanSeas on social media) in February 2017, with the aim of engaging governments, the general public and the private sector in the fight against marine plastic pollution.

- Over the next five years, we will address the root-cause of marine litter by targeting the production and consumption of non-recoverable and single-use plastic.
- To do this effectively, we need citizens to be aware, engaged and active in addressing the problem in their daily lives and beyond.

Source: UNEP

## *Revision*

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**Q.1)** Which of the following schedule of Wildlife Protection Act, 1972 related to animals that can be hunted?

- a) Schedule II
- b) Schedule III
- c) Schedule IV
- d) Schedule V

**ANS: D**

**Explanation:** schedule V contains animals that can be hunted. Examples of Schedule V species are mice, rat, common crow, fruit bats, etc.

Source: [http://wiienvis.nic.in/Database/ScheduleSpeciesDatabase\\_7969.asp](http://wiienvis.nic.in/Database/ScheduleSpeciesDatabase_7969.asp)

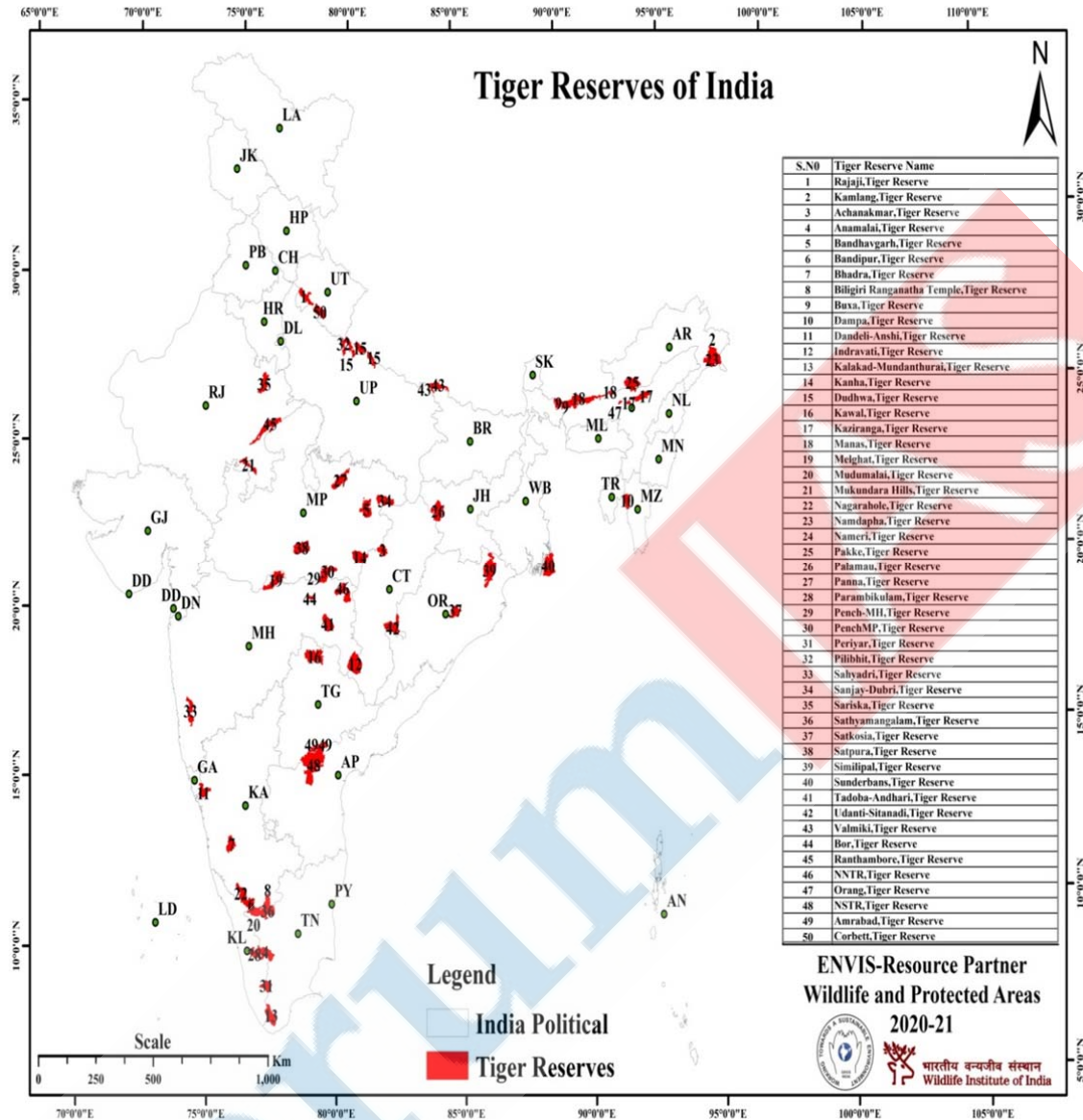
**Q.2)** Which of the following tiger reserve is Southern most?

- a) Periyar Tiger Reserve
- b) Kalakad – Muduntharai Tiger Reserve
- c) Anamalai Tiger Reserve
- d) Sahyadri Tiger Reserve

**ANS: B**

**Explanation:**

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Source:

[http://wiienvs.nic.in/Database/trd\\_8222.aspx#Map\\_showing\\_Tiger\\_Reserves\\_in\\_India](http://wiienvs.nic.in/Database/trd_8222.aspx#Map_showing_Tiger_Reserves_in_India)

**Q.3)** The “Jambudweep” – is an Important Coastal and Marine Biodiversity Area is located in which of the following states?

- a) Tamil Nadu
- b) West Bengal
- c) Odisha
- d) Andhra Pradesh

**ANS: B**

**Explanation:** Jambudweep is a small island that is partly covered with thick mangroves. This mangrove island can be approached from Bakhali or Frazarganj, in District 24 Parganas.



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- The climate is humid, like that of the mainland, and the island experiences a similar pattern of tidal influence. The entire Island is under the control of the forest department and is devoid of human habitations.
- The island harbors 7 species of mangrove and 12 mangrove-associated species, along with other terrestrial vegetation. Although there are no reports of turtle nesting, turtle sightings have been reported.
- Being located in the Ganges fan, the site has been turbated by fishermen for commercially important fishes. Similarly sightings of porpoises and River Dolphins have also been reported often from around this site.
- The island and its vegetation provide a roost for a large number of seabird species. Fishing and fisheries-related activities are the main economic activities.
- The West Bengal Forest Department established a mangrove nursery and undertook extensive mangrove plantation in and around this island.

Source: <https://www.cbd.int/doc/meetings/mar/ebsaws-2015-02/other/ebsaws-2015-02-india-submission1-en.pdf>

**Q.4)** Which of the following is/are located in Assam?

1. Nameri National Park
2. Namdapha National Park
3. Mouling National Park

Select the correct answer using the codes given below:

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

**ANS: A**

**Explanation:**

<b>Arunachal Pradesh</b>	Mouling	1986	483
	Namdapha	1983	1807.82
<b>Assam</b>	Dibru-Saikhowa	1999	340
	Kaziranga	1974	858.98
	Manas	1990	500
	Nameri	1998	200
	Rajiv Gandhi (Orang)	1999	78.81

Source: [http://wienvvis.nic.in/Database/npa\\_8231.aspx](http://wienvvis.nic.in/Database/npa_8231.aspx)

**Q.5)** Consider the following statements regarding Dugong:

1. It is the only herbivorous mammal that is strictly marine.
2. It is also called as sea cow.

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

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

**ANS: D**

**Explanation:** Dugong (Dugong dugon) is the only herbivorous mammal that is strictly marine and the only member of the Order Sirenia found in India.

- Dugongs are restricted to coastal shallow marine habitats and grazes on the sea grass meadows in coastal waters and are therefore called as “Sea Cows”.

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- In India, it is one of the most seriously endangered species of large mammals.
- Dugongs are vulnerable to anthropogenic pressures as they are solely dependent on sea grasses in coastal areas, which now have been seriously damaged by mining, trawling etc.
- Dugongs have also been hunted for their meat, oil, hides, bones and teeth.

Source:

[http://wiienviis.nic.in/Database/SRP\\_8555.aspx#4](http://wiienviis.nic.in/Database/SRP_8555.aspx#4). Dugong (click on name to go top)

**Q.6)** Pakke Wildlife Sanctuary & Tiger reserve often seen in news is located in which of the following states?

- a) Assam
- b) Meghalaya
- c) Sikkim
- d) Arunachal Pradesh

**ANS: D**

**Explanation:** Pakke Wildlife Sanctuary and Pakke Tiger Reserve falls in the East Kameng district.

- Its Southern border merges with the inner line, State borderline between Assam and Arunachal.
- The tract of the protected area falls within the land area of Pakke river and Kameng river.
- It has an area of 861.95 Sq.Km with geographical variations of terai and rugged siwalik ranges.
- After a drive of about 3 hrs. from Itanagar through NH52 one reaches to a point known as CHHAIBARI and the take a right turn, passing through the plains, tea gardens and newly devastated forest vegetation of Assam covering a distance of 28 Km comes Seijusa in Arunachal.

Source: [http://arunachalforests.gov.in/pakke\\_wildlife\\_sanctuary.html](http://arunachalforests.gov.in/pakke_wildlife_sanctuary.html)

**Q.7)** Arrange the following acts of environment and biodiversity conservation in chronological order:

1. Customs Act.
2. Water (Prevention and Control of Pollution) Act.
3. Forest (Conservation) Act.

Select the correct answer using the code given below:

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

**ANS: A**

**Explanation:** Important acts related to environment and biodiversity conservation in India are:

- Prevention of Cruelty to Animals Act, 1960.
- Customs Act, 1962.
- Seeds Act, 1966.
- The Patents Act, 1970.
- Wildlife (Protection) Act, 1972.
- Water (Prevention and Control of Pollution) Act, 1974.
- Forest (Conservation) Act, 1980.

- Air (Prevention and Control of Pollution) Act, 1981.

Source: ENVIS

**Q.8)** Which of the following plant (s) is/are desert growing?

1. Cactus
2. Euphorbias
3. Sagebrush

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** The desert flora is drought resistance such as cactus, euphorbias, sagebrush.

Fauna: Reptiles, Small Mammals and birds.

Source: NCERT

**Q.9)** Consider the following statements regarding energy flow in ecosystem:

1. Energy always flows from lower to higher trophic level.
2. It never flows in the reverse direction.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** Trophic level interaction deals with how the members of an ecosystem are connected based on nutritional needs.

- Energy flows through the trophic levels: from producers to subsequent trophic levels.
- This energy always flows from lower (producer) to higher (herbivore, carnivore etc.) trophic level.
- It never flows in the reverse direction that is from carnivores to herbivores to producers.

Source: NCERT

**Q.10)** Which of the following ways carbon is added to atmosphere in carbon biogeochemical cycle?

1. Respiration
2. Decomposition
3. Photosynthesis

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** Carbon is present in the atmosphere, mainly in the form of carbon dioxide (CO<sub>2</sub>). Carbon cycle involves a continuous exchange of carbon between the atmosphere and organisms.

- Carbon from the atmosphere moves to green plants by the process of photosynthesis, and then to animals.
- By process of respiration and decomposition of dead organic matter it returns back to atmosphere. It is usually a short term cycle.

Source: NCERT

ForumIAS

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## *Environmental Organizations*

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**Q.1)** CPCB has an automatic monitoring station at ITO Intersection in New Delhi. Which of the following is/are monitored at this station?

1. Suspended Particulate Matter (SPM)
2. Carbon Monoxide
3. Nitrogen Dioxide

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** CPCB has an automatic monitoring station at ITO Intersection in New Delhi.

- At this station Resirable Suspended Particulate Matter (RSPM), Carbon Monoxide (CO), Ozone (O<sub>3</sub>), Sulphur Dioxide (SO<sub>2</sub>), Nitrogen Dioxide (NO<sub>2</sub>) and Suspended Particulate Matter (SPM) are being monitored regularly.
- This information on Air Quality at ITO is updated every week.

Source: <https://cpcb.nic.in/Introduction/>

**Q.2)** Consider the following statements regarding The Energy and Resources Institute (TERI):

1. It was founded by R K Pachauri.
2. It acts as a knowledge center to cultivate action-oriented research in areas of climate change, environment, energy, and sustainable development.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** Founded in 1974 by Mr Darbari S Seth & Dr R K Pachauri, TERI began as a knowledge center to cultivate action-oriented research in areas of climate change, environment, energy, and sustainable development.

- Over the last 40 years, the organization has worked with the government to create policies for energy conservation.
- On the other hand, it has worked at the grassroots, developing energy efficiency solutions for India's small and medium businesses.
- TERI has also worked intensively towards developing lighting and cooking solutions that have impacted over 4.5 million people in India and Africa.
- It has pioneered the use of biotechnology in the petroleum and agriculture sectors in India.
- It is globally distinguished for hosting the World Sustainable Development Conference, one of the largest international summits dedicated to accelerating the pursuit of sustainable development.

Source: <https://www.teriin.org/history>

**Q.3)** Consider the following statements regarding Forest Survey of India (FSI):

1. It was established before the Independence of India.
2. It is a premier national organization under Ministry of Environment.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** Forest Survey of India (FSI), is a premier national organization under the union Ministry of Environment and Forests, responsible for assessment and monitoring of the forest resources of the country regularly.

- In addition, it is also engaged in providing the services of training, research and extension.
- Established on June 1 - 1981, the Forest Survey of India succeeded the "Pre-investment Survey of Forest Resources" (PISFR), a project initiated in 1965 by Government of India with the sponsorship of FAO and UNDP.
- The main objective of PISFR was to ascertain the availability of raw material for establishment of wood based industries in selected areas of the country.
- In its report in 1976, the National Commission on Agriculture (NCA) recommended for the creation of a National Forest Survey Organization for a regular, periodic and comprehensive forest resources survey of the country leading to creation of FSI.
- After a critical review of activities undertaken by FSI, Government of India redefined the mandate of FSI in 1986 in order to make it more relevant to the rapidly changing needs and aspirations of the country.

Source: <https://fsi.nic.in/brief-history>

**Q.4)** Consider the following statements regarding the National Biodiversity Authority (NBA):

1. It was established in 2003 by the Central Government to implement India's Biological Diversity Act (2002).
2. Its headquarters is located in New Delhi.

Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** The National Biodiversity Authority (NBA) was established in 2003 by the Central Government to implement India's Biological Diversity Act (2002).

- The NBA is a statutory body and that performs facilitative, regulatory and advisory function for Government of India on issue of Conservation, sustainable use of biological resource and fair equitable sharing of benefits of use.
- The NBA with its Headquarters in Chennai, Tamil Nadu, India delivers its mandate through a structure that comprises of the Authority, secretariat, SBBs, BMCs and Expert Committees.
- Since its establishment, NBA has supported creation of SBBs in 28 States, facilitated establishment of around 2, 05,794 BMCs, and advised notification.

Source: <http://nbaindia.org/content/16/14/1/introduction.html>

**Q.5)** Consider the following statements regarding National Tiger Conservation Authority (NTCA):

1. It has been constituted under Wildlife Protection Act, 1972.
2. It is headed by President of India.

Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** The National Tiger Conservation Authority (NTCA) has been constituted under section 38 L (1) of Wildlife (Protection) Act, 1972.

- Further, as per the section 38 L, sub section 2 of the said Act, the authority consists of the Minister in charge of the Ministry of Environment and Forests ( as Chairperson), the Minister of State in the Ministry of Environment and Forests (as Vice-Chairperson), three members of Parliament, Secretary, Ministry of Environment and Forests and other members.
- The authority derives its power from section 38 O (1) of WLPA, 1972 and functions under the guidance of Chairperson, Vice-Chairperson and members.

Source: <https://ntca.gov.in/about-us/#ministers>

**Q.6)** Consider the following statements regarding National Ganga River Basin Authority (NGRBA):

1. It was constituted under the provisions of the Environment (Protection) Act (EPA), 1986.
2. National Mission for Clean Ganga (NMCG) acted as implementation arm of NGRBA.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** National Mission for Clean Ganga(NMCG) was registered as a society on 12th August 2011 under the Societies Registration Act 1860.

- It acted as implementation arm of National Ganga River Basin Authority (NGRBA) which was constituted under the provisions of the Environment (Protection) Act (EPA), 1986.
- NGRBA has since been dissolved with effect from the 7th October 2016, consequent to constitution of National Council for Rejuvenation, Protection and Management of River Ganga (referred as National Ganga Council) vide notification no. S.O. 3187(E) dated 7th October 2016 under EPA 1986. >> (Amendment) Order, 2nd September 2019

Source: [https://nmcg.nic.in/about\\_nmcg.aspx](https://nmcg.nic.in/about_nmcg.aspx)

**Q.7)** Consider the following statements regarding Animal Welfare Board of India:

1. It was established at the time of Prime Minister Indira Gandhi.
2. It was established through Statutory Act.

Which of the statements given above is/are correct?

- a) 1 only

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

**ANS: B**

**Explanation:** The Animal Welfare Board of India is a statutory advisory body on Animal Welfare Laws and promotes animal welfare in the country.

- Established in 1962 under Section 4 of the Prevention of Cruelty to Animals Act, 1960 (No. 59 of 1960), the Animal Welfare Board of India was started under the stewardship of Late Smt. Rukmini Devi Arundale, well known humanitarian.
- From ensuring that animal welfare laws in the country are diligently followed, to provide grants to Animal Welfare Organizations and advising the Government of India on animal welfare issues, the Board has been the face of the animal welfare movement in the country for the last 50 years.
- The Board consists of 28 Members. The term of office of Members is for a period of 3 years.

Source: <http://www.awbi.in/about.html>

**Q.8)** “Central Zoo Authority” was established under which of the following Act?

- a) Wildlife Protection Act, 1972
- b) Forest Conservation Act, 1980
- c) Biological Diversity Act, 2002
- d) National Green Tribunal Act, 2010

**ANS: A**

**Explanation:** The Central Zoo Authority has been constituted under the section 38A of Wild Life (Protection) Act 1972.

- The Authority consists of a Chairman, ten members and a Member Secretary.
- The main objective of the authority is to complement the national effort in conservation of wild life.

Source: <http://cza.nic.in/page/en/introduction>

**Q.9)** Consider the following statements regarding India Biodiversity Awards:

1. It was launched in 2012 to recognize excellence in biodiversity governance across the country.
2. It was launched by Ministry of Environment with the help of UNEP.

Which of statements given above is/are correct?

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

**ANS: A**

**Explanation:** India is one of the mega-diverse countries in the world and home to nearly eight percent of the world’s total recorded species of plants and animals.

- Across the country, people, communities and governments have played an outstanding and innovative role in conserving India’s rich heritage.
- Government of India, Ministry of Environment, Forest and Climate Change in association with UNDP India, therefore, started the India Biodiversity Awards in 2012, to recognize excellence in biodiversity governance across the country.



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- The first round of Awards was launched in 2012 during India's Presidency of the Eleventh Meeting of Conference of Parties to the Convention on Biological Diversity.
- The award selection process is conducted in partnership with the National Biodiversity Authority of India.

Source: The Hindu

**Q.10)** Which of the following institution (s) is/are collaborated to establish UN – REDD programme?

1. UNEP
2. FAO
3. GEF

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** Three UN Agencies – United Nations Environment Programme (UNEP), United Nations Development Programme (UNDP) and Food and Agriculture Organization of the United Nations (FAO) – have collaborated in the establishment of the UN-REDD programme, a multi-donor trust fund that allows donors to pool resources and provide funding with the aim of significantly reducing global emissions from deforestation and forest degradation in developing countries.

Source: Shankar

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## *Environment*

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**Q.1)** The Species “Koala” is often seen in news is endemic to which of the following?

- a) Australia
- b) South Africa
- c) Brazil
- d) Serbia

**ANS: A**

**Explanation:** Koalas in Australia’s New South Wales are in grave danger. They are likely to become extinct by 2050 if the government does not intervene.

- This was determined by a parliamentary committee after a year-long inquiry. Several factors have resulted in the fragmentation of the koalas.
- It is endemic and native to Australia and found in Australia only.

Source: <https://indianexpress.com/article/world/australia-gears-up-for-the-great-koala-count-using-drones-droppings-and-dogs-7095178/>

**Q.2)** The “Maldhari tribe”, who maintains a symbiotic relationship with nature, lives in which of the following?

- a) Panna tiger reserve
- b) Gir National park
- c) Periyar national park
- d) Manas national park

**ANS: B**

**Explanation:** People mostly link Gir with "Maldharis" who have survived through the ages by having symbiotic relationship with the lion.

- They are religious pastoral communities living in Gir. Their settlements are called "nesses".
- At present, Gir forests of Gujarat (India) are the only place where this race of lions i.e. Asiatic lion is found in its natural habitat.

Source: <https://forests.gujarat.gov.in/gir-nat-park.htm>

**Q.3)** “KURMA App” is often seen in news, is related to which of the following?

- a) Elephants
- b) Lions
- c) Tigers
- d) Turtles

**ANS: D**

**Explanation:** On May 23, 2020, World Turtle Day, a number of conservation agencies launched a citizen science initiative, a mobile-based application called KURMA, aimed at turtle conservation.

- The application, developed by the Indian Turtle Conservation Action Network (ITCAN) in collaboration with the Turtle Survival Alliance-India and Wildlife Conservation Society-India, not only provides users a database to identify a species but also provides the location of the nearest rescue centre for turtles across the country.

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- It serves as a digital database, with a built-in digital field guide covering 29 species of freshwater turtles and tortoises of India, and information on turtle identification, distribution, vernacular names, and threats”.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/mobile-app-kurma-helps-save-turtles-in-india/article32126427.ece>

**Q.4)** Consider the following statements regarding “Polar Bear”:

1. It is a carnivorous animal.
2. It is found in both poles of earth.
3. It has endangered status on the IUCN red list of endangered species.

Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** Polar bears live in the Arctic, but not Antarctica. Down south in Antarctica you'll find penguins, seals, whales and all kinds of seabirds, but never polar bears.

- Polar bears are carnivores. In the summer, they may consume some vegetation but gain little nutrition from it. Their primary prey are ringed seals (*Pusa hispida*).
- They also hunt bearded seals (*Erignathus barbatus*), harp seals (*Pagophilus groenlandicus*), hooded seals (*Cystophora cristata*), walruses (*Odobenus rosmarus*), sea birds and their eggs, small mammals, fish and scavenge on carrion of seals, walruses, or whales.
- Bears often leave a kill after consuming only the blubber. The high caloric value of blubber relative to meat is important to bears for maintaining an insulating fat layer and storing energy for times when food is scarce.
- Polar bears do not store or cache unconsumed meat as other bears do.
- ‘vulnerable’ status on the IUCN Red List of endangered species

Source: [https://animaldiversity.org/accounts/Ursus\\_maritimus/](https://animaldiversity.org/accounts/Ursus_maritimus/)

**Q.5)** The term “Pantanal” is often seen in news, is related to which of the following?

- a) Tropical wetland
- b) Extinct dinosaur
- c) Eastern African tribe
- d) Indigenous rice variety of Japan

**ANS: A**

**Explanation:** The number of fires in Brazil’s Pantanal, the world’s biggest tropical wetlands, more than doubled in the first half of 2020 compared to the same period last year, according to data released by a state institute.

Source: <https://www.thehindu.com/news/international/number-of-fires-more-than-doubles-in-brazils-pantanal/article32200268.ece>

Environment – Climate Change – Measures

**Q.6)** Which country is recently announced to ban heated terraces of bars and restaurants to bring down carbon emissions?

- a) Germany
- b) China
- c) France
- d) Japan

**ANS: C**

**Explanation:** France bans terrace heaters used in restaurants and cafes in order to bring down carbon emission in the country.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/france-to-ban-heated-terraces-in-anti-pollution-drive/article32209224.ece>

**Q.7)** Consider the following statements regarding tigers in India:

1. India has 70% of world's tigers.
2. Maharashtra has highest number of tigers followed by Madhya Pradesh.

Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** Releasing an updated report on India's Tiger Survey from 2018, which put the country's tiger population at 2,367 — unchanged from the government's estimate last year — Union Minister of Environment, Forest and Climate Change Prakash Javadekar said it was a matter of pride for India that it was a global exemplar in tiger conservation.

- “We have 70% of the world's tigers. We should be proud of the fact that we are leading the world in terms of ensuring that their population increases.
- India has 2,967 tigers, a third more than in 2014, according to results of a census made public on July 29 last year. The present survey is a more granular estimate of these numbers.
- Madhya Pradesh has the highest number of tigers at 526, closely followed by Karnataka (524) and Uttarakhand (442).
- Chhattisgarh and Mizoram saw a decline in tiger population and all other States saw a “positive” increase, according to a press statement.

Source: <https://www.thehindu.com/news/national/indias-tiger-count-unchanged-at-2367/article32211788.ece>

**Q.8)** “Emission Trading and Clean Development Mechanism” are often seen in news is related to which of the following?

- a) UNCCD
- b) Kyoto Protocol
- c) UNDP
- d) GEF

**ANS: B**

**Explanation:** The Kyoto Protocol is made up of essential architecture that has been built and shaped over almost two decades of experience, hard work and political will. The beating heart of KP is made up of:

- Reporting and verification procedures;
- Flexible market-based mechanisms, which in turn have their own governance procedures; and
- A compliance system.

The Kyoto Flexible Market Protocol mechanisms:

- Joint Implementation (JI)
- The Clean Development Mechanism (CDM)
- Emission Trading

Source: Shankar

**Q.9)** Consider the following statements regarding “Global Environment Facility (GEF)”:

1. It was established to provide funding to protect the global environment.
2. It was established by World Bank in consultation with UNDP and UNEP.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** The GEF was established in 1991 by the World Bank in consultation with the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP), to provide funding to protect the global environment.

Source: GEF

**Q.10)** Which of the following convention is related to Persistent Organic Pollutants?

- a) Basel convention
- b) Paris convention
- c) Stockholm convention
- d) Rotterdam convention

**ANS: C**

**Explanation:** The Stockholm Convention on Persistent Organic Pollutants is a global treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of humans and wildlife, and have harmful impacts on human health or on the environment.

- Exposure to Persistent Organic Pollutants (POPs) can lead to serious health effects including certain cancers, birth defects, dysfunctional immune and reproductive systems, greater susceptibility to disease and damages to the central and peripheral nervous systems.
- Given their long range transport, no one government acting alone can protect its citizens or its environment from POPs.
- In response to this global problem, the Stockholm Convention, which was adopted in 2001 and entered into force in 2004, requires its parties to take measures to eliminate or reduce the release of POPs into the environment.

Source: Stockholm Convention

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## *Environment*

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**Q.1)** Consider the following statements regarding Lion-tailed macaque:

1. It is endemic to Himalayan region.
2. It is in the 'endangered' category in the IUCN Red List of Threatened Species.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** Lion-tailed macaque (*Macaca silenus*), a primate endemic to small and severely fragmented rainforests of the Western Ghats in Karnataka, Kerala and Tamil Nadu, continues to be in the 'endangered' category in the IUCN Red List of Threatened Species.

- As per the technical report, the total wild population of the lion-tailed macaque (LTM) could be about 4,000 individuals consisting of less than 2,500 mature individuals, made up of 47 isolated sub-populations in seven different locations in the three States.
- The population is expected to suffer an estimated decline of over 20% in the next 25 years due to varied reasons including hunting, road kills and habitat loss, it said.
- Though the conservation status of the LTM had improved from 'endangered' in the first assessment in 1990 to 'vulnerable' in 1994, its status has remained endangered since 1996.

Source: <https://www.thehindu.com/news/cities/Coimbatore/habitat-loss-puts-lion-tailed-macaque-in-iucn-endangered-list-for-the-sixth-time/article32698840.ece>

**Q.2)** The term "cryptic species" is often seen in news, is related to which of the following?

- a) Species which invades other species food chain.
- b) Species that appear the same but show up a difference when their DNA is examined.
- c) Species produced by using RNA transcription cloning method.
- d) Ancient extinct species.

**ANS: B**

**Explanation:** A study conducted by researchers from Wildlife Institute of India, Dehradun, on amphibians in the central Indian Panna Tiger Reserve has come up with a list of five species hitherto un-documented in this region.

The researchers, apart from compiling an entire amphibian inventory of this region, have recorded a call library of eleven species and also have obtained molecular confirmation (through DNA) of the cryptic species – a term used to refer to species that appear the same but show up a difference when their DNA is examined.

Source: <https://www.thehindu.com/sci-tech/science/field-study-adds-five-amphibians-to-madhya-pradeshs-fauna-list/article32704116.ece>

**Q.3)** "PUSA Decomposer" is often seen in news, is related to which of the following?

- a) Sewage waste
- b) Stubble burning
- c) Covid – 19 plastic decomposer

d) DNA altered microbial bacteria to clean sea waste

**ANS: B**

**Explanation:** The Union government will this year test a straw-decomposing technology developed by scientists at the the Indian Agricultural Research Institute, Pusa, to deter farmers from burning paddy stubble.

The 'PUSA Decomposer', as it is called, is a set of four tablets made by extracting fungi strains that help the paddy straw to decompose at a much faster rate than usual, giving farmers the option to shred the straw, spray a solution containing the fungal strains, and mix it with the soil for decomposition.

Source: <https://www.thehindu.com/news/national/stubble-burning-centre-to-test-decomposer-technology/article32742964.ece>

**Q.4)** With reference to Indian biodiversity, Krishna Peacock, Indian Jezebel or Common Jezebel, Orange Oakleaf, Five-bar Swordtail, Indian Nawab, Yellow Gorgon and Northern Jungle queen are?

- a) Singing birds
- b) Primates
- c) Butterflies
- d) Trained dogs

**ANS: C**

**Explanation:** A citizen campaign to drum up support for identifying a national butterfly has gained momentum with close to half a lakh people joining the movement from across the country.

- As part of identifying butterfly species that could make it to the coveted status, the National Butterfly Campaign Consortium prepared a long-list of 50 butterflies that was further trimmed to seven.
- Krishna Peacock (*Papilio krishna*), Indian Jezebel or Common Jezebel (*Delias eucharis*), Orange Oakleaf (*Kallima inachus*), Five-bar Swordtail (*Graphium antiphates*), Indian Nawab, Yellow Gorgon and Northern Junglequeen (*Stichophthalma camadeva*) are the contenders for the premier position.

Source: <https://www.thehindu.com/news/national/kerala/campaign-to-select-countrys-national-butterfly/article32743646.ece>

**Q.5)** "Oussudu bird sanctuary" is recently seen in news, is located in which of the following states?

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

**ANS: C**

**Explanation:** With the migratory bird season all set to begin, the Tamil Nadu Forest Department has started upgradation of infrastructure at the Oussudu bird sanctuary in Poothurai to attract more visitors to the district's primary eco-sensitive region.

Located between the Pulicat and Point Calimere wetlands, the Oussudu lake is identified as a wetland of national importance under the National Wetland Conservation Programme of the Ministry of Environment and Forests (MoEF), and has also been declared as one of the 93 significant wetlands in Asia by the Asian Wetland Bureau.

Source: <https://www.thehindu.com/news/national/tamil-nadu/oussudu-bird-sanctuary-to-get-a-facelift/article32765317.ece>

**Q.6)** “Eriocaulon parvicephalum and Eriocaulon karaavalense” is recently found species from?

- a) Andaman & Nicobar Islands
- b) Lakshadweep
- c) Western Ghats
- d) Ladakh region

**ANS: C**

**Explanation:** Scientists from the Agharkar Research Institute in Pune have recently discovered two new species of pipeworts in the Western Ghats of Maharashtra and Karnataka.

- The species reported from Sindhudurg district of Maharashtra has been named Eriocaulon parvicephalum (due to its minute inflorescence size), and the other reported from Kumta, Karnataka is called Eriocaulon karaavalense (named after Karaavali, Coastal Karnataka region).
- Pipeworts (Eriocaulon) is a plant group which completes its life cycle within a small period during monsoon. It exhibits great diversity in the Western Ghats.
- Around 111 species of pipeworts are found in India. Most of these are reported from the Western Ghats and the eastern Himalayas, and around 70% of them are endemic to the country.
- “One species, Eriocaulon cinereum, is well known for its anti-cancerous, analgesic, anti-inflammatory, and astringent properties.
- E. quinquangulare is used against liver diseases. E. madayiparense is an anti-bacterial from Kerala. The medicinal properties of the newly discovered species are yet to be explored”.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/two-new-plant-species-discovered-in-western-ghats/article32770885.ece>

**Q.7)** Scientists from India, Germany, United Kingdom and Switzerland have discovered a new family of bony fish named Aenigmachannidae from?

- a) Sunderbans
- b) Andaman & Nicobar Islands
- c) Eastern Himalayas
- d) Western Ghats

**ANS: D**

**Explanation:** Scientists from India, Germany, United Kingdom and Switzerland have discovered a new family of bony fish from the Western Ghats, and named it Aenigmachannidae.

- A year after the discovery of the enigmatic Gollum Snakehead, Aenigmachanna gollum from the rice fields of northern Kerala, scientists have now conducted detailed studies on its skeleton and genetic assembly.
- The study led to the recognition that this species, and its congener Aenigmachanna mahabali, represents a new family different from Channidae, in which both species were initially placed.
- Rendered images obtained from high-resolution CT scans revealed that Aenigmachanna gollum has a surprisingly large number of primitive characters,



and detailed molecular phylogenetic analyses including of its mitogenome, suggested an ancient separation from Channidae, the study said.

- These suggest that members of Aenigmachannidae are “living fossils” and comprise an ancient gondwanan lineage that survived the break-up of the supercontinent and the northward drift of the Indian subcontinent, about 100 million years ago, it added.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/new-family-of-bony-fish-discovered-in-western-ghats/article32771042.ece>

**Q.8)** Which of the following is/are the sources of methane?

1. Wetlands
2. Livestock
3. Wildfires

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** Methane (CH<sub>4</sub>) is emitted by natural sources such as wetlands, as well as human activities such as leakage from natural gas systems and the raising of livestock. Smaller sources include termites, oceans, sediments, volcanoes, and wildfires.

Source: Shankar

**Q.9)** Consider the following statements regarding “fluorinated gases”:

1. They have low global warming potentials (GWPs) relative to other greenhouse gases.
2. They are the most potent and longest lasting type of greenhouse gases emitted by human activities.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** Fluorinated gases are emitted through a variety of industrial processes such as aluminum and semiconductor manufacturing & Substitution for Ozone-Depleting Substances.

- Many fluorinated gases have very high global warming potentials (GWPs) relative to other greenhouse gases. Fluorinated gases are well-mixed in the atmosphere, spreading around the world after they’re emitted.
- Fluorinated gases are removed from the atmosphere only when they are destroyed by sunlight in the far upper atmosphere. In general, fluorinated gases are the most potent and longest lasting type of greenhouse gases emitted by human activities.

Source: Shankar

**Q.10)** Which of the following statement is NOT correct about black carbon?

- A. It warms the Earth by absorbing heat in the atmosphere and by reducing albedo.
- B. It disrupts cloudiness and monsoon rainfall and accelerates melting of mountain glaciers such as the Hindu Kush-Himalayan glaciers.

C. Black carbon stays in the atmosphere for years.

D. It is a form of particulate air pollutant, produced from incomplete combustion.

**ANS: C**

**Explanation:** Black carbon (BC) is a solid particle or aerosol, (though not a gas) contributes to warming of the atmosphere.

- Black carbon, commonly known as soot, is a form of particulate air pollutant, produced from incomplete combustion.
- It consists of pure carbon in several linked forms. Black carbon stays in the atmosphere for only several days to weeks.
- Thus the effects of BC on the atmospheric warming and glacier retreat disappear within months of reducing emissions.

Source: Shankar

ForumIAS

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## *Environment*

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**Q.1)** Which of the following country has recently opened world's largest rooftop greenhouse?

- a) France
- b) Brazil
- c) Germany
- d) Canada

**ANS: D**

**Explanation:** The world's largest rooftop greenhouse has opened in Montreal, Canada.

- The greenhouse than spans 15,000 sq m was set up by Lufa Farms, on the top of a warehouse.
- The greenhouse was opened to meet the growing demand for locally sourced foods.
- This greenhouse, almost the size of three football fields, can grow enough food to feed 10,000 families

Source: <https://www.thehindu.com/sci-tech/agriculture/worlds-largest-rooftop-greenhouse-opens-in-montreal/article32559909>.

**Q.2)** Which of the following country is the world's largest emitter of sulphur dioxide?

- a) China
- b) Brazil
- c) India
- d) Russia

**ANS: C**

**Explanation:** For the first time in four years India's sulphur dioxide (SO<sub>2</sub>) emissions recorded a significant decline of approximately 6% in 2019 compared to 2018, the steepest drop in four years, according to a report from Greenpeace India and the Centre for Research on Energy and Clean Air (CREA).

- However, India continues to occupy the top spot among emitters for the fifth consecutive year.
- The report ranks the world's biggest emitters of SO<sub>2</sub>, a poisonous air pollutant that increases the risk of stroke, heart disease, lung cancer, and premature death.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/india-worlds-largest-emitter-of-sulphur-dioxide-emissions-see-drop-in-2019-report/article32803030.ece>

**Q.3)** Which of the following sector is the largest contributor to nitrogen oxide?

- a) Transport and communication
- b) Thermal power plants
- c) Agriculture
- d) Construction

**ANS: C**

**Explanation:** The growing use of nitrogen fertilizers in the production of food worldwide is increasing concentrations of nitrous oxide in the atmosphere — a greenhouse gas 300 times more potent than carbon dioxide — which remains in the atmosphere longer than a human lifetime.

## PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER, 2021

- Nitrous oxide has risen 20% — from 220 parts per billion (ppb) in the pre-industrial era to 331 ppb in 2018 — and its growth has accelerated over recent decades due to emissions from various human activities.
- “The atmospheric N<sub>2</sub>O burden increased from 1.4 billion ton in the 1980s to 1.5 billion ton in 2007-2016, with a possible uncertainty of ±20 million tons.
- Emissions from synthetic fertilizer dominate releases in China, India and the U.S., while emissions from the application of livestock manure as fertilizer dominates releases in Africa and South America.
- The failure to include N<sub>2</sub>O within climate mitigation strategies will need even greater abatement of CO<sub>2</sub> and methane (also a greenhouse gas).
- India has managed to slow nitrogen emissions growth since 2015 in part due to the neem-coating of urea policy that reduced atmospheric loss of the element as well as soil contamination.
- Though agriculture remains the largest contributor to nitrogen emissions, non-agricultural emissions of nitrogen oxides and nitrous oxide were also growing rapidly, with sewage and fossil-fuel burning — for power, transport and industry — leading the trend.

Source: <https://www.thehindu.com/sci-tech/science/study-points-to-nitrous-oxide-emissions-derailing-paris-climate-agreement-temperature-target/article32798473.ece>

**Q.4)** “Begomovirus” is recently seen in news, is related to which of the following?

- a) It is a genus of viruses which cause common cold in human beings.
- b) It is a genus of viruses which causes a neuro-muscular illness in birds.
- c) It is a genus of viruses which are responsible for a considerable amount of economic damage to many important crops such as tomatoes, beans, squash, cassava and cotton.
- d) It is a high altitude pristine virus recently found in Greenland.

**ANS: C**

**Explanation:** Begomovirus is a genus of viruses, in the family Geminiviridae.

They are plant viruses that as a group have a very wide host range, infecting dicotyledonous plants.

Worldwide they are responsible for a considerable amount of economic damage to many important crops such as tomatoes, beans, squash, cassava and cotton.

Source: <https://www.thehindu.com/sci-tech/science/biological-plant-virus-arms-race-uncovered/article32822580.ece>

**Q.5)** The “Miyawaki method/process” is often seen in news, is related to which of the following?

- a) Afforestation
- b) Crop rotation
- c) Water harvesting
- d) Indigenous waste water treatment

**ANS: A**

**Explanation:** Kerala Tourism will embrace the Miyawaki method of afforestation to create 22 micro-forests in tourist destinations in 12 districts.

- By December 2020, around 30,000 saplings will be planted in 1.84 acres using the highly successful technique, pioneered by Japanese botanist Akira Miyawaki, being used by the government and nature lovers to increase green cover in urban and semi-urban areas.

- The micro-forests are expected to enhance the environment and nature-friendly surroundings of the destinations and turn an added attraction for visitors.

### NEW AFFORESTATION METHOD GETS GREEN LIGHT

**JAPANESE MIYAWAKI TECHNIQUE FOR GREENING OF GHAZIPUR LANDFILL**

- ▶ Dense green buffer to be created to improve ambient air quality
- ▶ Technique pioneered by Japanese botanist Akira Miyawaki

**PLANTATION CARRIED OUT ON 450SQM AREA NEAR GHAZIPUR LANDFILL**

**40** species of native trees with 1,000 saplings

Growth is 10 times faster and 30 times denser than normal plantation

Maintenance free after 3 years

**BENEFITS**

- ▶ A dense green buffer between garbage mound and habitation/national highway
- ▶ At a test stage to see what kind of species will survive in the area
- ▶ To act as a carbon sink
- ▶ Results from this stretch to be used for greening more patches around landfill

**WHAT IS MIYAWAKI TECHNIQUE**

Also called the potted seedling method, it is a dense afforestation technique that uses native plant species to create multilayered forests with perforators, water retainers, organic manure and mulch; guarantees a high survival and growth rate compared with conventional methods

Source: <https://www.thehindu.com/news/national/kerala/kerala-tourism-plans-micro-forests-in-12-districts/article32836096.ece>

**Q.6)** “Thattakkad Bird Sanctuary” is often seen in news, is located in which of the following states?

- Karnataka
- Kerala
- Tamil Nadu
- Andhra Pradesh

**ANS: B**

**Explanation:** The Thattakkad sanctuary is also the first bird sanctuary in Kerala and is considered a haven for nature lovers and birdwatchers with a wide variety of flora and fauna.

- The sanctuary is also considered as one of the richest bird sanctuaries of the State, with the presence of 284 bird species recorded from there.
- The area was previously part of the Kuttampuzha section of Kuttampuzha Forest Range under Malayattoor Forest Division. Currently, it is under the administrative jurisdiction of Idukki Wildlife Division.
- Rare bird species such as three-toed forest Kingfisher, Ceylon frogmouth, crimson-throated Barbet, bee-eater, sunbird, and Malabar grey hornbill are seen in the sanctuary.

Source: <https://www.thehindu.com/news/cities/Kochi/eco-sensitive-zone-of-thattakkad-bird-sanctuary-notified/article32839021.ece>

**Q.7)** The term “ghost gear” is often seen in news, is related to which of the following?

- Water conservation
- Monsoon prediction
- Marine pollution
- Nuclear materials

**ANS: C**

**Explanation:** Derelict fishing gear, sometimes referred to as "ghost gear," is any discarded, lost, or abandoned, fishing gear in the marine environment.

- This gear continues to fish and trap animals, entangle and potentially kill marine life, smother habitat, and act as a hazard to navigation.
- Derelict fishing gear, such as nets or traps and pots, is one of the main types of debris impacting the marine environment today.

Source: <https://www.thehindu.com/sci-tech/science/impact-of-ghost-fishing-gears-on-ocean-wildlife/article32841506.ece>

**Q.8)** Plastic waste management rules often seen in news, draw its statutory powers from which of the following act?

- a) Environment (Protection) Act, 1986
- b) Water (Prevention and Control of Pollution) Act, 1974
- c) Air (Prevention and Control of Pollution) Act, 1981
- d) Forest conservation Act, 1980

**ANS: A**

**Explanation:** The Central Pollution Control Board (CPCB) has told the NGT that it has issued show cause notices for closure of operations to Flipkart and Patanjali Peya as they are not registered with it and have not responded to its communications on the matter.

It said that directions under Section 5 of Environment (Protection) Act, 1986 has been issued to all SPCBs for identification of the Brand owners/ producers who are operating without registration from them and to take action against the defaulting units as per provisions of PWM Rules, 2018 which may include closure of their operations, and levying Environmental Compensation.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/show-cause-notices-for-closure-issued-to-flipkart-patanjali-over-pwm-rules-cpcb-tells-ngt/article32842827.ece>

**Q.9)** Which of the following act gives mandatory powers to assess a project/initiative under Environment Impact Assessment?

- a) Wildlife Protection Act, 1972
- b) Forest Conservation Act, 1980
- c) Environmental (Protection) Act, 1986
- d) Forest Rights Act, 2006

**ANS: C**

**Explanation:** On 27 January 1994, the Union Ministry of Environment and Forests (MEF), Government of India, under the Environmental (Protection) Act 1986, promulgated an EIA notification making Environmental Clearance (EC) mandatory for expansion or modernization of any activity or for setting up new projects listed in Schedule 1 of the notification.

Since then there have been 12 amendments made in the EIA notification of 1994.

Source: The Hindu

**Q.10)** "Ranathambore national park" is often seen in news, is located in which of the following states?

- a) Madhya Pradesh
- b) Gujarat

- c) Rajasthan
- d) Haryana

**ANS: C**

**Explanation:** Once a private game reserve of the royal House of Jaipur, Ranthambore National Park and Tiger Reserve is one of the world's best known wilderness areas.

- Located 14 kilometres from Sawai Madhopur of Rajasthan and at the junction of some of the geologically oldest mountain ranges - the Aravallis and Vindhyas - Ranthambore offers some of the finest opportunities for sighting the magnificent tiger in the wild.
- A mix of rolling hills and crags, and meadows, lakes and rivulets, this dry-deciduous forest system is home to an incredible variety of flora and fauna.
- Apart from the tiger, you can also spot sloth bear, leopard, caracal, jackal, fox, hyena and mongoose at Ranthambore. The elusive Indian wolf too, has been spotted here occasionally.
- The dainty chital, sambhar deer, the blue bull antelope or nilgai, rhesus macaque, langur and an incredible variety of birds amidst a setting of dhok, fig and banyan trees makes a visit to this park a delight – for tourists and naturalists alike.

Source: <https://www.thehindu.com/books/photographer-arjun-anands-book-hamir-the-fallen-prince-of-ranthambore/article32843068.ece>

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## *Environment*

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**Q.1)** “Sigur elephant corridor” is often seen in news, is located in which of the following states?

- a) Odisha
- b) Assam
- c) West Bengal
- d) Tamil Nadu

**ANS: D**

**Explanation:** According to Wildlife Trust of India (WTI), the Brahmagiri-Nilgiris-Eastern Ghats population has about 6,300-6,500 elephants, distributed over 12,000 sq km of habitat.

- A number of the Protected Areas, including Bandipur, Nagarahole, Mudumalai, Wayanad, Biligirirangan Swamy Temple, Kaveri and Brahmagiri, fall within the area.
- The diversity in vegetation, ranging from dry thorn forest to the montane shola grasslands, makes this one of the best elephant reserves in the country with a demographically and genetically viable population.
- This is the largest population of elephants in the country, and possibly in Asia as well.
- The Sigur plateau (Tamil Nadu) connects the Western and Eastern Ghats.
- The WTI's book, Right of Passage–Elephant Corridors of India published first in 2006 lists four corridors in the Sigur plateau.

Source: <https://www.thehindu.com/news/national/tamil-nadu/protecting-pachyderm-pathways/article32885452.ece>

**Q.2)** Which of the following state in India, concluded Asia’s largest citizen science project of bird atlas in September 2020?

- a) Kerala
- b) Tamil Nadu
- c) Madhya Pradesh
- d) Assam

**ANS: A**

**Explanation:** The Kerala Bird Atlas, one of the largest citizen science projects in Asia, conducted jointly by the Kerala Agriculture University, Bird Count India and supported by the Kerala Forest Department, concluded in September 2020.

- This mammoth exercise, which took five years and enlisted over 1,000 birders, aims to document the birds of the State systematically and collect information about species distribution, abundance and seasonality across more than 30,000 square kilometres of forests, wetlands, urban and rural areas.
- The project was first launched in 2015 at Alappuzha and Thrissur, the former being the smallest district with a thriving birding community. Once concluded successfully, in a year, it was rolled out across the State.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/the-kerala-bird-atlas-is-getting-ready/article32897848.ece>



**PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER, 2021**

**Q.3)** “The Common Agriculture Policy (CAP)” is often seen in news, is related to which of the following?

- a) Pacific Islands
- b) ASEAN
- c) European Union
- d) Latin America

**ANS: C**

**Explanation:** Launched in 1962, the EU's common agricultural policy (CAP) is a partnership between agriculture and society, and between Europe and its farmers.

- The provisional political agreement reached today by the European Parliament and Council on the new Common Agricultural Policy introduces a fairer, greener, more animal friendly and flexible CAP.
- Higher environmental and climate ambitions, aligned with Green Deal objectives, are to be implemented from January 2023.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/eu-agrees-to-farm-reform-with-tough-new-environment-rules/article32907427.ece>

**Q.4)** Arrange the following green house gases according to their global warming potential (GWP) in ascending order:

1. Methane
2. Carbon Dioxide
3. Nitrous Oxide

Select the correct answer using the code given below:

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

**ANS: C**

**Explanation:**

**GWP & Lifetime of Green House Gases:**

S. No	GAS	GWP (100-year)	LIFETIME (years)
1	Carbon di oxide	1	100
2	Methane	21	12
3	Nitrous oxide	310	120
4	Hydro fluoro carbons (HFCs)	140-11,700	1-270
5	Perfluoro carbons (PFCs)	6,500-9,200	800-50,000
6	Sulfur hexafluoride (SF6)	23,900	3,200

Source: Shankar

**Q.5)** “Coastal waters are also affected by excess nutrient inputs, mostly nitrogen, from agriculture, fertilizers and sewage” – describes which of the following?

- a) Eutrophication
- b) Bio-magnification
- c) Bio-accumulation
- d) Ocean Acidification

**ANS: A**

**Explanation:** Coastal waters are also affected by excess nutrient inputs, mostly nitrogen, from agriculture, fertilizers and sewage.

The resulting eutrophication leads to large plankton blooms, and when these blooms collapse and sink to the sea bed the subsequent respiration of bacteria decomposing the algae leads to a decrease in sea water oxygen and an increase in CO<sub>2</sub> (a decline in pH).

Source: Shankar

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

- 1. It is an allotrope of oxygen consisting of three atoms of oxygen bound together in a non-linear fashion.
- 2. It is found in the stratosphere and Ionosphere.

Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** Ozone is a natural gas; it is an allotrope of oxygen consisting of three atoms of oxygen bound together in a non-linear fashion. The chemical symbol of ozone is O<sub>3</sub>.

- It is found in two different layers of the atmosphere. Ozone in the troposphere is “bad” because it dirties the air and helps to form smog, which is not good to breathe.
- Ozone in the stratosphere is “good” because it protects life on Earth by absorbing some of the sun’s harmful Ultra Violet (UV) rays.
- The ozone layer is very important because the configuration of the ozone molecule and its chemical properties are such that ozone efficiently absorbs ultraviolet light, thus acting like a sun-screen.

Source: Shankar

**Q.7)** Chloro-flouro-carbons (CFCs) is/are used in which of the following?

- 1. Refrigerators
- 2. Fire extinguishing
- 3. Cleaning metallic components

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** CFCs molecules are made up of chlorine, fluorine and carbon. They are used as refrigerants, propellants in aerosol sprays, foaming agents in plastic manufacturing, fire

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extinguishing agents, solvents for cleaning electronic and metallic components, for freezing foods etc.

Two-thirds of CFC is used as refrigerants while one-third is used as blowing agents in foam insulation products.

Source: Shankar

**Q.8)** Which of the following International conventions/treaties is/are signed by India?

1. Ramsar Convention, 1971
2. Convention on Migratory Species, 1979
3. Convention on Biological Diversity, 1992

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** India is a member of all major international conservation treaties related to habitat, species and environment (like Ramsar Convention, 1971; Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973; Convention on Migratory Species, 1979; Convention on Biological Diversity, 1992, among others).

Source: <https://www.downtoearth.org.in/blog/forests/wildlife-conservation-in-india-are-we-really-serious--51505>

**Q.9)** Buxa tiger reserve is often seen in news is located in which of the following state?

- a) Bihar
- b) Assam
- c) Uttar Pradesh
- d) West Bengal

**ANS: D**

**Explanation:** Once famous for dolomite mining, Buxa was declared a tiger reserve in 1983 and got the status of National park in 1992.

- Located in the Assam-Bhutan border, Buxa has an area of 745 sq km, the largest forest in North Bengal.
- The park holds the maximum number of elephant, Indian bison, leopard, many species of deer and many smaller mammals, innumerable species of birds and reptiles.
- Buxa is rich with biodiversity and has a great collection of rare orchids and medicinal plants.

Source: The Hindu

**Q.10)** In which of the following states/union territories is/are snow leopard found?

1. Jammu & Kashmir
2. Himachal Pradesh
3. Uttar Pradesh

Select the correct answer using the codes given below:

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

**ANS: B**

**Explanation:** Snow leopard is the icon of high mountains of Asia.

- In India, they inhabit the higher Himalayan and Trans-Himalayan landscape in an altitudinal range between approximately 3,000 m to 5,400 m above MSL, spanning c. 100,000 km<sup>2</sup> in the five states of Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh.
- This area contributes to about 5% of the global snow leopard range.
- Long term research and conservation efforts in India have made it one of the best researched snow leopard range countries in the world.

Source: <http://164.100.117.97/WriteReadData/userfiles/SPAL.pdf>

ForumIAS

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## *Environment*

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**Q.1)** Under NAMP (National Air Quality Monitoring Programme), which of the following pollutants are monitored?

1. Carbon Dioxide
2. Nitrogen dioxide
3. Sulphur dioxide
4. Methane
5. Carbon Monoxide

Choose the correct answer using the codes given below:

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

**ANS: B**

**Explanation:** The NAMP (National Air Quality Monitoring Programme) has been running since 1984. However, the publicly reported data on the CPCB website is only available since 2016 till October 2019.

- India has a network of 793 NAAQS stations covering 344 cities/towns in 29 States and six Union Territories.
- Under NAMP, four pollutants — Sulphur dioxide (So<sub>2</sub>), Nitrogen dioxide (No<sub>2</sub>), suspended particulate matter (SPM), and respirable suspended particulate matter (RSPM) have been identified as key pollutants for regular monitoring.
- The monitoring is being carried out by State Pollution Control Boards and the National Environmental Engineering Research Institute, Nagpur, and overseen by Pollution Control Committees, the CPCB, and now by the Union Environment Ministry under the NCAP.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/indias-air-quality-data-for-comparing-annual-pollution-is-patchy/article32964922.ece>

**Q.2)** “Nugu Wildlife Sanctuary” is recently seen in news, is located in which of the following state?

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

**ANS: C**

**Explanation:** Nugu Wildlife Sanctuary is situated north of Bandipur National Park in Mysore District, Karnataka. It covers about 30 sq km and the northern part of the sanctuary is occupied by the Nugu Reservoir.

- Wildlife population includes elephant, leopard, jungle cat, wild pig, spotted deer, sambar deer, barking deer, mouse deer, jackal, hare, common mongoose, common otter, small Indian civet, common palm civet and porcupine.
- This is an excellent place for wild life and bird photographers. There is one more major reservoir called Kabini (on the river Kabini) which is very nearby.

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- The entire land meets the forest area constituting Bandipur (with Project Tiger), Nagarhole and Madhumalai.

Source: <https://www.thehindu.com/news/national/karnataka/unbridled-promotion-of-ecotourism-fraught-with-danger-to-wildlife/article32967202.ece>

**Q.3)** “Clarion-Clipperton Zone” is often seen in news, is located in which of the following ocean?

- a) Atlantic
- b) Indian
- c) Pacific
- d) Arctic

**ANS: C**

**Explanation:** Polymetallic nodules are a potential mineral resource for copper, nickel, cobalt, iron, manganese, and rare earth elements—metals that are becoming important for modern life, since they are used in making electronics like rechargeable batteries and touch screens, among other things.

- These nodules are found in various deep ocean regions, including the deep Pacific and Indian Oceans.
- The nodules of greatest mining interest are approximately potato-sized, and sit on the sediment surface across abyssal plains in the Clarion-Clipperton Zone (CCZ), a region spanning 5,000 kilometers (3,100 miles) across the central Pacific Ocean, at depths of ~4,000 - 5,500 meters (12,000 - 18,000 feet).

Source: <https://www.thehindu.com/sci-tech/science/why-is-india-pulled-to-deep-sea-mining/article28809029.ece>

**Q.4)** “Banni grasslands” is often seen in news, is located in which of the following states?

- a) Madhya Pradesh
- b) Tamil Nadu
- c) Nagaland
- d) Gujarat

**ANS: D**

**Explanation:** Banni grassland is spread over 2,618 kilometre and account for almost 45 per cent of the pastures in Gujarat.

- It comprises 48 hamlets / villages organised into 19 panchayats, with a population of about 40,000.
- Two ecosystems, wetlands and grasslands, are juxtaposed in Banni. The area is rich in flora and fauna, with 192 species of plants, 262 species of birds, several species of mammals, reptiles and amphibians.
- Banni grasslands, traditionally, were managed following a system of rotational grazing. On May 11 1955, the court notified that the grassland will be a reserve forest.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/ecologically-and-culturally-rich-deserts-swamps-and-grasslands-must-not-be-labelled-wastelands/article33037900.ece>

**Q.5)** “Lake Baringo, Lake Bogoria, Lake Elementaita and Lake Nakuru” are recently in news, is located in which of the following country?

- a) Canada
- b) Nigeria

- c) Kenya
- d) Australia

**ANS: C**

**Explanation:** Lakes of Kenya's Rift Valley have risen to levels not seen in at least half a century.

- The Great Rift Valley has been experiencing devastating flooding following months of extreme rainfall.
- The swelling of Lake Baringo and Lake Bogoria is threatening wildlife and livelihoods in the area.
- The two lakes, once 20km apart, are now so close together that there are fears they could contaminate each other. Neither lake has an outlet to allow excess water to flow out.
- Both lakes play significant roles in sustaining local citizens, attracting tourists, and providing a home for many wildlife species.
- Lake Baringo provides irrigation and drinking water and is also home to Nile crocodiles. Lake Bogoria is a World Heritage site and home to hundreds of bird species, including as many as one million flamingos at times.
- Two other critical habitats frequented by the migratory birds, Lake Elementaita and Lake Nakuru, are also brimming.

Source: <https://www.thehindu.com/news/international/kenyas-lakes-are-flooding/article33052153.ece>

**Q.6)** Consider the following statements regarding Great Indian Bustard (GIB):

1. It is found in both Rajasthan and Gujarat.
2. WWF-India, is undertaking initiatives towards conservation of GIB in and around Desert National Park.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** Historically, the great Indian bustard was distributed throughout Western India, spanning 11 states, as well as parts of Pakistan.

- Its stronghold was once the Thar Desert in the north-west and the Deccan plateau of the peninsula.
- Today, its population is confined mostly to Rajasthan and Gujarat. Small population occurs in Maharashtra, Karnataka and Andhra Pradesh.
- WWF-India has provided inputs in developing the 'Guidelines for the State Action Plan for Resident Bustard Recovery Programme'.
- It has played an important role in raising awareness about the declining populations and highlighting the importance of implementing a focused bustard conservation programme at the national level.
- WWF-India, is undertaking initiatives towards conservation of GIB in and around Desert National Park.

Source: [https://www.wwfindia.org/about\\_wwf/priority\\_species/threatened\\_species/great\\_in\\_dian\\_bustard/](https://www.wwfindia.org/about_wwf/priority_species/threatened_species/great_in_dian_bustard/)

**Q.7)** Consider the following statements regarding Sangai Deer:

1. It is found in Keibul Lamjao National Park only.
2. It is a state animal of Manipur.

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

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

**ANS: D**

**Explanation:** The brow-antlered deer is found in Keibul Lamjao National Park in Manipur. It is largely seen over the floating biomass, locally called “phumdi” in the South Eastern part of Loktak Lake inside the park.

- The park covers an area of 40 km<sup>2</sup> and the home range of the deer in the park is confined to 15–20 km<sup>2</sup>.
- Phumdi is the most important and unique part of Sangai’s habitat. It is the floating mass of entangled vegetation formed by the accumulation of organic debris and biomass with soil.
- The sangai is an endemic and endangered subspecies of brow-antlered deer found only in Manipur, India. It is also the state animal of Manipur.

Source: <https://www.thehindubusinessline.com/news/manipurs-sangai-deer-needs-a-new-home/article9973347.ece>

**Q.8)** “Katarniaghat Wildlife Sanctuary” is part of crocodile conservation project is located in which of the following state?

- a) Andhra Pradesh
- b) Madhya Pradesh
- c) Uttar Pradesh
- d) West Bengal

**ANS: C**

**Explanation:** Project Crocodile was introduced in 1975. The primary focus was on breeding and rearing in captivity.

- The initiative was taken by the Government of India in association with the Food and Agriculture Organization and United Nations Development Fund.
- Due to the implementation of this project, there is an increase in the population of crocodiles, which has saved them from extinction.
- The protected areas include National Chambal Sanctuary and Katarniaghat Wildlife Sanctuary.
- The Katarniaghat Wildlife Sanctuary is a protected area in the Upper Gangetic plain in Uttar Pradesh, India and covers an area of 400.6 km<sup>2</sup> in the Terai of the Bahraich district.

Source: <https://blog.ipleaders.in/top-5-conservation-projects-wildlife-india/>

**Q.9)** Which of the following initiatives are covered under the National Mission for Enhanced Energy Efficiency (NMEEE)?

1. Perform Achieve and Trade
2. Market Transformation for Energy Efficiency
3. Energy Efficiency Financing Platform (EEP)
4. Framework for Energy Efficient Economic Development (FEEED)

Select the correct answer using the code given below:



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

**ANS: D**

**Explanation:** The National Mission for Enhanced Energy Efficiency (NMEEE), which seeks to strengthen the market for energy efficiency by creating conducive regulatory and policy regime.

- NMEEE has been envisaged to foster innovative and sustainable business models to the energy efficiency sector.
- The NMEEE seeks to create and sustain markets for energy efficiency in the entire country which will benefit the country and the consumers”.

Four New Initiatives to Enhance Energy Efficiency:

- Perform Achieve and Trade
- Market Transformation for Energy Efficiency
- Energy Efficiency Financing Platform (EEP)
- Framework for Energy Efficient Economic Development (FEEED)

Source: Shankar

**Q.10)** “Qilian mountains” are recently seen in news, is located in which of the following country?

- a) China
- b) Japan
- c) Afghanistan
- d) Kazakhstan

**ANS: A**

**Explanation:** Glaciers in China's bleak Qilian mountains are disappearing at a shocking rate as global warming brings unpredictable change and raises the prospect of crippling, long-term water shortages.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/glaciers-in-chinas-qilian-mountains-melting-at-shocking-pace/article33065386.ece#>

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## *Environment – Revision*

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**Q.1)** Which of the following country recently announced to ban the sale of new gasoline and diesel cars by 2030?

- a) France
- b) Britain
- c) Japan
- d) China

**ANS: B**

**Explanation:** Britain will ban the sale of new gasoline and diesel cars by 2030, a decade earlier than its previous commitment.

- Boris Johnson made the pledge as part of plans for a green industrial revolution that he claims could create up to 250,000 jobs in energy, transport and technology.
- The government said sales of new gasoline and diesel cars and vans will end in 2030, though hybrid vehicles can be sold until 2035.
- Automakers have expressed concern about the target, saying the previous goal of 2040 was already ambitious.
- The government's green plans also include investments in hydrogen energy and carbon capture technology, and an ambition to generate enough wind energy to power every home in the UK by 2030.

Source: <https://www.thehindu.com/news/international/uk-to-ban-petrol-diesel-cars-from-2030-in-green-revolution/article33122805.ece>

**Q.2)** "RCP8.5" is often seen in news, is related to which of the following?

- a) GHG emissions
- b) New exo-planet
- c) Asteroid coming near to earth
- d) New CoVID - 19 variant

**ANS: A**

**Explanation:** In a worst case scenario, average surface air temperatures over India could rise by up to 4.4 degrees Celsius by the end of the century as compared to the period between 1976 and 2005, according to the first Assessment of Climate Change over the Indian Region published by the Union Ministry of Earth Sciences (MoES).

- The worst case scenario is defined by the Representative Concentration Pathway (RCP) 8.5 that calculates a radiative forcing of 8.5 watt per square metre due to the rising green house gas (GHG) emissions in the atmosphere.
- Radiative forcing or climate forcing is the difference between sunlight energy absorbed by the Earth (including its atmosphere) and the energy that it radiates back into space.
- Under an intermediate scenario of RCP 4.5, the country's average temperature could rise by up to 2.4°C.
- The rise in temperatures will be even more pronounced in the Hindu Kush-Himalayan region where the average could reach 5.2°C.
- The region is already highly vulnerable to climate-related variability in temperatures, rainfall and snowfall.

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- By 2100, the frequency of warm days and warm nights might also increase by 55 per cent and 70 per cent respectively, as compared to the period 1976-2005 under the RCP 8.5 scenario.
- The incidences of heat waves over the country could also increase by three to four times. Their duration of occurrence might also increase which was already witnessed by the country in 2019.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/greenlands-largest-glaciers-likely-to-melt-faster-than-feared-study/article33124939.ece>

**Q.3)** “Jakobshavn Isbrae Glacier, Kangerlussuaq Glacier and Helheim Glacier” are often seen in news, are located in?

- a) Hindu Kush range
- b) Antarctica
- c) Iceland
- d) Greenland

**ANS: D**

**Explanation:** A team of researchers based in Denmark and Britain used historical images and a host of other data to estimate how much ice had been lost from Greenland's **Jakobshavn Isbrae, Kangerlussuaq Glacier and Helheim Glaciers** in the 20th century.

- They found that Jakobshavn Isbrae lost more than 1.5 trillion tonnes of ice between 1880-2012, while Kangerlussuaq and Helheim lost 1.4 trillion and 31 billion tonnes from 1900-2012, respectively.
- The ice melt has already contributed more than eight millimetres to global sea levels.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/greenlands-largest-glaciers-likely-to-melt-faster-than-feared-study/article33124939.ece>

**Q.4)** The only known white giraffe in the world has been fitted with a GPS tracking device to help protect is located in which country?

- a) Namibia
- b) Tanzania
- c) Kenya
- d) Zambia

**ANS: C**

**Explanation:** The only known white giraffe in the world has been fitted with a GPS tracking device to help protect it from poachers as it grazes in Kenya.

- But despite its singular status, the lonely male doesn't have a name.
- The white giraffe now stands alone after a female and her calf were killed by poachers in March, the Ishaqbini Hirola Community Conservancy said.
- A rare genetic trait called leucism causes the white color, and it makes the one surviving giraffe stand out dangerously for poachers in the arid savannah near the Somalia border.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/worlds-last-known-white-giraffe-gets-gps-tracking-device/article33125038.ece>

**Q.5)** Consider the following statements regarding Ramsar Convention:

1. It is an informal group for the conservation and wise use of wetlands.
2. It was signed in 1971 by World Bank in the Iranian city of Ramsar.

Which of the statements given above is/is/are correct?

- a) 1 only

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

**ANS: D**

**Explanation:** A Ramsar Site is a wetland site designated to be of international importance. These wetlands are protected under strict guidelines of the Ramsar Convention on Wetlands.

- The Ramsar Convention on Wetlands, also known as the Convention on Wetlands, is an intergovernmental treaty for the conservation and wise use of wetlands.
- The convention, signed in 1971 by UNESCO in the Iranian city of Ramsar, is one of the oldest inter-governmental accords for preserving the ecological character of wetlands.
- Over 170 countries are now party to the Ramsar Convention. There are over 2,400 Ramsar Sites around the world covering over 2.5 million square kilometres.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/watch-all-about-ramsar-sites/article33131182.ece>

**Q.6)** “Carprofen, Flunixin, Ketoprofen, Nimesulide, and Phenylbutazone” are often seen in news, is related to?

- a) CoVID – 19 medicines
- b) Drugs those are fatal to vultures
- c) Tuberculosis medicines
- d) Malaria drugs

**ANS: B**

**Explanation:** Though the availability of Diclofenac, a drug that is fatal to vultures, has been reduced in many parts of south India, a few other fatal drugs such as Aceclofenac, Carprofen, Flunixin, Ketoprofen, Nimesulide, and Phenylbutazone are still available.

Source: <https://www.thehindu.com/news/national/kerala/securing-vulture-population-needs-joint-efforts/article32538258.ece>

**Q.7)** “Dobson Unit” is the measurement unit for which of the following?

- a) Ozone concentration
- b) Solar concentration
- c) Lake purity
- d) Warming potential measurement

**ANS: A**

**Explanation:** Dobson Unit is the most common unit for measuring ozone concentration. One Dobson Unit is the number of molecules of ozone that would be required to create a layer of pure ozone 0.01 millimeters thick at a temperature of 0 degrees Celsius and a pressure of 1 atmosphere.

Source: NOAA

**Q.8)** Consider the following statements regarding “Petersburg Dialogue”:

1. It was started in 2010 by Russia.
2. It is an informal annual meeting to have constructive exchanges on the issues of international climate actions.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only

- c) Both 1 and 2
- d) Neither 1 nor 2

**ANS: B**

**Explanation:** Petersburg Dialogue was launched in 2010 by Germany after failed climate negotiations at the 2009 Copenhagen Summit.

- It is an informal annual meeting of the high-level ministers and representatives of various countries that enables them to have constructive exchanges on the issues of international climate actions.
- The co-chair of the Climate Dialogue is the country presiding over the next conference of United Nations Framework Convention on Climate Change (UNFCCC).

Source: The Hindu

**Q.9)** The term “Southern Annular Mode” is often seen on news is associated with which of the following?

- a) Arctic Ocean
- b) Antarctic Oscillation
- c) Pacific Gyres
- d) Temperate cyclones

**ANS: B**

**Explanation:** The Southern Annular Mode (SAM), also known as the Antarctic Oscillation (AAO), refers to the (non-seasonal) north-south movement of the strong westerly winds that blow almost continuously in the mid- to high latitudes of the southern hemisphere.

Source: NOAA

**Q.10)** “Agasthyavanam biological Park” is recently seen in news is located in which of the following state?

- a) Kerala
- b) Andhra Pradesh
- c) Arunachal Pradesh
- d) Odisha

**ANS: A**

**Explanation:** Agasthyavanam was established in 1997, Agasthyavanam Biological Park is a wildlife sanctuary in Kerala.

- The park is located near Thiruvananthapuram, the capital city of Kerala.
- Agasthyavanam Biological Park is spread over an area of 23 sq. km., of which 17.5 sq. km. of the park has been dedicated for natural regeneration to develop into a dense forest.
- It is contiguous to Neyyar Wildlife Sanctuary and Peppara Wildlife Sanctuary.
- The rest area of the park is left for systematic conservation programs.
- The park has been named after the Agasthyamalai Agasthyakoodam Peak, which can be seen at a distance from the park.
- Forest Department is procuring forest produce collected by the tribes people of the Agasthyavanam Biological Park (ABP) and surrounding forest ranges to be sold to commercial establishments and various collectives to deal with the lockdown necessitated by the COVID-19 pandemic

Source: The Hindu

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## **Environment**

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**Q.1)** “State of Global Air” is recently in news, is released by?

- a) World Economic Forum
- b) Health Effects Institute
- c) UNEP
- d) World Bank

**ANS: B**

**Explanation:** Long-term exposure to outdoor and household air pollution contributed to over 1.67 million annual deaths from stroke, heart attack, diabetes, lung cancer, chronic lung diseases and neonatal diseases in India in 2019, according to the State of Global Air 2020 by the U.S.-based Health Effects Institute.

Overall, air pollution was now the largest risk factor for death among all health risks, the report noted.

Source: <https://www.thehindu.com/news/cities/Delhi/air-pollution-now-biggest-health-risk-in-india-says-report/article32912916.ece>

**Q.2)** Consider the following statements:

1. According to IQAir, New Delhi was the world’s most polluted capital in 2020.
2. Report is based on the calculation of PM 10.

Which of the statements above given is/are correct?

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

**ANS: A**

**Explanation:** New Delhi was the world’s most polluted capital for the third straight year in 2020, according to IQAir, a Swiss group that measures air quality levels based on the concentration of lung-damaging airborne particles known as PM2.5.

- India was home to 35 of the world’s 50 most polluted cities, according to IQAir’s 2020 World Air Quality Report, which gathered data for 106 countries.
- The findings were based on the country’s annual average of particulate matter PM2.5, airborne particles with less than 2.5 microns in diameter.
- Prolonged exposure to PM2.5 can lead to deadly diseases, including cancer and cardiac problems.

Source: <https://indianexpress.com/article/india/new-delhi-is-worlds-most-polluted-capital-for-third-straight-year-iqair-study-7230892/>

**Q.3)** Consider the following statements regarding particulate matter:

1. PM2.5 and PM10 are mixture of solid and liquid particles generally having diameters of a single strand of average human hair.
2. The common chemical composition of particulate matter includes nitrates, sulfates, ammonium, and also metals and biological components.

Which of the statements above given is/are correct?

- a) 1 only
- b) 2 only

- c) Both 1 and 2
- d) Neither 1 nor 2

**ANS: C**

**Explanation:** PM2.5 and PM10 are mixture of solid and liquid particles generally having diameters of or less than 2.5 and 10 micrometers— smaller than the diameter of a single strand of average human hair, which is about 70 micrometers.

- The 24 hour exposure limit of PM2.5 in India is 60 micrograms per cubic meter air (ug/m<sup>3</sup>), while that of PM10 is 100 ug/m<sup>3</sup>.
- At the three highly polluted areas in Delhi between 12PM Thursday and Friday, the levels of PM2.5 and PM10 had reached 500 ug/m<sup>3</sup> or close to it.
- These particulates are emitted from various sources and can be inhaled, causing serious health problems.
- Their physical and chemical characteristics vary by location, and common chemical composition includes nitrates, sulfates, ammonium, and also metals and biological components.

Source: <https://indianexpress.com/article/explained/explained-as-pollution-peaks-in-delhi-a-look-at-pollutants-you-should-be-worried-of-6853273/>

**Q.4)** Which of the following is/are common source/sources of Particulate Matter?

1. Combustion of petrol & diesel engines
2. Combustion of solid fuel for energy production
3. Erosion of pavement by road traffic

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** Combustion of diesel and petrol in engines, combustion of solid fuel for energy production, construction and industrial activities, and erosion of pavement by road traffic are some of the primary sources of PM, but they are also formed in the atmosphere through chemical reaction of gaseous pollutants.

Source: <https://indianexpress.com/article/explained/explained-as-pollution-peaks-in-delhi-a-look-at-pollutants-you-should-be-worried-of-6853273/>

**Q.5)** Consider the following statements regarding Ammonia:

1. It occurs naturally in air, soil and water, and is used as an agricultural fertilizer and in cleaning products.
2. Short-term inhalation of high levels of ammonia can cause irritation and serious burns in the mouth, lungs and eyes.

Which of the statements above given is/are correct?

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

**ANS: C**

**Explanation:** Ammonia (NH<sub>3</sub>) is another gaseous pollutant that is monitored, whose 24-hour exposure limit is 400 ug/m<sup>3</sup>.

- The average 24-hour range of NH<sub>3</sub> as of 1pm on Friday at the three highly polluted areas in Delhi was between 9 and 28 ug/m<sup>3</sup>, as per CPCB data.
- The EPA states that ammonia occurs naturally in air, soil and water, and is used as an agricultural fertiliser and in cleaning products.
- Short-term inhalation of high levels of ammonia can cause irritation and serious burns in the mouth, lungs and eyes.
- Chronic exposure to airborne ammonia can increase the risk of respiratory problems, including impaired lung function.

Source: <https://indianexpress.com/article/explained/explained-as-pollution-peaks-in-delhi-a-look-at-pollutants-you-should-be-worried-of-6853273/>

**Q.6)** Consider the following statements regarding Sulfur Dioxide:

1. India is the largest emitter of Sulfur dioxide pollution.
2. Largest source of SO<sub>2</sub> in atmosphere is burning of fossil fuels by power plants and other industrial facilities.

Which of the statements above given is/are correct?

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

**ANS: C**

**Explanation:** Sulphur dioxide (SO<sub>2</sub>) and particulate matter emitted from combustion of fossil fuels have, historically, been the main components of air pollution in many parts of the world.

- A Greenpeace report from 2019 had found that India was the largest emitter of SO<sub>2</sub> in the world due to burning of coal.
- The EPA states that largest source of SO<sub>2</sub> in atmosphere is burning of fossil fuels by power plants and other industrial facilities.
- Short-term exposure to SO<sub>2</sub> can harm respiratory system, making breathing more difficult.
- SO<sub>2</sub> emissions in the air can also lead to formation of other sulphur oxides (SO<sub>x</sub>), which can react with other compounds in the atmosphere and form particulate matter.

Source: <https://indianexpress.com/article/explained/explained-as-pollution-peaks-in-delhi-a-look-at-pollutants-you-should-be-worried-of-6853273/>

**Q.7)** Which of the following is/are the applications of fly ash?

1. Fly ash bricks are light in weight and offer high strength and durability.
2. It can be used in reclamation of wastelands.
3. It can increase the crop yield and it also enhances water holding capacity of the land.

Select the correct answer using the code given below:

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

**ANS: D**



**Explanation:** Cement can be replaced by fly ash up to 35%, thus reducing the cost of construction, making roads, etc.

- Fly ash bricks are light in weight and offer high strength and durability.
- Fly ash is a better fill material for road embankments and in concrete roads.
- Fly ash can be used in reclamation of wastelands.
- Abandoned mines can be filled up with fly ash.
- Fly ash can increase the crop yield and it also enhances water holding capacity of the land.

Source: Shankar

**Q.8)** Consider the following statements regarding “National Air Quality Index”:

1. It was launched in April, 2015 starting with 14 cities to disseminate air quality information.
2. Carbon monoxide and Ozone are part of National Air Quality Index.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** National Air Quality Index was launched by the Prime Minister in April, 2015 starting with 14 cities to disseminate air quality information.

- The AQI has six categories of air quality, viz Good, Satisfactory, Moderately Polluted, Poor, Very Poor and Severe with distinct colour scheme.
- Each of these categories is associated with likely health impacts.
- AQI considers eight pollutants (PM10, PM 2.5, NO<sub>2</sub>, SO<sub>2</sub>, CO, O<sub>3</sub>, NH<sub>3</sub> and Pb) for which (up to 24-hourly averaging period) National Ambient Air Quality Standards are prescribed.

Source: Shankar page no: 61

**Q.9)** The terms “Biological Oxygen Demand, Biochemical Oxygen Demand and Chemical Oxygen Demand” are related to which of the following?

- a) Green House Gases
- b) Water Pollution
- c) Air Pollution
- d) Soil Pollution

**ANS: B**

**Explanation:** The higher amounts of waste increases the rates of decomposition and O<sub>2</sub> consumption, thereby decreases the DO content of water.

- The demand for O<sub>2</sub> is directly related to increasing input of organic wastes and is expressed as biological oxygen demand (BOD) of water.
- Water pollution by organic wastes is measured in terms of Biochemical Oxygen Demand (BOD).
- BOD is the amount of dissolved oxygen needed by bacteria in decomposing the organic wastes present in water. It is expressed in milligrams of oxygen per litre of water.
- The higher value of BOD indicates low DO content of water. Since BOD is limited to biodegradable materials only. Therefore, it is not a reliable method of measuring pollution load in water.

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- Chemical oxygen demand (COD) is a slightly better mode used to measure pollution load in water.
- It is the measure of oxygen equivalent of the requirement of oxidation of total organic matter (i.e. biodegradable and non-biodegradable) present in water.

Source: Shankar

**Q.10)** “The methaemoglobinemia” symptoms are due to which of the following?

- a) Fluorides
- b) Cadmium
- c) Lead
- d) Nitrate

**ANS: D**

**Explanation:** Excess nitrate in drinking water reacts with hemoglobin to form non-functional methaemoglobin, and impairs oxygen transport. This condition is called methaemoglobinemia or blue baby syndrome.

Source: Shankar

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## *Environment*

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**Q.1)** “Raorchestes resplendens” species is often seen in news, is?

- a) Frog
- b) Snake
- c) Skink
- d) Butterfly

**ANS: A**

**Explanation:** The Raorchestes resplendens or the resplendent shrubfrog lives up to its name. An iridescent blob of colour amid foliage, it is a striking mix of orange and purplish-black.

- This critically endangered frog found in Anaimudi, the highest peak in the Western Ghats, has an unexpectedly loyal fan following.
- Every South West Monsoon, as the evergreen forests are drenched in rain, people travel from afar just to catch a glimpse of the resplendens.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/herping-enthusiasts-on-the-fascinating-world-of-reptiles-and-ambhians-and-the-growing-interest-in-herping/article33232444.ece>

**Q.2)** “State of the Global Climate report” is released by?

- a) UNEP
- b) WEF
- c) WMO
- d) UNDP

**ANS: C**

**Explanation:** The World Meteorological Organization is publishing the State of the Global Climate report since 1993.

The report mainly documents indicators of climate system such as increasing land and ocean temperatures, greenhouse gas concentrations, melting ice, sea-level increase, glacier retreat and extreme weather.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/2020-one-of-three-hottest-years-ever-recorded-un/article33238013.ece>

**Q.3)** “Production Gap assessment report” is published and released by?

- a) UNEP
- b) UNCTAD
- c) World Bank
- d) WEF

**ANS: A**

**Explanation:** Modeled after the UNEP’s Emissions Gap Report series — and conceived as a complementary analysis — this report conveys the large discrepancy between countries’ planned fossil fuel production and the global production levels necessary to limit warming to 1.5°C and 2°C.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/2020-one-of-three-hottest-years-ever-recorded-un/article33238013.ece>

**Q.4)** Which African country put up auction of high value wild elephants up for sale due to drought and an increase in elephant numbers?

- a) Zambia
- b) Nigeria
- c) Namibia
- d) Kenya

**ANS: B**

**Explanation:** Namibia has put 170 “high value” wild elephants up for sale due to drought and an increase in elephant numbers, the southern African country's environmental ministry said.

- Namibia's conservation drive, which has seen its elephant population jump from around 7,500 in 1995 to 24,000 in 2019 according to government figures, has enjoyed international support.
- But last year Namibia said it was considering withdrawing from the rules that govern the global trade in endangered species.
- This was after countries voted during a CITES meeting to reject proposals to relax restrictions on hunting and exporting its white rhinos.
- The country wants to allow more trophy hunting and the export of live animals, arguing that the funds it would raise would help it to protect the species.
- In October it put 70 female and 30 male buffalos from Waterberg Plateau Park in central Namibia up for sale in a bid to ease pressure on grazing land.
- The arid southern African nation also auctioned 1,000 animals from national parks, including 500 buffalos in 2019 as it faced the worst drought in a century.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/namibia-to-auction-170-elephants-over-drought-increased-population/article33238174.ece>

**Q.5)** Which of the following institutions/targets is/are deals with the issues of Invasive alien Species?

1. IUCN
2. Aichi Biodiversity targets
3. Sustainable Development goals

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** An alien species is a species introduced outside its natural past or present distribution; if this species becomes problematic, it is termed an invasive alien species (IAS).

- IAS are the most common threat to amphibians, reptiles and mammals on The IUCN Red List; they may lead to changes in the structure and composition of ecosystems detrimentally affecting ecosystem services, human economy and wellbeing.
- IAS are such a problem that Aichi Biodiversity Target 9 and one clause of UN Sustainable Development Goal 15 – Life on Land specifically address the issue.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/study-finds-repeated-waves-of-giant-african-snail-invasion-in-kerala/article33262455.ece>

**Q.6)** “Pobitora Wildlife Sanctuary” is often seen in news, is located in which of the following states?

- a) Tamil Nadu
- b) Madhya Pradesh
- c) Assam
- d) Himachal Pradesh

**ANS: C**

**Explanation:** The authorities in eastern Assam’s Dibrugarh district have undertaken a drive to vaccinate livestock around the Joypur rainforest after anthrax was confirmed as the cause of the death of two female elephants.

- This is the second case of anthrax in the State after two Asiatic water buffaloes died in the Pobitora Wildlife Sanctuary in October 2019.
- The sanctuary, 48 km east of Guwahati, is often called ‘Mini Kaziranga’ owing to a similar landscape.

Source: <https://www.thehindu.com/news/national/other-states/vaccination-drive-in-assam-after-anthrax-kills-elephants-in-joypur-rainforest/article33296288.ece>

**Q.7)** “The Global Carbon Project” is often seen in news, is launched by?

- a) UNEP and UNDP
- b) WEF and UNDP
- c) WB and GEF
- d) Future Earth and World Climate Research Programme

**ANS: D**

**Explanation:** The Global Carbon Project is a Global Research Project of Future Earth and a research partner of the World Climate Research Programme.

- It was formed to work with the international science community to establish a common and mutually agreed knowledge base to support policy debate and action to slow down and ultimately stop the increase of greenhouse gases in the atmosphere.
- The overwhelming realization that anthropogenic climate change is a reality has focused the attention of the scientific community, policymakers and the general public on the rising atmospheric concentrations of the main greenhouse gases, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O).
- The GCP has approached this challenge by focusing comprehensively on the global biogeochemical cycles which govern these three greenhouse gases, including their natural and human drivers, and opportunities for low carbon pathways.

Source: <https://www.thehindu.com/news/international/world-carbon-dioxide-emissions-drop-7-in-pandemic-hit-2020/article33304949.ece>

**Q.8)** “The Ban Amendment” is associated with which of the following?

- a) Rotterdam Convention
- b) Basel Convention
- c) Paris Convention
- d) Stockholm Convention

**ANS: B**

**Explanation:** The 1995 Basel Ban Amendment, a global waste dumping prohibition, has become an international law after Croatia ratified it on September 6, 2019.

- Croatia became the 97th country to ratify the ban, which was adopted by the parties to the Basel Convention in 1995, to protect human health and the environment

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against the adverse effects of hazardous wastes, according to Basel Action Network (BAN).

- BAN is a United States-based charity organisation and is one among the organisations and countries, which created the Basel Ban Amendment — hailed as a landmark agreement for global environmental justice.
- The Ban Amendment had been stalled for all these years due to uncertainty over how to interpret the Convention.
- It will become a new Article in the Convention and will enter into force in the 97 countries after 90 days.

Source: <https://www.downtoearth.org.in/news/waste/basel-ban-amendment-becomes-law-66651>

**Q.9)** Which of the following waste/wastes is/are prohibited under Basel Convention?

1. Toxic factory waste
2. Old computers waste
3. Obsolete ships

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** The Ban Amendment, adopted in 1994, effectively bans, as of 1 January, 1998, all forms of hazardous waste exports from the 29 wealthiest countries of the Organization of Economic Cooperation and Development (OECD) to non-OECD countries.

- But the Ban Amendment had been stalled for all these years due to uncertainty over how to interpret the Convention.
- The Ban Amendment ensures that developing countries are not convenient dumping grounds for toxic factory waste, obsolete ships containing asbestos or old computers coming from affluent countries.

Source: <https://www.downtoearth.org.in/indepth/basel-final-day-rich-nations-cant-dump-toxic-waste-on-poor-nations--34313>

**Q.10)** Which of the following protocol/protocols is/are comes under Convention on Biological Diversity?

1. Kyoto protocol
2. Cartagena protocol
3. Nagoya protocol

Select the correct answer using the codes given below:

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

**ANS: C**

**Explanation:** Convention on Biological Diversity Protocols is:

- The Nagoya Protocol on Access and Benefit-sharing
- The Cartagena Protocol on Bio-safety
- The Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Bio-safety

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Source: <https://www.cbd.int/convention/protocols/>

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## *Environment*

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**Q.1)** Consider the following statements regarding Botanical Survey of India:

1. It was established in 1890.
2. It acting as the custodian of authentic collections in well planned herbaria and documenting plant resources in the form of local, district, state and national flora.

Which of the statements above given is/are correct?

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

**ANS: C**

**Explanation:** The Botanical Survey of India (BSI) was established in 1890 with the objectives of exploring the plant resources of the country and identifying plant species with economic virtue.

- In 1954, the Government reorganized the BSI with the objectives of (1) undertaking intensive floristic surveys and collecting accurate and detailed information on the occurrence, distribution, ecology and economic utility of plants in the country;
- (2) collecting, identifying and distributing materials that may be of use to educational and research institutions;
- and (3) acting as the custodian of authentic collections in well planned herbaria and documenting plant resources in the form of local, district, state and national flora.

Source: <https://bsi.gov.in/page/en/brief-history#>

**Q.2)** Consider the following statements regarding Indian Council of Forestry Research and Education (ICFRE):

1. It as an umbrella organization for taking care of forestry research, education and extension needs of the country.
2. Its headquarters is located in New Delhi.

Which of the statements above given is/are correct?

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

**ANS: A**

**Explanation:** The journey of ICFRE was initiated way back towards the end of the nineteenth century with the advent of scientific forestry in India and the establishment of the Forest School in Dehradun in 1878.

- It was on 5th June 1906 subsequently that the Imperial Forest Research Institute was founded by Government of India for taking forward forestry research in the country.
- In 1986 the Indian Council of Forestry Research and Education or ICFRE was formed as an umbrella organisation for taking care of forestry research, education and extension needs of the country.



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- Finally on 1st June 1991, the ICFRE was declared an autonomous Council under the then Ministry of Environment and Forests and registered as a Society under the Societies Registration Act, 1860.
- Presently, ICFRE with its Headquarters at Dehradun is an apex body in the national forestry research system that promotes and undertakes need based forestry research extension.

Source: <https://www.icfre.org/history>

**Q.3)** Which of the following famous personality is NOT founding member of Bombay Natural History of Science (BNHS)?

- Atmaram Pandurang
- D Mcdonald
- Sakharam Arjun
- Rukminidevi arundale

**ANS: D**

**Explanation:** In 1883, eight nature-loving residents of Bombay decided to exchange notes and exhibit interesting specimens of natural history. They came together at Bombay's Victoria and Albert Museum on September 15 and constituted the Bombay Natural History Society. Of them, two were Indians.

### THE FOUNDERS

In 1883, eight nature-loving residents of Bombay decided to exchange notes and exhibit interesting specimens of natural history. They came together at Bombay's Victoria and Albert Museum on September 15 and constituted the Bombay Natural History Society. Of them, two were Indians.

Dr. D. MacDonald

Mr. E. H. Aitken

Col. C Swinhoe

Mr. J. C. Anderson

Mr. J Johnston

Dr. Atmaram Pandurang

Dr. G A Maconochie

Dr. Sakharam Arjun

Source: <https://www.bnhs.org/who-we-are>

**Q.4)** Consider the following statements regarding Zoological Survey of India:

1. It was established at the time period of Lord Chelmsford.
2. It was established to promote survey, exploration and research leading to the advancement in our knowledge of various aspects of exceptionally rich life.

Which of the statements above given is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

**ANS: C**

**Explanation:** The Zoological Survey of India (ZSI) was established on 1st July, 1916 to promote survey, exploration and research leading to the advancement in our knowledge of various aspects of exceptionally rich life of the erstwhile British Indian Empire.

- The survey has its genesis in the establishment of the Zoological Section of the Indian Museum at Calcutta in 1875.

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- By gradually strengthening its staff and expanding its research program, the Survey has met the challenge of the past and is on its way to meet the demands of the future. It has maintained its primary objectives unchanged from its inception...
- Initially, the Survey acquired the Zoological collections of more than a century old from former Museum (1814 -1875) of the Asiatic Society of Bengal and Zoological Section of the Indian Museum (1875-1916) in Calcutta.
- With the increasing interest in the life sciences and with the advent of country's Five Year Plans, the expansion programme of the survey was initiated.
- The Survey has established so far 16 Regional and Field Stations, and has developed into a major National Institution.
- It functions as the guardian of the National Zoological Collections, containing over a million identified specimens from all animal groups ranging from Protozoa to Mammals.
- Extensive and intensive field explorations are undertaken by the Survey in different parts of the country for the studies of fauna, systematic zoology, animal ecology, wildlife and zoogeography, animal behavior, animal population and also marine fauna and the results of the explorations and research are published in its own journals as well as National and International periodicals of repute regularly.

Source: <https://zsi.gov.in/App/Introduction.aspx?nr=n>

**Q.5)** Consider the following statements regarding “Environmental (Protection) Act, 1986”:

1. The genesis of the Act lies in Article 21 and Article 51A (g) of the Indian Constitution.
2. It has relaxed the rule of “Locus Standi” and a common citizen can approach the Court with respect to environment protection.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** As compared to all other previous laws on environment protection, the Environment (Protection) Act, 1986 is a more effective and bold measure to fight the problem of pollution.

- The genesis of the Environmental (Protection) Act, 1986, thus, is in Article 48A (Directive Principles of State Policy) and Article 51A (g) (Fundamental Duties) of the Indian Constitution.
- The Environment (Protection) Act, 1986 has relaxed the rule of “Locus Standi” and because of such relaxation even a common citizen can approach the Court provided he has given a notice of sixty days of the alleged offence and his intention to make a complaint to the Central Government or any other competent authority.

Source: Shankar

**Q.6)** “The state shall endeavor to protect and improve the environment and to safeguard forest and wildlife of the country” is describes which of the following article of Indian constitution?

- a) Article 39A
- b) Article 44
- c) Article 48A
- d) Article 51A (G)

**ANS: C**

**Explanation:** The provisions for environmental protection in the constitution were made within four years of Stockholm Conference, in 1976, though the 42nd amendment as follows:

- Article-48-A of the constitution provides: “The state shall endeavour to protect and improve the environment and to safeguard forest and wildlife of the country.”
- Article 51-A (g) Provides: It shall be duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures.”

Source: Shankar

**Q.7)** Consider the following statements regarding “National Green Tribunal”:

1. It was created for the effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources.
2. It is mandated to dispose the cases within six months of their respective appeals.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** The Preamble of the act provides for the establishment of a National Green Tribunal for the effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources, including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto (The National Green Tribunal Act, 2010).

NGT is mandated to dispose the cases within six months of their respective appeals.

Source: Shankar

**Q.8)** Consider the following statements regarding “National Wildlife Action Plan (NWAP)”:

1. It was created by the provisions of the Environment Protection Act, 1986.
2. The first National Wildlife Action Plan (NWAP) was adopted in 1993.

Which of the statements given above is/are correct?

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

**ANS: D**

**Explanation:** The first National Wildlife Action Plan (NWAP) was adopted in 1983, based upon the decision taken in the XV meeting of the Indian Board for Wildlife held in 1982. The plan had outlined the strategies and action points for wildlife conservation which are still relevant.

Source: Shankar

**Q.9)** Consider the following statements regarding “Compensatory Afforestation Fund Management and Planning Authority (CAMPA)”:

1. It was created under the provisions of the forest conservation act, 1980.

2. Resources realized from diverting forest resources to commercial purpose should be used for afforestation.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** While according prior approval under the Forest (Conservation) Act, 1980 for diversion of forest land for non-forest purpose, Central Government stipulates conditions that amounts shall be realised from the user agencies to undertake compensatory afforestation and such other activities related to conservation and development of forests, to mitigate impact of diversion of forest land.

Source: Shankar

**Q.10)** “Cartagena Protocol” is often seen in news is related to which of the following?

- a) Sustainable agriculture
- b) Renewable energy
- c) Bio-safety
- d) Ozone layer protection

**ANS: C**

**Explanation:** The Cartagena Protocol on Bio-safety is an additional agreement to the Convention on Biological Diversity.

- The Protocol establishes procedures for regulating the import and export of LMOs from one country to another.
- The Protocol also requires Parties to ensure that LMOs being shipped from one country to another are handled, packaged and transported in a safe manner.

Source: Shankar

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## *Environment*

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**Q.1)** “Espoo Convention” is recently seen in news, is related to which of the following?

- a) Environmental Impact Assessment
- b) Plastic Waste
- c) Ocean Acidification
- d) Solar energy

**ANS: A**

**Explanation:** The Delhi high court has extended the period of public consultation on the draft of the Environment Impact Assessment (EIA) notification 2020, released by the Ministry of Environment, Forests and Climate Change, until August 11, 2020.

- The extension reiterates the established principles of public participation in environmental governance.
- The EIA Notification 2020, which will supersede 2006 notification, has come under severe criticism from environmentalists who have demanded its early withdrawal.
- Indeed, the draft notification’s regression and dilution of environmental criteria conflict with the established principles of international law.
- The public participation and modalities in EIA have been elaborated at the International level in the Convention on Environmental Impact Assessment in a Trans-boundary Context (“Espoo Convention”).

Source: <https://thewire.in/environment/draft-environment-impact-assessment-notification-international-law>

**Q.2)** Consider the following statements regarding Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):

1. It places a joint responsibility on producer and consumer Parties for managing wildlife trade sustainably and preventing illegal trade.
2. It contains three lists of species with respect to degree of trade & protection.

Which of the statements above given is/are correct?

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

**ANS: C**

**Explanation:** Concerned about the overexploitation of many vulnerable species as a result of unregulated international trade, governments adopted the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1973.

- The treaty entered into force in 1975 and now has 183 Parties.
- The Convention places a joint responsibility on producer and consumer Parties for managing wildlife trade sustainably and preventing illegal trade.
- CITES regulates international trade in over 36,000 species of plants and animals, including their products and derivatives, ensuring their survival in the wild with benefits for the livelihoods of local people and the global environment.
- The animals and plants protected by CITES are known as CITES-listed species because they are included on three lists approved by the Parties called CITES Appendices.

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- CITES protects these species from being excessively traded and exploited illegally and unsustainably in the wild as their extinction would have irreversible ecological consequences and negative economic and social effects.
- The CITES permit system seeks to ensure that international trade in listed species is sustainable, legal and traceable.

Source: <https://sustainabledevelopment.un.org/index.php>

**Q.3)** Which of the following is/are migratory animal/animals found in India?

1. Asian Elephant
2. Great Indian Bustard
3. Urial
4. Oceanic white-tip shark

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** With new additions to the wildlife list put out by the Convention on the Conservation of Migratory Species (CMS), scientists say that the total number of migratory fauna from India comes to 457 species. Birds comprise 83% (380 species) of this figure.

- The Zoological Survey of India (ZSI) had for the first time compiled the list of migratory species of India under the CMS before the Conference of Parties (COP 13) held in Gujarat recently.
- It had put the number at 451. Six species were added later. They are the Asian elephant, great Indian bustard, Bengal florican, oceanic white-tip shark, urial and smooth hammerhead shark.
- "We had compiled a list of the 451 species of migratory animals found in India. With the addition of new species to the CMS Appendices, the number is now 457," said Kailash Chandra, ZSI director.
- Globally, more than 650 species are listed under the CMS appendices and India, with over 450 species, plays a very important role in their conservation.

Source: <https://www.thehindu.com/news/national/india-is-host-to-457-migratory-fauna-shows-latest-cms-list/article30958132.ece>

**Q.4)** "Minamata Convention" is often seen in news, is related to which of the following?

- a) Cadmium
- b) Nitrate
- c) Mercury
- d) Helium

**ANS: C**

**Explanation:** The Union cabinet approved on February 2018, a proposal for ratification of the Minamata Convention, a global treaty to protect human health and the environment from adverse effects of mercury.

- After joining the Convention, it will now be easier for India to get technological or financial assistance to address issues related to mercury.
- "The approval entails ratification of the Minamata Convention on mercury along with flexibility for continued use of mercury-based products and processes involving mercury compound up to 2025," an official statement said.

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- The government stressed that the convention will “urge enterprises to move to mercury-free alternatives in products and non-mercury technologies in manufacturing processes” and will “drive research and development, and promote innovation”.
- “The convention will be implemented in the context of sustainable development with the objective to protect human health and environment from the anthropogenic emissions and releases of mercury and mercury compounds,” the statement added.
- Till now, the convention has 88 ratifications and 144 signatories including India, which signed it on 30 September 2014. India had actively participated in the negotiating process, making significant contributions in finalizing the treaty text but had not ratified it till now.
- India’s neighbors – Sri Lanka, Bangladesh, Nepal and Pakistan – are also signatories to the convention. But only Sri Lanka has ratified it.
- In October 2013, at a conference in Kumamoto (Japan), the convention was formally adopted. The major highlights of the convention include a ban on new mercury mines, the phase-out of existing ones, the phase-out and phase-down of mercury use in a number of products and processes.
- It also addresses interim storage of mercury and its disposal once it becomes waste, and sites contaminated by mercury as well as health issues.
- Mercury is considered by experts to be one of the most toxic metals known.
- Once released into the environment, mercury bio-accumulates and bio-magnifies in the food chain, and easily enters the human body and impacts the nervous system.
- The treaty aims at protecting human health and the environment from its adverse effects.

Source: <https://www.livemint.com/Union-cabinet-approves-ratification-of-Minamata-Convention.html>

**Q.5)** “Waterfowl Habitat” is related to which of the following?

- a) Ramsar Convention
- b) Washington Convention
- c) Bonn Convention
- d) World Heritage Convention

**ANS: A**

**Explanation:** Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971.

Source: <https://biodiversitya-z.org/content/convention-on-wetlands-of-international-importance-especially-as-waterfowl-habitat-ramsar-convention>

**Q.6)** Which of the following is/are outcome of earth summit?

1. Agenda 21.
2. Forest principles.
3. Nagoya protocol.

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** The Earth Summit resulted in the following documents:

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- Rio Declaration on Environment and Development
- Agenda 21
- Forest Principles

Source: Shankar

**Q.7)** Which of the following are priority areas of International Union for Conservation of Nature (IUCN)?

1. Biodiversity
2. Climate change
3. Sustainable energy
4. Human wellbeing
5. Agriculture conservation

Select the correct answer using the code given below:

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

**ANS: A**

**Explanation:** IUCN was founded in October 1948 as the International Union for the Protection of Nature (or IUPN) following an international conference in Fontainebleau, France.

The organization changed its name to the International Union for Conservation of Nature and Natural Resources in 1956 with the acronym IUCN (or UICN) with its head quarters in Gland, Switzerland.

Priority Areas of IUCN:

- Biodiversity
- Climate change
- Sustainable energy
- Human well-being
- Green economy

Source: Shankar

**Q.8)** Which of the following subspecies of tiger is/are present in wild?

1. Sumatran
2. Bali
3. Javan

Select the correct answer using the codes given below:

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

**ANS: A**

**Explanation:** The scientific name for the tiger is *Panthera tigris*.

- There are eight subspecies of tiger: among the eight, at present five subspecies are present in the wild.
- They are - Bengal, South China, Indochinese, Sumatran, and Siberian.
- Three subspecies of tiger—Caspian, Bali, and Javan—are extinct.

Source: Shankar page no: 187



**Q.9)** “Pugmark Census Technique” is used to estimate the population of which of the following specie?

- a) Tiger
- b) Great Indian Bustard
- c) Elephants
- d) Indian Hangul

**ANS: A**

**Explanation:** The process of estimating the number of tigers in a given area is called ‘Tiger census.’

- This exercise provides us with an estimate of tiger number, density and change in tiger indices - a measure of tiger occupancy in a given area.
- It is conducted at regular intervals to know the current tiger populations and population trends.
- Besides estimating the number of tigers the method also helps to gather information on the density of the tiger populations and associated prey.
- The most commonly used technique in the past was ‘Pugmark Census Technique’.
- In this method the imprints of the pugmark of the tiger were recorded and used as a basis for identification of individuals.
- Now it is largely used as one of the indices of tiger occurrence and relative abundance.

Source: Shankar

**Q.10)** “Nagarjunsagar-Srisaïlam Tiger Reserve” is the largest tiger reserve in India is located in which of the following state (s)?

- a) Andhra Pradesh
- b) Odisha
- c) Chhattisgarh
- d) Tamil Nadu

**ANS: A**

**Explanation:** Nagarjunsagar-Srisaïlam Tiger Reserve is the largest tiger reserve in India.

- The reserve spreads over five districts, Kurnool District, Prakasam District, Guntur District of Andhra Pradesh and Nalgonda District and Mahbubnagar district of Telangana state.
- The total area of the tiger reserve is 3,728 km<sup>2</sup>.

Source: ENVIS

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## History

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**Q.1)** Who among the following has discovered what was probably the first Paleolithic tool discovered in India — the Pallavaram hand-axe?

- a) Robert Bruce Foote
- b) Max Muller
- c) Alexander Cunningham
- d) James Princep

**ANS: A**

**Explanation:** The history and identity of human settlements in India go back to prehistoric times.

- The credit for doing an early extensive study of Indian pre-history go to Robert Bruce Foote, who discovered what was probably the first Paleolithic tool discovered in India — the Pallavaram hand-axe.
- Later, he discovered a large number of pre-historic sites in South India.

Source: NCERT

**Q.2)** Microlithic tools are mainly associated with which of the following cultural period?

- a) Paleolithic
- b) Mesolithic
- c) Neolithic
- d) Chalcolithic

**ANS: B**

**Explanation:** The characteristic tools of this age were microliths (miniature stone tools usually made of crypto-crystalline silica, chalcedony, or chert, both of geometrical and non-geometrical shapes).

They were not only used as tools in themselves but also to make composite tools, spearheads, arrowheads, and sickles after hafting them on wooden or bone handles.

Source: NCERT

**Q.3)** “Maski, Brahmagiri, Piklihal and Budihal” sites are mainly associated with which of the following?

- a) New Stone Age
- b) Copper Age
- c) Bronze Age
- d) Iron Age

**ANS: A**

**Explanation:** In northern India, the Neolithic age emerged around c.8000–6000 BCE.

- At some places in south and eastern India, it is as late as 1000 BCE.
- Its significance in pre-history can be gauged by the fact that V. Gordon Childe termed the Neolithic phase as Neolithic Revolution.
- Maski, Brahmagiri, Piklihal (proof of cattle herding), Budihal (community food preparation and feasting), and Tekkalakota in Karnataka are the important sites of Neolithic age.

Source: NCERT

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**Q.4)** Consider the following statements regarding Harappan Civilization:

1. Harappans diet consists of vegetarian items only.
  2. Harappan writing was boustrophedon.
- Which of the statements above given is/are correct?

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

**ANS: B**

**Explanation:** The Harappans relished non-vegetarian food. Fish-eating was common. Milk and curd was also consumed.

- The Harappan societies of Sindh and Punjab largely consumed wheat and barley while those of Rangpur and Surkotda consumed rice and millets.
- The Harappan script was pictographic and logosyllabic (each symbol stood for a word/syllable).
- Harappan writing was boustrophedon, that is to say, right to left and left to right in alternate lines. The Harappan script has not been deciphered so far.

Source: NCERT

**Q.5)** Consider the following pair/pairs of craft material and Harappan site:

Site	Material
1. Rajasthan	: Copper
2. Shortughai	: Lapis lazuli
3. Balakot	: Shell

Which of the pair/pairs above given is/are correctly matched?

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

**ANS: A**

**Explanation:** Craft production was an important part of the Harappan economy. Bead and ornament making, shell bangle making and metalworking were the major crafts.

- They made beads and ornaments out of carnelian, jasper, crystal, and steatite, metals like copper, bronze and gold and shell, faience and terracotta or burnt clay.
- The beads were made in innumerable designs and decorations. They were exported to Mesopotamia and the evidence for such exported artefacts has been found from the excavations in Mesopotamian sites.
- Certain Harappan sites specialized in the production of certain craft materials. The following table presents the major centres of craft production.

Material	Site or Source
Shell	Nageshwar and Balakot
Lapis lazuli	Shortughai
Carnelian	Lothal
Steatite	South Rajasthan
Copper	Rajasthan and Oman

Source: NCERT

**Q.6)** The term 'Zebu' is sometimes seen while studying Indus Valley Civilization is used for?

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- a) Cattles
- b) Shell Bangle making Factories
- c) Weight measuring tools
- d) Burnt Bricks

**ANS: A**

**Explanation:** Pastoralism was also practised by the Harappans. They domesticated sheep, goat and fowl.

- They had knowledge of various other animals including buffalo, pig and elephant. But horse was not known to them.
- The Harappan cattle are called Zebu. It is a large breed, often represented in their seals.
- They also ate fish and birds. Evidence of boar, deer and gharial has been found at the Harappan sites.

Source: Tamil Nadu state board class 11.

**Q.7)** Consider the following pair/pairs:

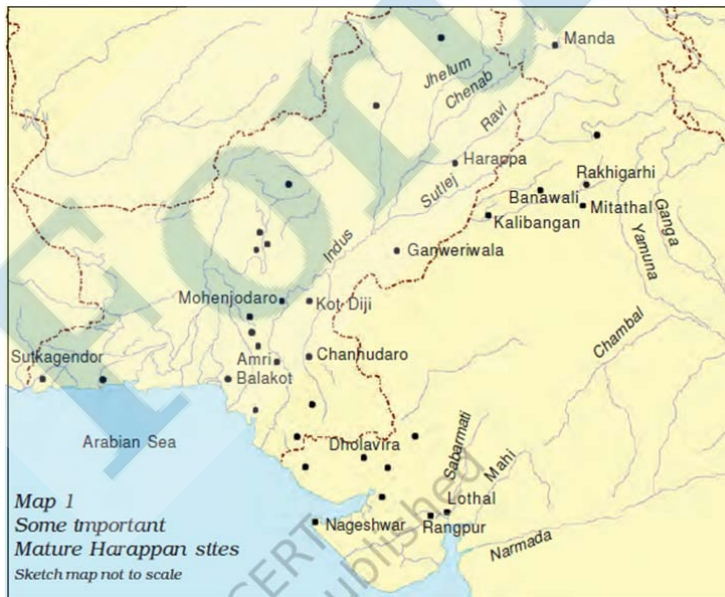
River	Harappan Site
1. Indus	Harappa
2. Sabarmati	Lothal
3. Ravi	Rakhigarhi

Which of the above given pair/pairs is/are correctly matched?

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

**ANS: B**

**Explanation:** The map below shows the location of major harappan sites with respective rivers.



Source: Themes in Indian History

**Q.8)** The only well known Hominin, the fossil of immediate ancestor of Homo sapiens is found at which of the following location?

- a) Bhimbetka, Madhya Pradesh
- b) Hunsgi Valley, Karnataka
- c) Pallavaram near Chennai
- d) Hathnora, Madhya Pradesh

**ANS: D**

**Explanation:** Unlike Africa, evidence of hominin [immediate ancestor of Homo sapiens] fossil is rare in India.

- There is a report of a fossil fragment discovered by Robert Bruce Foote from Athirampakkam.
- Its whereabouts are not known now. The only well-known hominin fossil of India was found at Hathnora near Hoshangabad in Madhya Pradesh.
- The cranium is named Narmada human. A partly preserved hominid skull cap was found in a basal conglomerate deposit in 1982.
- It is considered to represent the Archaic Homo sapiens. It is the only existing fossil find of human ancestors in India.

Source: Tamil Nadu state board

**Q.9)** Which of the following Neolithic site is located in North-eastern India?

- a) Mehrgarh
- b) Palavoy
- c) Daojali Hading
- d) Ganweriwala

**ANS: C**

**Explanation:** In north-eastern India, Neolithic culture appears at to a very late period. The Neolithic cultures of north-eastern India generally date from 2500-1500 BCE or even later.

- Shouldered axes and splayed celts have been found at the sites in Assam, Meghalaya, Nagaland and Arunachal Pradesh. Daojali Hading and Sarutaru are the Neolithic sites in the Assam region.
- This region bears evidence for shifting cultivation. Cultivation of yams and taro, building stone and wooden memorials for the dead, and the presence of Austro-Asiatic languages are the marked features of this region, which shows cultural similarities with South-east Asia.

Source: Tamil Nadu state board

**Q.10)** Consider the following statements regarding Ochre Coloured Pottery Ware Culture:

1. It dates to Chalcolithic period.
  2. Ochre colour comes when the pottery is touched.
- Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** Ochre Coloured Pottery Ware culture is found in northern India dating to the Chalcolithic period.

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- The OCP pottery has red slip and appears ochre in colour (the ochre colour comes off when the pottery is touched) and hence, it is called Ochre Coloured Pottery.
- It has black painted designs. The OCP comes in the form of jars, storage jars, bowls, and basins.
- The OCP culture dates to 2600- 1200 BCE and is found in the Indo- Gangetic plain and may have had some associations with early Vedic culture.

Source: Tamil Nadu state board

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## History

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**Q.1)** Central Asia is the homeland of the Aryans – is propounded by which of the following?

- a) Sir William Jones
- b) Max Muller
- c) Colin McKenzie
- d) Dr. B R Ambedkar

**ANS: B**

**Explanation:** Central Asia is the homeland of the Aryans – was propounded by Max Mueller.

- With the comparative study of the Avesta (Iranian text) and the Vedas, one finds striking linguistic relationship between them of not just words but of concepts too.
- The interchangeability between 'h' and 's' and incredible consistency in this change as hepta hindu (sapta sindhu), Ahura (asura), haoma (soma), daha (dasa) further substantiate the claim.

Source: Poonam Dahiya

**Q.2)** Consider the following statements regarding Rig Veda:

1. It has been included by the UNESCO in the list of literature signifying World Human Heritage.
2. The Rig Veda is a collection of 4000 hymns, divided into 10 Mandals.

Which of the statements above given is/are correct?

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

**ANS: A**

**Explanation:** The Rig Veda is a collection of 1,028 hymns, divided into 10 Mandals (books).

- They are the earliest compositions and hence, they depict the life of the Early Vedic people in India.
- Recently, the Rig Veda has been included by the UNESCO in the list of literature signifying World Human Heritage.
- The priests related to the Rig Veda are Kotri or Motri, and the Upveda of the Rig Veda is the Ayurveda.

Source: Poonam Dahiya

**Q.3)** Consider the following statements regarding Sama Veda:

1. It is the collection of verses mostly taken from the Rig Veda, arranged in a poetic form to facilitate singing.
2. It is a collection of 1,810 melodies, and also contains the famous Dhrupada raga, later sung by mirabhai.

Which of the statements above given is/are correct?

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

**ANS: A**

**Explanation:** The Sama Veda is the collection of verses mostly taken from the Rig Veda, but arranged in a poetic form to facilitate singing.

- It is a collection of 1,810 melodies, and also contains the famous Dhruvada raga, later sung by Tansen.
- The Upveda of the Sama Veda is the (Gandharva Veda). Recensions (Shakhas) of the Sama Veda are Kauthuma, Jaiminiya (Talavakara), and Ranayaniya.

Source: Poonam Dahiya

**Q.4)** Which of the following dwell on the “Atman and Brahman”, and focus a lot on the philosophy about life, universe, self, body, sacrifice, etc.?

- a) Rig Veda
- b) Upanishads
- c) Ajvikas
- d) Sravanas

**ANS: B**

**Explanation:** The literal meaning of Upanishad is to sit near someone. There are 108 Upanishads, of which 13 are the most prominent.

- The Upanishads dwell on the Atman and Brahman, and focus a lot on the philosophy about life, universe, self, body, sacrifice, etc.
- They emphasize that the knowledge of the self or atman should be acquired and that the relation of the atman with the Brahman should be properly understood.

Source: Poonam Dahiya

**Q.5)** Consider the following pairs:

<b>Text</b>	<b>Meaning</b>
1. Samhita	Main collection of hymns
2. Brahmanas	Forest books
3. Upanishads	Philosophical enquiries

Which of the pairs given above are correct?

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

**ANS: C**

**Explanation:** The main collections of Vedic hymns are called samhitas. The Rig Vedicsamhita is the earliest text. The Rig Veda is dated to between 1500 and 1000 BCE. The Rig Veda contains 10 books.

- Samhitas are ritualistic texts, and they explain the social and religious importance of rituals. Each samhita has added texts called brahmanas, which have commentaries on the hymns and rituals.
- Each brahmana has an aranyaka (forest text) and an upanishad. The aranyakas contain mystical ritual instructions to be undertaken in secret by the sages who live in the forests. Upanishads deal with philosophical enquiries.

Source: Tamil Nadu state board.

**Q.6)** Which of the following text is contemporary to Vedas?

- a) Zend Avesta
- b) Pyramid texts



- c) Sumerian Literature
- d) Quran

**ANS: A**

**Explanation:** The Zend Avesta is a Persian/Iranian text of Zoroastrianism. This book speaks about the lands and gods of the people speaking the Indo-Iranian languages.

- It has references to the regions of northern and north-western parts of India. It has terms which show linguistic similarity with the Vedas.
- This text is indirect evidence that the early home of the Aryans was outside the Indian subcontinent.

Source: Tamil Nadu state board.

**Q.7)** The 'urn' burial system is evident at which of the following site?

- a) Koldhihwa
- b) Mehrgarh
- c) Adichanallur
- d) Lothal

**ANS: C**

**Explanation:** The burial system followed by the people of Neolithic period continued into the Megalithic period.

- A circular tomb using big stone slabs built upon the place of burial is known as a megalith. Such megaliths have been found in many parts of Tamil Nadu.
- The urn burial system was another type of practice and is evidenced in Adichanallur (present Thoothukudi district). Black-ware is peculiar to burial sites in Tamil Nadu.

Source: Tamil Nadu state board.

**Q.8)** The term 'Gavishthi' used in Rig veda is related to which of the following?

- a) Barley
- b) War
- c) Wheat
- d) Land

**ANS: B**

**Explanation:** Cattle rearing were an important economic activity for the Aryans, although they practiced agriculture. Cattle were considered wealth.

- The term for war in the Rig Veda was gavishthi which means search for cows (which is the contemporary term (goshti) for factions as well).
- The donations to the priests were mainly cows and women slaves but not land, which reveals the importance of pastoralism. There was no private property in land.

Source: Tamil Nadu state board.

**Q.9)** Consider the following pairs:

1. Senani - chief of the army
2. Bali - war
3. Purohita - governor

Which of the pair/pairs given above is/are correctly matched?

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

**ANS: A**

**Explanation:** The polity of the Rig Vedic period was that of a tribal society. The chief of the tribe was the main political head and he was called rajan.

- The purohita or priest offered advice to the king. Vedic priests advised the kings, inspired them and praised their deeds. In turn they received rewards for their services.
- Senani was the chief of army.
- There is no evidence of tax collecting officers. Perhaps people made voluntary contribution called bali to the king. Some scholars say that bali was an imposed tax, and not voluntary.
- There is no reference to the administration of justice.

Source: Tamil Nadu state board.

**Q.10)** In which of the following text, kshatriyas are placed higher than brahamans?

- a) Panchavimsan Brahamana
- b) Satapatha Brahamana
- c) Manduka Upanishad
- d) Raghuvamsa

**ANS: A**

**Explanation:** In later Vedic phase, striking changes took place in the Varna System. There was an increase in the privileges of the two higher classes, the Brahmanas and the Kshatriyas at the cost of the Vaisyas and Sudras.

- In the Panchavimsa Brahmna, the Kshatriya is placed first, higher than the Brahmana but in the Satapatha Brahmna, the Brahmana is placed higher than Kshatriya.
- In later Vedic society the importance of the purohita (priest) is stressed, as mentioned in the Vedic texts.
- The Kshatriyas challenged Brahmanical supremacy and their exclusive privilege of entering the asramas, a regulated four stage life namely brahmacharya, grihastha, vanaprastha and sanyasa.
- The outcome of this was the birth of Jainism, Buddhism and Ajivakam.

Source: Tamil Nadu state board.

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## Revision

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**Q.1)** Which of the following product (s) is/are come (s) under the purview of e-waste management rules 2016?

1. Personal Computers
2. Refrigerators
3. Solar e-waste

Select the correct answer using the codes given below:

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

**ANS: B**

**Explanation:** E-waste (Management) Rules, 2016, enacted since October 1, 2017.

- Over 21 products (Schedule-I) were included under the purview of the rule.
- The rule also extended its purview to components or consumables or parts or spares of Electrical and Electronic Equipment (EEE), along with their products.
- Currently, India's e-waste rules have no laws mandating solar cell manufacturers to recycle or dispose waste from this sector.

Some of the 21 products of Schedule 1 are Centralized data processing: Mainframes, Minicomputers, Personal Computers (Central Processing Unit with input and output devices), Cellular telephones, Television sets (including sets based on Liquid Crystal Display and Light Emitting Diode technology), Refrigerator, Washing Machine and Air-conditioners excluding centralized air conditioning plants.

Source: The Hindu

**Q.2)** Consider the following statements regarding the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES):

1. It is an independent intergovernmental body.
2. The United Nations Environment Programme (UNEP) provides secretariat services to IPBES.
3. According to the recent IPBES report that around 1 million animal and plant species are now threatened with extinction.

Which of the statements given above are correct?

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

**ANS: D**

**Explanation:** The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is an independent intergovernmental body established by States to strengthen the science-policy interface for biodiversity and ecosystem services for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development.

- It was established in Panama City, on 21 April 2012 by 94 Governments. It is not a United Nations body.

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- However, at the request of the IPBES Plenary and with the authorization of the UNEP Governing Council in 2013, the United Nations Environment Programme (UNEP) provides secretariat services to IPBES.
- A landmark new report from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the summary of which was approved at the 7th session of the IPBES Plenary, meeting last week (29 April – 4 May) in Paris.
- The Report finds that around 1 million animal and plant species are now threatened with extinction, many within decades, more than ever before in human history.
  - To increase the policy-relevance of the Report, the assessment's authors have ranked, for the first time at this scale and based on a thorough analysis of the available evidence, the five direct drivers of change in nature with the largest relative global impacts so far. These culprits are, in descending order: (1) changes in land and sea use; (2) direct exploitation of organisms; (3) climate change; (4) pollution and (5) invasive alien species.

Source: Indian Express

**Q.3)** The “*Sand and Sustainability: Finding new solutions for environmental governance of global sand resources*” report is recently in news is released by which of the following?

- a) United Nations Environmental Programme (UNEP)
- b) Inter-governmental Panel for Climate Change (IPCC)
- c) Conservation International
- d) World Economic Forum

**ANS: A**

**Explanation:** The United Nations Environment Programme (UNEP) released (May 2019) a report, *Sand and Sustainability: Finding new solutions for environmental governance of global sand resources*, that highlights a problem that has largely stayed under the radar: sand consumption globally has been increasing and we are extracting it at rates exceeding natural replenishment rates.

- Sand and gravel, the report says, are the second largest natural resources extracted and traded by volume after water, but among the least regulated.
- The report notes that China and India head the list of critical hotspots for sand extraction impacts in rivers, lakes and on coastlines.
- The report suggests better spatial planning and reducing unnecessary construction — including speculative projects or those being done mainly for prestige — thereby making more efficient use of aggregates, investing in infrastructure maintenance and retrofitting rather than the demolish and rebuild cycle, embracing alternative design and construction methods, even avoiding use of cement and concrete where possible, and using green infrastructure.

Source: The Hindu

**Q.4)** The “Balukhand Wildlife Sanctuary and Chandaka Wildlife Sanctuary” is sometimes seen in news is located in which of the following states?

- a) Tamil Nadu
- b) Andhra Pradesh
- c) Odisha
- d) Kerala

**ANS: C**

**Explanation:** Severe Cyclone Fani rendered not only several thousand people homeless as it tore along India's east coast last week, but also dealt a body blow to wildlife and forest resources in the region.

- The scenic stretch along the tree-lined Marine Drive that bisects the Balukhand Wildlife Sanctuary adjacent to the Bay of Bengal between Puri and Konark, is now a wasteland with hardly any tree left untouched.
- "As many as 20% of the trees were uprooted, while the rest were found snapped and broken. The devastation has left around 400 spotted deer homeless".
- Apart from deer, the sanctuary, spread over an area of 87 sq km, was home to wild boar, jackals, striped hyenas, wolves and mongooses.
- In Bhubaneswar, the cyclone had uprooted decades-old trees inside the Nandankanan Zoological Park.
- Several animal enclosures too have been affected forcing authorities to shut down the zoo for an indefinite period.
- The Chandaka Wildlife Sanctuary, which is close by, has also been impacted with thousands of trees uprooted. Authorities are attempting to assess the extent of damage.
- As a result, hundreds of displaced monkeys have now entered residential colonies in the periphery of Bhubaneswar. Residents have reported cases of the simians attacking people after loss of habitat and food sources.

Source: The Hindu

**Q.5)** Consider the following statements regarding the "Jainism":

1. It was older than Buddhism.
2. It places heavy emphasis upon ethical conduct, personal purity for the liberation of the individual Souls.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** Jainism is a very ancient world religion with a history of over 3000 years, which originated in the Indian subcontinent, like Hinduism and Buddhism.

- Although it has some similarities with both traditions, Jainism is different from them with its own unique and distinguishing features.
- It is also older than Buddhism and is truly one of the most ancient and living religions of the world, besides Hinduism and Judaism.
- Jaina Dharma, as it is known popularly, is a truly ascetic religion which places heavy emphasis upon ethical conduct, personal purity for the liberation of the individual Souls. Jainism does not believe in a Creator God.
- It accepts the material universe as a self-existing system. Everything in it, including the individual Soul, is an aspect of matter.
- Each Soul is eternal but it has states, shapes and sizes. In the bound state (bandha) it is subject to karma and rebirth. It attains liberation only when it is able to completely get rid of karma.
- Jainism was founded by 24 Perfect Beings, known as Tirthankaras, who appeared upon earth in the past and laid the foundation for its doctrine.

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- Mahavira was the last and the most popular of the Tirthankaras. Since it is a difficult and austere religion, from the earliest times, Jainism enjoyed popularity only among certain sections of Indian society, especially merchant communities.
- It is a predominantly Indian religion, with some following abroad. In this section we included information on the history, beliefs, practices, philosophy, and ethics of Jainism, and comparison with other faiths.

Source: Poonam Dahiya

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

1. The word ‘Veda’ signifies knowledge and they are actually providing humans about knowledge to conduct their life on Earth.
2. The Vedas were initially handed down orally by generations to generations.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** The word ‘Veda’ signifies knowledge and the texts are actually about providing humans about knowledge to conduct their entire life on earth and beyond.

- It is written in highly stylised poetic style and the language is full of symbols and myths.
- The Vedas were initially handed down orally by generations of Brahmin families but it is estimated by historians that they were compiled around 1500 BC-1000 BC.

Source: Poonam Dahiya

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

1. The Aranyakas were attached texts to the Vedas.
2. They are said to be compilations of ritualistic information on the birth and death cycles as well as the complexity of the soul.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** The Aranyakas are also texts attached to the Vedas and they describe the rituals and sacrifices involved in the Vedas from various perspectives.

- They are said to be compilations of ritualistic information on the birth and death cycles as well as the complexity of the soul.
- It is argued that holy and learned men, called Munis, who preferred to dwell within the limits of the forests, taught them.

Source: Poonam Dahiya

**Q.8)** According to IUCN, which of the following vulture species is/are critically endangered?

1. White-backed vulture
2. Indian Griffon vulture
3. Bearded vulture

Select the correct answer using the code given below:

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

**ANS: A**

**Explanation:** There has been a sharp decline in the population of vultures in the country which has come down from 40 million to 19,000 in a span of over three decades, the Environment Ministry told the Parliament.

- Responding to a query on the status of vultures in the country, Union Environment Minister said there are three species of critically endangered resident Gyps vultures – white-backed vulture, long-billed vulture and slender-billed vulture – whose population as per the latest figures is 6,000, 12,000 and 1,000, respectively.
- The Minister said nationwide vulture surveys are being carried out by the Bombay Natural History Society (BNHS) every four years sponsored by the Ministry of Environment and Forest Departments of various States since 1990.
- The major cause of mortality of vultures was found to be the veterinary non-steroidal anti-inflammatory drug 'Diclofenac', given to cattle in pain and inflammation.
- It said that for protection and conservation of vultures in the country, the government has also upgraded the status of White-backed, Long-billed and Slender-billed vultures from Schedule IV to Schedule I of the Wild Life (Protection) Act, 1972.

Indian Griffon vulture – Least Concerned and Bearded vulture – Near Threatened.

Source: The Hindu

**Q.9)** Which of the following institution (s) is/are announced/launched the “Clean Air Initiative”?

1. Climate and Clean Air Coalition.
2. World Health Organization (WHO).
3. United Nations Environment Programme (UN Environment).

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** Ahead of the upcoming 2019 Climate Action Summit, the United Nations, the World Health Organization (WHO), the United Nations Environment Programme (UN Environment) and Climate and Clean Air Coalition announced today the “Clean Air Initiative”, calling on governments at all levels to join the Initiative.

- The “Clean Air Initiative” calls on national and sub national governments to commit to achieving air quality that is safe for citizens, and to align climate change and air pollution policies by 2030.
- According to WHO, each year, air pollution causes 7 million premature deaths, of which 600,000 are children.
- According to the World Bank, air pollution costs the global economy an estimated US\$5.11 trillion in welfare losses and in the 15 countries with the highest greenhouse gas emissions, health impacts of air pollution are estimated to cost more than 4 per cent of GDP.

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- Meeting the Paris Agreement on climate change, however, could save over 1 million lives a year by 2050 and yield health benefits worth an estimated US\$54.1 trillion – about twice the costs of mitigation – through reduced air pollution alone.

Source: The Hindu

**Q.10)** Recently researchers have found a dragon tree species for the first time in which of the following state?

- a) Kerala
- b) Tamil Nadu
- c) Arunachal Pradesh
- d) Assam

**ANS: D**

**Explanation:** Assam has added to India's botanical wealth a plant that yields dragon's blood — a bright red resin used since ancient times as medicine, body oil, varnish, incense and dye.

- A trio of researchers led by Assam forest officials has discovered *Dracaena cambodiana*, a dragon tree species in the Dongka Sarpo area of West Karbi Anglong.
- This is for the first time that a dragon tree species has been reported from India.
- *Dracaena cambodiana* is an important medicinal plant as well as an ornamental tree.
- It is a major source of dragon's blood, a precious traditional medicine in China.
- Several antifungal and antibacterial compounds, antioxidants, flavonoids, etc., have been extracted from various parts of the plant.

Source: The Hindu



## History

**Q.1)** Which of the following pair/pairs is/are correct matched?

Buddhist Writer	:	Book/works
1. Ashavaghosha	:	Buddhacharita
2. Buddhaghosa	:	Visuddhimagga
3. Vasubandhu	:	Abhidharmakosa

Select the correct answer using the codes given below:

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

**ANS: B**

**Explanation:** Important Buddhist writers and their works.

- Asvaghosha: Author of the Buddhacharita in Sanskrit. Contemporary of Kanishka. He was a poet, dramatist, musician, scholar, and debater.
- Asanga and Vasubandhu: Two brothers who flourished in the Punjab region in the fourth century CE. Asanga was the most important teacher of Yogachara or Vijnanavada school founded by his guru, Maitreyanatha. Vasubandhus greatest work, Abhidharmakosa, is still considered an important encyclopaedia of Buddhism.
- Buddhaghosa: He lived in the fifth century and was a great Pali scholar. His best-known work is the Visuddhimagga (Path of Purification), a comprehensive summary and analysis of the Theravada understanding of the Buddhas path to liberation.

Source: Poonam Dahiaya

**Q.2)** Patanjali, the notable grammarian who wrote the Mahabhasya was a contemporary of which of the following?

- a) Pushyamitra Sunga
- b) Asoka
- c) Gautamiputra Satakarni
- d) Milinda

**ANS: A**

**Explanation:** Patanjali, the notable grammarian who wrote the Mahabhasya was a contemporary of Pushyamitra Sunga.

Source: Poonam Dahiya

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

- a) Cardamom
- b) Cinnamon
- c) Pepper
- d) Arceanut

**ANS: C**

**Explanation:** The most important feature of the Sangam economy was flourishing trade with the Roman world.

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- The best account of Indo-Roman trade is given in the book called the Periplus of the Erythrean Sea, which was written in the first century CE by an anonymous author.
- Major items of export to the Romans were the Indian products such as spices (included yavanapriya or pepper), perfumes, jewels, ivory and fine textiles (muslin especially), several precious and semi-precious stones like diamond, carnelian, turquoise, agate, sapphire, and so on, besides pearls, indigo, sandalwood, iron and steel cutlery.

Source: Poonam Dahiya

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

1. According to Buddhist and Jaina traditions, there were twenty mahajanapadas.
2. Only monarchy nature of polity prevailed in mahajanapadas.

Which of the statements given above is/are correct?

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

**ANS: D**

**Explanation:** According to Puranic, Buddhist and Jaina traditions, there were sixteen mahajanapadas.

- The proto-states of the Gangetic region were known as janapadas and comprised chiefdoms, republics and small kingdoms.
- There were also ganasanghas or oligarchies, which were centred on clans. The Vrijjis were one of the best known of the gana-sanghas, and Vaishali was their capital in the Mithila region.
- The mahajanapadas on the Gangetic plains were all monarchies. Vedic orthodoxy was an established practice in these kingdoms.



Source: Old NCERT

**Q.5)** Which of the following is/are sect (s) of Buddhism?

1. Mahasanghikas
2. Sthaviravadins
3. Sthanakavavasi

Select the correct answer using the codes given below:

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

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

**ANS: B**

**Explanation:** In course of time, Sthaviravadins, Mahasanghikas and Sarvastivadins emerged as major sects of Buddhism.

- New ideas emerged among the Sarvastivadins and Mahasanghikas. It led to the emergence of Mahayana and Hinayana (the Great and Lesser Vehicles) in Buddhism.
- Mahayana or the Great Vehicle became popular and influential in India. Nalanda University was an important centre of Buddhist learning and was patronised by the Palas. Mahayana spread to China and Japan.
- Hinayana or the Lesser Vehicle became popular in Sri Lanka, Burma, Thailand and other South-east Asian countries.
- By the end of the Gupta period, Vajrayana or the Vehicle of the Thunderbolt emerged. It was popular in Bengal and Bihar.
- It was influenced by primitive local cults and spread to Tibet in the 11th century CE. The Vikramasila University in Bihar was an important centre of Vajrayana Buddhism.

Source: Poonam Dahiya

**Q.6)** Recently which of the following country was declared Theravada Tripitaka as national heritage?

- a) Cambodia
- b) Sri Lanka
- c) Nepal
- d) Thailand

**ANS: B**

**Explanation:** Sri Lankan President Maithripala Sirisena today handed over a proposal seeking to declare the Theravada Tripitaka, the sacred ure of Buddhists, as a UNESCO World Heritage.

- The proposal was officially handed over during a national ceremony held in Kandy to the UN resident coordinator in Sri Lanka, Hanaa Singer.
- The Theravada Tripitaka was declared a National heritage of Sri Lanka by President in January 2019.
- Buddha's teachings were initially propagated through word of mouth for generations till the Tripitaka was finally written down in Sri Lanka about 100 years BC.
- The teachings are contained in three volumes titled 'Sutta, Vinaya and Abhidhamma'.
- They were first compiled and written on palm leaves with more than 1000 monks involved in the task in Aluvihare near Matale.

Source: Poonam Dahiya

**Q.7)** The Digha Nikaya is the compilation of the long discourses of Buddha - was translated in English by which of the following?

- a) James Prinsep
- b) Max Mueller
- c) Sir Charles Wilkins
- d) Alexander Cunningham

**ANS: B**

**Explanation:** The Digha Nikaya is the compilation of the long discourses of Buddha. The book is translated in English as part of Max Mueller's 50-volume Sacred Books of the East. Muller himself studied Sanskrit, Persian, Arabic, French, German and English, and of course Latin and ancient Greek.

Source: Old NCERT

**Q.8)** Which of the following are the Buddhist schools of thought?

1. Mahayana
2. Hinayana
3. Vajrayana
4. Tantrayana
5. Sahajayana

Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** Buddhism faced divisions from time to time. Division into various splinter groups like 'Hinayana', 'Mahayana', 'Vajrayana', 'Tantrayana' and 'Sahajayana' led Buddhism to lose its originality.

Source: Poonam Dahiya

**Q.9)** The Takshashila or Taxila is an important centre of learning and culture in ancient period was excavated by which of the following?

- a) Sir John Marshall
- b) Alexander Cunningham
- c) Mortimer Wheeler
- d) Iravatham Mahadevan

**ANS: A**

**Explanation:** Takshashila or Taxila is situated in present day Pakistan.

- Between the fifth century and fourth century BCE, it was part of the Achaemenid Empire of Persia.
- Because of its strategic location on the trade route between the East and the West, it emerged as an important centre of learning and culture.
- Students came from far and wide to Taxila in search of knowledge.
- The city was brought to light by the excavation carried out in the 1940s by Sir John Marshall.
- Taxila is considered "one of the greatest intellectual achievements of any ancient civilization".
- Panini seems to have compiled his well known work, Ashtadhyayi, here.

Source: Poonam Dahiya

**Q.10)** Sixth Century B.C saw rise of intellectual awakening. What is/are the causes of intellectual awakening?

1. Rigidity of vedic religion.
2. State formations.
3. Non-organized vedic religion.

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Select the correct answer using the codes given below:

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

**ANS: D**

**Explanation:** Sixth century BCE was a period of intense intellectual ferment. There are several reasons for the emergence of this ferment.

- State formation and the rigidity of the Vedic religion constrained the liberty of thought and action.
- A revolt against religious practice of following dogmas found its articulation in heterodox sects.
- The emergence of territorial identities accelerated the process of sociopolitical and economic changes.
- The elite class, disillusioned with the system in place, began to move in protest towards the heterodox religions blossoming in Magadha or middle Ganges plains.
- As the Vedic religion was not fully organized, its reach did not permeate into the society and hence people did not find it difficult to follow the newly emerging religious sects.

Source: Tamil Nadu state board class 11.

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## History

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**Q.1)** Consider the following pair/pairs of cities of second urbanization:

City	Important centre of
1. Rajgriha	Political and administrative centre
2. Ujjain	Centre of trade and commerce
3. Taxila	Holy centre

Which of the above given pair is/are correctly matched?

- A. 1 only
- B. 1 and 2 only
- C. 1 and 3 only
- D. 2 and 3 only

**ANS: B**

**Explanation:** Agricultural surplus, the growth of crafts and trade, and the growing population led to the emergence of towns in the Gangetic plains. This is called the second urbanisation in Indian history after the first urbanisation evident in the Harappan Civilization. Different types of towns came into being:

- Political and administrative centres such as Rajgriha, Shravasti, Kaushambi and Champa
- Centres of trade and commerce such as Ujjain and Taxila
- Holy centres such as Vaishali.

Source: Tamil Nadu state board

**Q.2)** Which one of the following state was best known gana-sangha or oligarchies?

- a) Vrijji
- b) Magadha
- c) Assaka
- d) Kuru

**ANS: A**

**Explanation:** The proto-states of the Gangetic region were known as janapadas and comprised chiefdoms, republics and small kingdoms. Sixteen mahajanapadas find mention in the early texts.

- There were also ganasanghas or oligarchies, which were centred on clans. The Vrijjis were one of the best known of the gana-sanghas, and Vaishali was their capital in the Mithila region.
- These kingdoms did not come under the single decision-making authority of a king but decisions were taken on a collective basis by the heads of the different clans together.
- There were also smaller kingdoms such as Kosala and Kasi. It is interesting to note that the names of the clans, such as Ikshvaku and Vrishni, as well as these early kingdoms, are all mentioned in the two epics, Ramayana and Mahabharata.

Source: Tamil Nadu state board

**Q.3)** Bhaga, Kara and Shulka are the terms used for which of the following?

- a) Types of land
- b) Types of taxes

- c) Village heads
- d) Provincial heads

**ANS: B**

**Explanation:** The mahajanapadas on the Gangetic plains were all monarchies. Vedic orthodoxy was an established practice in these kingdoms. The kingship was hereditary and the succession was in most cases based on the law of primogeniture.

- The king was assisted by councils called parishad and sabha. The councils were advisory in nature. The king appropriated the agricultural surplus through land revenue apart from a few other taxes.
- Bali was a tax imposed based on the area of cultivable land. Bhaga was obtained as a share of the produce. Kara and Shulka were some of the other taxes collected during this period.
- Thus the king raised revenue through taxes to maintain an elaborate administrative structure and an army.

Source: Tamil Nadu state board

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

1. Agriculturally productive region.
2. Presence of iron mines
3. Presence of Elephants in the region
4. Ambitious kings

Which of the above given statements are the reasons for growth of Magadhan power?

Select the correct answer using the code given below:

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

**ANS: D**

**Explanation:** Between the sixth and the fourth centuries BCE, Magadha (in present-day Bihar) became the most powerful mahajanapada.

Modern historians explain this development in a variety of ways:

- Magadha was a region where agriculture was especially productive.
- Besides, iron mines (in present-day Jharkhand) were accessible and provided resources for tools and weapons.
- Elephants, an important component of the army, were found in forests in the region.
- Also, the Ganga and its tributaries provided a means of cheap and convenient communication.
- However, early Buddhist and Jaina writers who wrote about Magadha attributed its power to the policies of individuals: ruthlessly ambitious kings of whom Bimbisara, Ajatasattu and Mahapadma Nanda are the best known, and their ministers, who helped implement their policies.

Source: Themes in Indian History

**Q.5)** Who among the following king was contemporary to Buddha?

- a) Ashoka
- b) Padmanabha nanda
- c) Bimbisara
- d) Pushyamitra shunga

**ANS: C**

**Explanation:** Bimbisara, who was a contemporary of Buddha, started the process of empire building. It was strengthened by his son Ajatashatru and then by the Nandas.

Source: Tamil Nadu state board

**Q.6)** Which among the following chronological order of empires is correct?

- a) Shishunaga, Nanda, Mauryas, Haryanka
- b) Haryanka, Shishunaga, Nanda, Mauryas
- c) Haryanka, Nanda, Shishunaga, Mauryas
- d) Shishunaga, Nanda, Haryanka, Mauryas

**ANS: B**

**Explanation:** Among the 16 mahajanapadas, Kasi was initially powerful. However, Kosala became dominant later.

- A power struggle broke out between Magadha, Kosala, Vriji and Avanti. Eventually Magadha emerged as the dominant mahajanapada and established the first Indian empire.
- The first known ruler of Magadha was Bimbisara of the Haryanka dynasty. The Haryanka dynasty was succeeded by the Shishunaga dynasty.
- The Shishunagas ruled for fifty years before the throne was usurped by Mahapadma Nanda.
- Chandragupta Maurya Founded the Mauryan Empire after winning over Nanda Dynasty.

Source: Tamil Nadu state board

**Q.7)** The term 'Hindu' appears for the first in which of the following inscription?

- a) Darius I, Iran
- b) Ancient Greek inscription
- c) Ashokan Rock Edict
- d) Rock inscription of Junagarh

**ANS: A**

**Explanation:** The word "Hindu" appears for the first time in an inscription of Darius I at Persepolis, Iran.

- Darius lists "Hindu" as part of his empire. The word "Sindhu", denoting a river in general and Indus in particular, became "Hindu" in Persian.
- The Greeks dropped the S and called it Indu, which eventually came to be called Hindu and later India.

Source: Tamil Nadu state board

**Q.8)** Which among the following event is called as 'Mahabhiraskramana'?

- a) White elephant entering the womb of Buddha's mother Mahamaya.
- b) Buddha getting enlightenment.
- c) Buddha leaving the palace.
- d) Buddha's passing away.

**ANS: C**

**Explanation:** When Siddhartha was riding on his chariot with his charioteer one day outside the palace, he saw an old man, a sick man, a corpse and finally a religious mendicant.



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- Overcome by remorse at the misery of people, he left his palace in the dead of night in search of eternal truth.
- He rode in his chariot pulled by his favourite horse Kanthaka and driven by his charioteer Channa far away from the city.
- He cut his hair and sent it along with his discarded garments and jewellery to his father. This is known as Mahabhiraskramana or the Great Going Forth.

Source: Tamil Nadu state board

**Q.9)** Which of the following text mentions about agricultural activities during later vedic period?

- a) Satapatha Brahamana
- b) Panchvimsa Brahamana
- c) Aiteraya Brahmna
- d) Jaiminiya Brahmna

**ANS: A**

**Explanation:** Agricultural activities increased during the Late Vedic period. The Satapatha Brahmna mentions rituals related to ploughing undertaken by the kings.

- This suggests the importance given to cultivation by the rulers, and the shift to agriculture to support the increasing population.
- The god Balarama is depicted with a plough, which suggests the importance of cultivation. The Vedic people cultivated barley and rice, and wheat.
- Wheat was the staple food of Punjab region. The Vedic people began to use rice in the Ganga-Yamuna doab. The use of rice, rather than wheat, is noticed in the Vedic rituals.

Source: Tamil Nadu state board

**Q.10)** Who among the following translated Upanishads into Persian?

- A. Abu Fasal
- B. Gulbadan Begam
- C. Badauni
- D. Dara Shikoh

**ANS: D**

**Explanation:** Dara Shukoh, the Mughal prince, translated the Upanishads into Persian in 1657, much before the colonial scholars developed any interest in ancient Indian literature.

Source: Tamil Nadu state board

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## History

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**Q.1)** Which of the following text narrates Chandragupta's accession to the throne of Magadha?

- a) Mudrarakshasa
- b) Patanjali
- c) Arthasastra
- d) Buddhavacana

**ANS: A**

**Explanation:** The play Mudrarakshasa by Visakhadatta was written during the Gupta period, sometime after the 4<sup>th</sup> century CE.

- It narrates Chandragupta's accession to the throne of the Magadha Empire and the exploits of his chief advisor Chanakya or Kautilya by listing the strategies he used to counter an invasion against Chandragupta.
- This play is often cited as a corroborative source since it supports the information gathered from other contemporary sources about Chandragupta.

Source: Tamil Nadu state board

**Q.2)** Greek historians have recorded the name 'Sandrakottus' or 'Sandrakoptus' for who among the following?

- a) Pushyamitra Shunga
- b) Menander
- c) Chandragupta Maurya
- d) Ashoka

**ANS: C**

**Explanation:** Contemporary accounts by Greek historians show that Chandragupta was a youth living in Taxila when Alexander invaded India.

- Greek historians have recorded his name as "Sandrakottus" or "Sandrakoptus", which are evidently modified forms of Chandragupta.
- Inspired by Alexander, Chandragupta led a revolt against the Nandas years later and overthrew them.

Source: Tamil Nadu state board

**Q.3)** Hathigumpha Inscriptions, which tells about the Kalinga Ruler in detail, is located at?

- a) Udaygiri Caves
- b) Arikamedu
- c) Kosala
- d) Ujjain

**ANS: A**

**Explanation:** The defining event of Ashoka's rule was his campaign against Kalinga (present-day Odisha) in the eighth year of his reign.

- This is the only recorded military expedition of the Mauryas. The number of those killed in battle, those who died subsequently, and those deported ran into tens of thousands.

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- The campaign had probably been more ferocious and brutal than usual because this was a punitive war against Kalinga, which had broken away from the Magadha Empire (the Hathigumpha inscription speaks of Kalinga as a part of the Nanda Empire).
- Hathigumpha inscription at Udayagiri caves is the main source of information about Kalinga ruler Kharavela. This inscription, consisting of seventeen lines has been incised in deep cut Brahmi script.

Source: Tamil Nadu state board

**Q.4)** The third Buddhist Council convened at the time of Ashoka was held at which of the following places?

- a) Dhauliya
- b) Taxila
- c) Amaravati
- d) Patliputra

**ANS: D**

**Explanation:** One of the major events of Ashoka's reign was the convening of the Third Buddhist sangha (council) in 250 BCE in the capital Pataliputra.

- Ashoka's deepening commitment to Buddhism meant that royal patronage was extended to the Buddhist establishment.
- An important outcome of this sangha was the decision to expand the reach of Buddhism to other parts of the region and to send missions to convert people to the religion.

Source: Tamil Nadu state board

**Q.5)** Consider the following pair/pairs of terms of Mauryan Empire:

- |              |                        |
|--------------|------------------------|
| 1. Purohita  | Priest                 |
| 2. Samaharta | Judicial Administrator |
| 3. Sthanika  | District Commander     |

Which of the above given pair is/are NOT correctly matched?

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

**ANS: B**

**Explanation:** At the head of the administration was the king. He was assisted by a council of ministers and a purohita or priest, who was a person of great importance, and secretaries known as mahamatryias. The capital region of Pataliputra was directly administered.

- Revenue collection was the responsibility of a collector-general (samaharta) who was also in charge of exchequer that he was, in effect, like a minister of finance.
- At the next level of administration came the districts, villages and towns. The district was under the command of a sthanika, while officials known as gopas were in charge of five to ten villages.
- Urban administration was handled by a nagarika. Villages were semi-autonomous and were under the authority of a gramani, appointed by the central government, and a council of village elders.

Source: Tamil Nadu state board

**Q.6)** Arrange the following provinces of Ashokan Empire from north to south:

1. Tosali
2. Taxila
3. Suvarnagiri

Select the correct answer using the code given below:

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

**ANS: B**

**Explanation:** The capital region of Pataliputra was directly administered. The rest of the empire was divided into four provinces based at Suvarnagiri (near Kurnool in Andhra Pradesh), Ujjain (Avanti, Malwa), Taxila in the northwest, and Tosali in Odisha in the southeast. The provinces were administered by governors who were usually royal princes.

Source: Tamil Nadu state board

**Q.7)** “He instructed his officials, the yuktas (subordinate officials), rajjukas (rural administrators) and pradesikas (heads of the districts) to go on tours every five years to instruct people in dhamma.” The above mentioned instruction of King Ashoka has been found on which of the Edicts of Ashoka?

- a) Kalinga Pillar Edict I
- b) Major Rock Edict 2
- c) Rock Inscription at Junagarh
- d) Major Rock Edict 3

**ANS: D**

**Explanation:** Ashoka’s rule gives us an alternative model of a righteous king and a just state.

- He instructed his officials, the yuktas (subordinate officials), rajjukas (rural administrators) and pradesikas (heads of the districts) to go on tours every five years to instruct people in dhamma (Major Rock Edict 3).
- Ashoka realised that an effective ruler needed to be fully informed about what was happening in his kingdom and insisted that he should be advised and informed promptly wherever he might be (Major Rock Edict 6).
- He insisted that all religions should co-exist and the ascetics of all religions were honoured (Major Rock Edicts 7 and 12).
- Providing medical care should be one of the functions of the state, the emperor ordered hospitals to be set up to treat human beings and animals (Major Rock Edict 2).

Source: Tamil Nadu state board

**Q.8)** Mauryan Empire was succeeded by which of the following Empire?

- a) Rashtrakutas
- b) Sunga
- c) Gurjara
- d) Palas

**ANS: B**

**Explanation:** The highly centralized administration became unmanageable when Ashoka’s successors were weak and inefficient.

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The last ruler Brihadratha was killed by his commander-in-chief Pushyamitra Sunga who founded the Sunga Dynasty that ruled India for over hundred years.

Source: Tamil Nadu state board

**Q.9)** Barabar caves carved out on the orders of King Ashoka were for the use of which of the following sect?

- a) Buddhist
- b) Jains
- c) Ajivika
- d) Hindu

**ANS: C**

**Explanation:** Around 40 km from Bodh Gaya lies a cluster of four caves, namely Karan Chaupar, Lomas Rishi, Sudama and Visvakarma, known as the Barabar Caves.

- Carved out from a monolithic granite rock, these are supposed to have been constructed by emperor Ashoka for the use of Ajivaka ascetics.
- The most unique cave is Lomas Rishi, whose façade is an exact replica of the wood and thatch huts of monks. The interior of the cave has a remarkable glass-like polish.

Source: Old NCERT

**Q.10)** Which among the following historical chronicle in Pali from Sri Lanka serves as an important source of information about Mauryan Period?

- a) Mahavamsa
- b) Brahmanas
- c) Indica
- d) Deepavamsa

**ANS: A**

**Explanation:** The names of Chandragupta and his two successors in the Mauryan period are well known now. But reconstructing their lives and careers was a laborious and difficult process for the earlier historians.

- There are hardly any comprehensive contemporary accounts or literary works which refer to the Mauryan emperors though they are mentioned in various Buddhist and Jain texts as well as in some Hindu works like the brahmanas.
- The Mahavamsa, the comprehensive historical chronicle in Pali from Sri Lanka, is an important additional source.
- The scattered information from these sources has been corroborated by accounts of Greek historians who left their accounts about India following Alexander's campaign in north-western part of the country.

Source: Tamil Nadu state board

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## History

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**Q.1)** The three crowned kings, the Cheras, the Cholas and the Pandyas are known by which of the following term in Sangam text?

- a) Muvendar
- b) Athiyaman
- c) Kizhar
- d) Velir

**ANS: A**

**Explanation:** Though the three Tamil ruling families were known to Asoka in the third century BCE itself, some individual names are known only from the Sangam poems of the first century and later.

- Known as muvendar, 'the three crowned kings', the Cheras, Cholas and Pandyas controlled major agrarian territories, trade routes and towns.
- But the Satiyaputra (same as Athiyaman) found in the Asokan inscription along with the above three houses is a Velir chief in the Sangam poems.

Source: Tamil Nadu state board

**Q.2)** "Kanaganahalli"- ancient Buddhist site is located in which of the following state?

- a) Kerala
- b) Andhra Pradesh
- c) Tamil Nadu
- d) Karnataka

**ANS: D**

**Explanation:** Early Buddhist art in India expanded exponentially when, in 1994, archaeologists unearthed a spectacular ancient stupa outside the hamlet of Kanaganahalli in modern Karnataka State, in India's southwest.

- As if by magic, a lost Buddhist monastic center from the early first millennium emerged from a shapeless mound.
- By virtue of its remarkable stone sculpture and hundreds of ancient stone inscriptions, Kanaganahalli instantly took its place among the most celebrated early Buddhist sites in India.
- One location mentioned in the inscriptions even turns up in Ptolemy's Geographia of the 2nd century CE, a reminder of how small the world was becoming even at the beginning of the first millennium.

Source: Ncert History

**Q.3)** Which one of the following term was used for the riverine tract type of landscape in Tamilangam?

- a) Kurinji
- b) Mullai
- c) Neythal
- d) Marutham

**ANS: D**

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**Explanation:** Sangam poems help us understand the social formation of the time. According to the thinai concept, Tamilagam was divided into five landscapes or eco-regions namely Kurinji, Marutam, Mullai, Neytal and Palai.

Each region had distinct characteristics – a presiding deity, people and cultural life according to the environmental conditions, as follows:

- Kurinji: hilly region: hunting and gathering
- Marutham: riverine tract: agriculture using plough and irrigation.
- Mullai: forested region: pastoralism combined with shifting cultivation
- Neythal: coastal land: fishing and salt making.
- Palai: parched land. Unsuitable for cultivation and hence people took to cattle lifting and robbery.

Source: Tamil Nadu state board.

**Q.4)** Consider the following statements about the Society and economy of Sangam Age:

1. Chattu referred to the itinerary or mobile merchants.
2. Umanars were the salt merchants.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** There is evidence of craft production such as bronze vessels, beads and gold works, textiles, shell bangles and ornaments, glass, iron smithy, pottery making.

- Craft production was common in the major urban centres such as Arikamedu, Uraiyur, Kanchipuram, Kaviripattinam, Madurai, Korkai, and Pattanam in Kerala.
- Madurai and kanchi speaks about day markets as well as and night markets selling several craft goods.
- The names of persons mentioned in inscriptions on pottery reveal the presence of non-Tamil speakers, mostly traders, in certain craft centres and towns. Traders from faraway regions were present in the Tamil country.
- Manimegalai refers to Magadha artisans, Maratha mechanics, Malva smiths and Yavana carpenters working in cooperation with Tamil craftsmen.
- Trade related terms such as vanikan, chattan and nigama appear in the Tamil-Brahmi inscriptions. Salt merchants called umanar, travelled in bullock carts along with their families for trade activities. Chattu referred to the itinerary or mobile merchants.

Source: Tamil Nadu state board.

**Q.5)** Which Indo-Greek King is known as eponymous hero of the Buddhist text Milinda-Pinha?

- a) Demetrius
- b) Menander
- c) Antialcidas
- d) Euthydemus

**ANS: B**

**Explanation:** Menander is mainly remembered as the eponymous hero of the Buddhist text, Milinda-pinha (questions of Milinda), in which he is engaged in a question-and-answer discussion on Buddhism with the teacher Nagasena.

He is believed to have become a Buddhist and promoted Buddhism.

Source: Tamil Nadu state board.

**Q.6)** Consider the following statements:

1. Kushans are known as yueh-chi tribe.
2. Scythians is the term used for Parthians.

Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** The Indo-Greek kingdoms in north-western India were ousted by various nomadic tribes from Central Asia, known as the Sakas (Scythians), Parthians (Pahlavis) and Kushanas (yueh-chi or yuezhi tribes in Chinese).

In spite of the fact that they followed the Greek practice of issuing vast amounts of coinage with their names and titles (mostly “king of kings”), this is a very confusing period in our history.

Source: Tamil Nadu state board.

**Q.7)** Which of the following kingdom introduced turban, tunic, trousers and heavy long boots and coats?

- A. Kushans
- B. Cheras
- C. Mughals
- D. Mauryan

**ANS: A**

**Explanation:** Shakas – Kushanas introduced better cavalry & use of riding horses on large scale along with use of turban, tunic, trousers & longcoats.

- Kushanas were the 1st ruler in India to issue gold coins on wide scale & controlled major part of silk trade.
- Kushanas adopted pompous titles as King of Kings & were called Sons of god like Asoka was called dear to gods.

Source: Old NCERT.

**Q.8)** ‘Buddhacharita’ is written by which of the following?

- a) Kanishka
- b) Ashoka
- c) Ashvaghosha
- d) Vasumitra

**ANS: C**

**Explanation:** Kanishka was the patron of Buddhist philosophers such as Asvaghosha, Parsva and Vasumitra, as well as the great Buddhist teacher Nagarjuna.

- Asvaghosha is known for his Buddhacharita and is celebrated as the author of the first Sanskrit play, Sariputraprakarana, in nine acts.
- The great dramatist Bhasa, whose plays were re-discovered only about a hundred years ago in South India, most probably belonged to this period.



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- Among the Hindu treatises, we find the Manusmriti, Vatsyayana's Kamasutra and Kautilya's Arthashastra taking final shape by the second century CE.

Source: Tamil Nadu state board.

**Q.9)** Consider the following pairs:

<b>Book</b>	<b>Author</b>
1. Gaha Sattasai	King Hala
2. Sariputraprakarana	Asvaghosha
3. Kamasutra	Bhasa

Which of the pairs given above are correct?

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

**ANS: A**

**Explanation:** King Hala is credited with the writing of Gatha Sattasai, a collection of 700 love poems. Written in Maharshtri Prakrit dialect, it has themes similar to those found in the Tamil Sangam poetry.

- Asvaghosha is known for his Buddhacharita and is celebrated as the author of the first Sanskrit play, Sariputraprakarana, in nine acts.
- Among the Hindu treatises, we find the Manusmriti, Vatsyayana's Kamasutra and Kautilya's Arthashastra taking final shape by the second century CE.

Source: Tamil Nadu state board.

**Q.10)** Musiri and Tondi, ancient ports were under the control of which of the following empire?

- Cheras
- Cholas
- Pandyas
- Satavahanas

**ANS: A**

**Explanation:** The Cheras controlled the central and northern parts of Kerala and the Kongu region of Tamil Nadu.

- Vanji was their capital and the ports of the west coast, Musiri and Tondi, were under their control.
- Vanji is identified with Karur, while some scholars identify it with Tiruvanchaikkalam in Kerala.
- Now it is accepted by most scholars that there were two main branches of the Chera family and the Poraiya branch ruled from Karur of present-day Tamil Nadu.

Source: Tamil Nadu state board.

## History

**Q.1)** Consider the following statements:

1. Sri Gupta was the founder of Gupta Dynasty.
2. According to dhauli pillar inscription, Samudragupta had conquered plains west of Prayag till Mathura and in the south till Kanchipuram.

Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** Evidence on the origin and antecedents of the Gupta dynasty is limited. The Gupta kings seem to have risen from modest origins.

- Chandragupta I, who was the third ruler of the Gupta dynasty, married Kumaradevi, a Lichchavi prince.
- The marriage is mentioned in the records of his successors with pride indicating that that royal connection would have contributed to the rise of Guptas.
- Lichchavi was an old, established gana-sangha and its territory lay between the Ganges and the Nepal Terai.
- According to Allahabad pillar inscription Samudragupta, the illustrious son of Chandragupta I, had conquered the whole fertile plains west of Prayag to Mathura and launched a spectacular raid through Kalinga into the south as far as Kanchipuram, the Pallava capital.
- The Puranas mention Magadha, Allahabad and Oudh as the Gupta dominions.

Source: Tamil Nadu state board.

**Q.2)** Harisena was the court poet of which of the following rulers?

- a) Chandragupta
- b) Samudragupta
- c) Kumargupta I
- d) Chandraputa II

**ANS: B**

**Explanation:** Samudragupta patronised scholars and poets like Harisena and thus promoted Sanskrit literature.

- Though an ardent follower of Vaishnavism, he also patronised the great Buddhist scholar Vasubandhu.
- As a lover of poetry and music, he was given the title “Kaviraja”. His coins bear the insignia of him playing the vina (lute).

Source: Tamil Nadu state board.

**Q.3)** Consider the following pairs of kings and titles:

- | King              | Title             |
|-------------------|-------------------|
| 1. Chandragupta I | maharaja-adhiraja |
| 2. Samudragupta   | Napoleon of India |

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3. Chandragupta II Maharaja Adhiraja  
Which of the above given pair is/are NOT correctly matched?
- a) 2 only
  - b) 1 and 2 only
  - c) 3 only
  - d) 2 and 3 only

**ANS: C**

**Explanation:** The first ruler of the Gupta Empire was Sri Gupta (240–280 CE) who was succeeded by his son Ghatotkacha (280–319 CE). Both Sri Gupta and Ghatotkacha are mentioned as Maharajas in inscriptions.

- Chandragupta I, the son of Ghatotkacha, ruled from 319 to 335 CE and is considered to be the first great king of the Gupta Empire.
- Chandragupta held the title of maharaja-adhiraja (great king over other kings). Historians call Samudragupta as the Napoleon of India.
- This statement is undeniable that the southern kings paid tribute, while the northern kingdoms were annexed to the Gupta Empire under Samudragupta.
- His direct control was confined to the Ganges valley, since the Sakas remained unconquered in western India.
- The tribes of Rajasthan paid tribute, but the Punjab was outside the limits of his authority.
- Samudragupta's campaign broke the power of the tribal republics in those regions that led to repeated invasions from the Huns.
- Named after his grandfather, Chandragupta II was a capable ruler, who ruled for 40 years from c. 375 to 415 CE.
- He came to power after a succession struggle with his brother Rama Gupta. He is also known as Vikramaditya.

Source: Tamil Nadu state board.

**Q.4)** Consider the following statements about the land classification of Gupta period:

1. Vasti was the habitable land while Khila was waste land.
2. Aprahata was the forest land while Gapata Saraha was pastoral land.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** As stated in Paharpur plates, an officer called ustapala maintained records of all the land transactions in the district and the village accountant preserved records of land in the village. During the Gupta period, the land was classified as detailed below.

Kshetra	Cultivable land
Khila	Waste land
Aprahata	Jungle or waste land
Vasti	Habitable land
Gapata Saraha	Pastoral land

Source: Tamil Nadu state board.

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**Q.5)** Which of the following text provides the information of irrigation facilities at the time of Guptas?

- a) Nitisara
- b) Narada Smriti
- c) Paharpur copper plate inscription
- d) Brihaspati Smriti

**ANS: B**

**Explanation:** The importance of irrigation to agriculture was recognised in India from the earliest times.

- From the Narada Smriti, we understand that there were two kinds of dykes: the bardhya, which protected the field from floods, and the khara, which served the purpose of irrigation.
- To prevent inundation, jalanirgamah (drains) were constructed, which is mentioned by Amarasimha.
- Canals were constructed not only from rivers but also from tanks and lakes. The most famous lake was the Sudarsana Lake at the foot of Girnar Hills in Gujarat.

Source: Tamil Nadu state board.

**Q.6)** Consider the following statements:

1. The Mehrauli Iron Pillar in the Qutb Minar Complex in Delhi belongs to Gupta period.
2. The sarthavaha was a caravan trader who carried his goods to different places for profitable sale while Sresti was usually settled at a particular place.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:** The most important and visible evidence of the high stage of development in metallurgy is the Mehrauli Iron Pillar of King Chandra in the Qutb Minar Complex in Delhi, identified with Chandragupta II.

- This monolith iron pillar has lasted through the centuries without rusting. It is a monument to the great craftsmanship of the iron workers during the Gupta period.
- Coin casting, metal engraving, pottery making, terracotta work and wood carving were other specialised crafts.
- The contribution of traders to the soundness of the Gupta economy is quite impressive. Two distinctive types of traders called sresti and sarthavaha existed.
- Sresti was usually settled at a particular place and enjoyed an eminent position by virtue of his wealth and influence in the commercial life and administration of the place.
- The sarthavaha was a caravan trader who carried his goods to different places for profitable sale.

Source: Tamil Nadu state board.

**Q.7)** Consider the following pair of Authors and Sanskrit grammar books:

Author	Book
1. Panini	Ashtadhyayi
2. Patanjali	Mahabhashya
3. Amarasimha	Chandrvyakaranam

Which of the above given pair are correctly matched?

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

**ANS: B**

**Explanation:** The Gupta period also saw the development of Sanskrit grammar based on Panini who wrote Ashtadhyayi and Patanjali who wrote Mahabhashya on the topic.

- This period is particularly memorable for the compilation of the Amarakosa, a thesaurus in Sanskrit, by Amarasimha.
- A Buddhist scholar from Bengal, Chandrogomia, composed a book on grammar named Chandravayakaranam.

Source: Tamil Nadu state board.

**Q.8)** In which of the following book, Aryabhata examined the true cause of solar eclipse?

- a) Aryabhattiyam
- b) Surya Siddanta
- c) Brahmasphuta-siddhanta
- d) Khandakhadyaka

**ANS: B**

**Explanation:** In the Surya Siddanta, Aryabhata (belonging to late fifth and early sixth century CE) examined the true cause of the solar eclipses. In calculation of the size of the earth, he is very close to the modern estimation.

- He was the first astronomer to discover that the earth rotates on its own axis. He is also the author of Aryabhattiyam, which deals with arithmetic, geometry and algebra.
- Varahamihira's Brihat Samhita (sixth century CE) is an encyclopaedia of astronomy, physical geography, botany and natural history.
- His other works are Panch Siddhantika and Brihat Jataka. Brahmagupta (late sixth and early seventh century CE) is author of important works on mathematics and astronomy, namely Brahmasphuta-siddhanta and Khandakhadyaka.

Source: Tamil Nadu state board.

**Q.9)** Harsha lost to which of the following ruler south of Vindhyas?

- a) Dantidurga
- b) Pulikesin II
- c) Vasishta pulomavi
- d) Gautamiputra Satkarni

**ANS: B**

**Explanation:** Harsha sought to extend his authority southward into the Deccan. However the Chalukya king Pulikesin II, who controlled the region, humbled Harsha.

In commemoration of his victory over Harsha, Pulikesin assumed the title of "Parameswara". Inscriptions in Pulikesin's capital Badami attest to this victory.

Source: Tamil Nadu state board.

**Q.10)** Priyadarsika, Ratnavali and Nagananda were written by whom among the following?

- a) Amarakosa
- b) Hala

- c) Jayadeva
- d) Harsha

**ANS: D**

**Explanation:** Harsha patronised literary and cultural activities. It is said the state spent a quarter of its revenue for such activities.

- Bana, the author of Harshacharita and Kadambari, was a court poet of Harsha.
- The emperor himself was a renowned litterateur, which is evident from the plays he wrote such as Priyadarsika, Rathnavali and Nagananda.
- Harsha gifted liberally for the promotion of education. Temples and monasteries functioned as centres of learning.
- Renowned scholars imparted education in the monasteries at Kanauj, Gaya, Jalandhar, Manipur and other places. The Nalanda University reached its utmost fame during this period.

Source: Tamil Nadu state board.

ForumIAS

## History

**Q.1)** Who among the following composed Aihole inscription of Pulikesin II?

- a) Ravikirti
- b) Tikkana
- c) Harisena
- d) Nannaya

**ANS: A**

**Explanation:** The Aihole inscription of Pulikesin II composed by his court poet Ravikirti in Sanskrit is among the most important of Chalukyan inscriptions.

Kavirajamarga, a work on poetics in Kannada, Vikramarjuna-vijayam, also called Pampa-bharata, by Pampa in Kannada, which was all of a later period, and Nannaya's Mahabharatam in Telugu also provide useful historical data.

Source: Tamil Nadu state board.

**Q.2)** Consider the following statements:

1. The wild boar was the royal insignia of the Chalukyas.
2. The bull, Shiva's mount was the symbol of Cheras.

Which of the statements given above is/are correct?

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

**ANS: A**

**Explanation:** The wild boar was the royal insignia of the Chalukyas.

- It was claimed that it represented the varaha avatar of Vishnu in which he is said to have rescued the Goddess of the Earth.
- The bull, Siva's mount, was the symbol of the Pallavas.

Source: Tamil Nadu state board.

**Q.3)** Consider the following pairs of ministers of Chalukyas:

- |                         |                             |
|-------------------------|-----------------------------|
| 1. Pradhana             | Head Minister               |
| 2. Mahasandhi-vigrahika | Minister of Foreign Affairs |
| 3. Samharta             | Revenue Minister            |

Which of the above given pair is/are NOT correctly matched?

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

**ANS: B**

**Explanation:** All powers were vested in the king. Inscriptions do not specifically speak of a council of ministers, but they do refer to an official called maha-sandhi-vigrahika.

- Four other categories of ministers are also referred to in the epigraphs: Pradhana (head minister), Mahasandhi-vigrahika (minister of foreign affairs), Amatya (revenue minister), and Samaharta (minister of exchequer).

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- Chalukyas divided the state into political divisions for the sake of administration: Vishayam, Rastram, Nadu and Grama.

Source: Tamil Nadu state board.

**Q.4)** Saptavataram, a grammar work authored by chieftain of Pulikesin II was for which of the following language?

- a) Kannada
- b) Tamil
- c) Sanskrit
- d) Telugu

**ANS: C**

**Explanation:** Chalukyas used Sanskrit in pillar inscriptions such as in Aihole and Mahakudam.

- A seventh-century inscription of a Chalukya king at Badami mentions Kannada as the local prakrit, meaning the people's language, and Sanskrit as the language of culture.
- A chieftain of Pulikesin II authored a grammar work Saptavataram in Sanskrit.

Source: Tamil Nadu state board.

**Q.5)** The term Sudesi, Nanadesi and Ainurruvar during Pallava Kingdom was related with which of the following?

- a) Craftsmen
- b) Traders
- c) Army divisions
- d) Taxes

**ANS: B**

**Explanation:** Kanchipuram was an important trading centre in the Pallava period. The merchants had to obtain license to market their goods.

- Traders founded guilds and called themselves as sudesi, nanadesi, ainurruvar and others. Their main guild functioned at Aihole.
- Foreign merchants were known as Nanadesi. It had a separate flag with the figure of bull at the centre, and they enjoyed the right of issuing vira-sasanas.
- The jurisdiction of this guild stretched over entire south-east Asia.
- The chief of this guild is registered in the inscriptions as pattanswamy, pattnakilar, and dandanayaka. Its members were known as ayyavole-parameswariyar.

Source: Tamil Nadu state board.

**Q.6)** Consider the following pairs:

Author	Book
1. Mahendravarman I	Mathavilasa Prahasanam
2. Bharavi	Kiratarjuniya
3. Dandin	Dashakumaracharita

Which of the above given pair are correctly matched?

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



**ANS: D**

**Explanation:** Mahendravarman I composed Mathavilasa Prahasanam in Sanskrit.

- Two extraordinary works in Sanskrit set the standard for Sanskrit literature in the south: Bharavi's Kiratarjuniya and Dandin's Dashakumaracharita.
- Dandin of Kanchipuram, author of the great treatise on rhetoric Kavyadarsa, seems to have stayed in Pallava court for some time.

Source: Tamil Nadu state board.

**Q.7)** Consider the following statements about Ellora caves:

1. The rock-cut cave temples of Ellora are carved in Charanadri Hills.
2. The Ellora caves are designated as UNESCO world heritage site.
3. The temples are only linked to Buddhism and Brahmanism.

Which of the above given statements are correctly matched?

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

**ANS: B**

**Explanation:** The rock-cut cave temples in Ellora are in 34 caves, carved in Charanadri hills. Without knowledge of trigonometry, structural engineering, and metallurgy, the Indian architects could not have created such exquisite edifices.

- The patrons of these caves range from the dynasties of Chalukyas to Rashtrakutas. The heterodox sects first set the trend of creating this model of temples.
- Later, orthodox sects adopted it as a medium of disseminating religious ideologies. These temples were linked to Ajivikas, Jainism, Buddhism, and Brahmanism.
- The Ellora caves were designated as a UNESCO World Heritage Site in 1983.

Source: Tamil Nadu state board.

**Q.8)** Consider the following statements about Shore temples of Pallavas at Mamallapuram:

1. The temples are dedicated to Shiva only.
2. The complex had the famous monolithic rathas known as Panchapandava Rathas.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** The iconic Shore Temple of Pallavas at Mamallapuram (Mahabalipuram) was constructed during the reign of Rajasimha (700-728).

- The temple comprises three shrines, where the prominent ones are dedicated to Siva and Vishnu.
- The exterior wall of the shrine, dedicated to Vishnu, and the interior of the boundary wall are elaborately carved and sculpted.
- In southern India, this is one amongst the earliest and most important structural temples. Unlike other structures of the region, the Shore Temple is a five-storeyed rock-cut monolith.
- The monolithic vimanas are peculiar to Mamallapuram. The Rathas there are known as the Panchapandava Rathas.

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- The Arjuna Ratha contains artistically carved sculptures of Siva, Vishnu, mithuna and dwarapala.

Source: Tamil Nadu state board.

**Q.9)** Which of the following is the philosophy propounded by Adi Sankara?

- a) Advaita
- b) Dvaita
- c) Shudh dvaita
- d) Visistavaita

**ANS: A**

**Explanation:** Fundamentally, Sankara's Advaita or non-dualism had its roots in Vedanta or Upanishadic philosophy.

- His attempts to root out Buddhism and to establish smarta (traditionalist) mathas resulted in the establishment of monasteries in different places viz., Sringeri, Dvaraka, Badrinath, and Puri, which were headed by Brahmin pontiffs.
- Sankara looked upon Saiva and Vaishnava worship as two equally important aspects of the Vedic religion.
- Monastic organization and preservation of Sanskrit scriptures were the two major thrusts of Sankara School.

Source: Tamil Nadu state board.

**Q.10)** The texts like Periyapuram and Mathavilasa Prahasanam are a good literary source for the knowledge of which of the following empire?

- a) Cheras
- b) Chalukyas
- c) Pallava
- d) Vijayanagar

**ANS: C**

**Explanation:** The poems of the Vaishnavite Azhwars were later compiled as the Nalayira Divya Prabhandam.

- The Saiva literature was canonized as the Panniru Tirumurai. The Thevaram, composed by Appar (Thirunavukkarasar), Sambandar (Thirugnanasambandar) and Sundarar.
- And Thiruvavasagam by Manickavasagar are prominent texts which are read as sacred literature to this day.
- Periyapuram written by Sekizhar, in a later period, also provides much historical information.
- The Mathavilasa Prahasanam written by Mahendravarman I in Sanskrit is an important source for the Pallava period.

Source: Tamil Nadu state board.

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## Revision

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**Q.1)** Who among the following ruler spent his last years as an ascetic in Chandragiri in Karnataka?

- a) Bimbisara
- b) Chandragupta Maurya
- c) Kala Asoka
- d) Asoka

**ANS: B**

**Explanation:** Chandragupta's son Bindusara succeeded him as emperor in 297 BCE in a peaceful and natural transition.

- We do not know what happened to Chandragupta. He probably renounced the world.
- According to the Jain tradition, Chandragupta spent his last years as an ascetic in Chandragiri, near Sravanabelagola, in Karnataka.

Source: Tamil Nadu state board.

**Q.2)** Who among the following is popularly known for taking the branches of original Bodhi tree to Sri Lanka?

- a) Mahinda and Sanghamitta
- b) Pushyamitra Shunga
- c) Gautamiputra Satakarni
- d) Mahananda

**ANS: A**

**Explanation:** One of the major events of Ashoka's reign was the convening of the Third Buddhist sangha (council) in 250 BCE in the capital Pataliputra.

- Ashoka's deepening commitment to Buddhism meant that royal patronage was extended to the Buddhist establishment.
- An important outcome of this sangha was the decision to expand the reach of Buddhism to other parts of the region and to send missions to convert people to the religion.
- Buddhism thus became a proselytizing religion and missionaries were sent to regions outlying the empire such as Kashmir and South India.
- According to popular belief, Ashoka sent his two children, Mahinda and Sanghamitta, to Sri Lanka to propagate Buddhism. It is believed that they took a branch of the original bodhi tree to Sri Lanka.

Source: Tamil Nadu state board.

**Q.3)** Consider the following statements:

1. The kantasodhana courts mostly dealt with civil law relating to marriage, inheritance and other aspects of civil life.
2. The main purpose of dharmasthiya courts was to clear the society of anti-social elements and various types of crimes.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only

- c) Both 1 and 2
- d) Neither 1 nor 2

**ANS: D**

**Explanation:** Justice was administered through courts, which were established in all the major towns. Two types of courts are mentioned.

- The dharmasthiya courts mostly dealt with civil law relating to marriage, inheritance and other aspects of civil life.
- The courts were presided over by three judges wellversed in sacred laws and three amatyas (secretaries).
- Another type of court was called kantasodhana (removal of thorns), also presided over by three judges and three amatyas.
- The main purpose of these courts was to clear the society of anti-social elements and various types of crimes, and it functioned more like the modern police, and relied on a network of spies for information about such antisocial activities.
- Punishments for crimes were usually quite severe. The overall objective of the judicial system as it evolved was to extend government control over most aspects of ordinary life.

Source: Tamil Nadu state board.

**Q.4)** Consider the following pairs:

Empire	Emblem/symbol
1. Cholas	Lion
2. Cheras	Bow and Arrow
3. Guptas	Garuda

Which of the above given pair is/are NOT correctly matched?

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

**ANS: A**

**Explanation:** The Cholas controlled the central and northern parts of Tamil Nadu. Their core area of rule was the Kaveri delta, later known as Chola Mandalam.

- Their capital was Uraiyur (near Thiruchirapalli town) and Puhar or Kaveripattinam was an alternative royal residence and chief port town.
- Tiger was their emblem. Kaveripattinam attracted merchants from various regions of the Indian Ocean.
- The Cheras controlled the central and northern parts of Kerala and the Kongu region of Tamil Nadu.
- Vanji was their capital and the ports of the west coast, Musiri and Tondi, were under their control.
- Vanji is identified with Karur, while some scholars identify it with Tiruvanchaikalam in Kerala.
- There are many other Chera coins with their bow and arrow emblem but without any writing on them.
- The Pandyas ruled from Madurai. Korkai was their main port, located near the confluence of Thampraparani with the Bay of Bengal.
- It was famous for pearl fishery and chank diving. Korkai is referred to in the Periplus as Kolkoii. Fish was the emblem of the Pandyas.

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- Their coins have elephant on one side and a stylised image of fish on the other. They invaded Southern Kerala and controlled the port of Nelkynda, near Kottayam.

Source: Tamil Nadu state board.

**Q.5)** Which of the following Indo-Greek King erected a pillar or garuda-dhvaja with its capital adorned by a figure of Garuda, in honour of God Krishna (Vaasudeva)?

- a) Heliodorus
- b) Menander
- c) Demetrius II
- d) Euthydemus

**ANS: A**

**Explanation:** Another Indo-Greek king whose name is remembered is Antialcidas (or Antialkidas), c. 110.

- He is known to us primarily because his emissary, Heliodorus, who was sent to the court of King Bhagabhadra erected a pillar or garudadhvaja with its capital adorned by a figure of Garuda, in honour of God Krishna (Vasudeva).
- Heliodorus had evidently become a follower of Vishnu. (The pillar stands in isolation in the middle of an open ground in Vidisha, Madhya Pradesh.)

Source: Tamil Nadu state board.

**Q.6)** Consider the following statements:

1. The fourth Buddhist Council was hosted by Pushyamitra Shunga.
2. Kanishka was supported mahayana Sect.

Which of the statements given above is/are correct?

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

**ANS: B**

**Explanation:** The best known of the Kushana kings was Kanishka, who is thought to have ruled from 78 CE till 101 or 102 CE.

- Ironically, 78 CE is held to be the beginning of the “Saka era” in the Indian calendar.
- Historians are, hence, divided about Kanishka’s period. His rule is said to have started anywhere between 78 and 144 CE.
- Kanishka was an ardent follower of Buddhism and hosted the fourth Buddhist mahasangha or council (the third council had been held in Pataliputra during Asoka’s reign).
- By now Mahayana Buddhism had become the dominant sect, and Kanishka supported the missions sent to China to preach Buddhism.

Source: Tamil Nadu state board.

**Q.7)** Yavanas is term used for which of the following?

- a) Foreign Merchants
- b) Priest
- c) Sailors
- d) Taxes

**ANS: A**

**Explanation:** The expansion of overseas trade and shipping brought foreign merchants and sailors to the Tamil region.

- Because of the seasonal nature of the monsoon winds, and the prevailing levels of technology, long voyages necessitated long periods of stay in host countries.
- Yavana merchants lived in especially ear-marked residential quarters in the harbour area.
- Though they were allowed to trade freely, and were noted for their attractive goods, there was a good deal of reserve in the attitude of the local Tamils to foreign merchants who were considered an alien, barbaric people, who spoke a harsh-sounding language.
- Other yavanas also came with the merchants. The fortress of Madurai was guarded by yavanas carrying large swords.
- There are also references to yavana metal workers and carpenters, who were described as “hard-eyed” probably because they had grey or blue eyes.
- All these may not have been strictly of Greek origin, as implied by the term yavana, which had become a generic word to denote persons from the eastern Mediterranean regions.

Source: Tamil Nadu state board.

**Q.8)** Consider the following statements related to taxation during Gupta period:

1. Kara is a period tax levied on villages.
2. Hiranya was a tax payable on gold coins.

Which of the statements given above is/are correct?

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

**ANS: C**

**Explanation:**

**List of Different Kinds of Taxes**

Tax	Nature
Bhaga	King's customary share of the produce normally amounting to one-sixth of the produce paid by cultivators
Bhoga	Periodic supply of fruits, firewood, flowers, etc., which the village had to provide to the king
Kara	A periodic tax levied on the villagers (not a part of the annual land tax)
Bali	A voluntary offering by the people to the king, but later became compulsory. It was an oppressive tax.
Udianga	Either a sort of police tax for the maintenance of police stations or a water tax. Hence, it was also an extra tax.
Uparikara	Also an extra tax. Scholars give different explanations about what it was collected for.
Hiranya	Literally, it means tax payable on gold coins, but in practice, it was probably the king's share of certain crops paid in kind.
Vata-Bhuta	Different kinds of cess for maintenance of rites for the winds ( <i>vata</i> ) and the spirits ( <i>bhuta</i> )
Halivakara	A plough tax paid by every cultivator owning a plough
Sulka	A royal share of merchandise brought into a town or harbour by merchants. Hence it can be equated with the customs and tolls.
Klipta and Upaklipta	related to sale and purchase of lands.

Source: Tamil Nadu state board.

**Q.9)** Who among the following founded Vikramasila University?

- a) Dharmapala
- b) Mahapala
- c) Gopala I
- d) Vikramapala

**ANS: A**

**Explanation:** Dharmapala proved to be a great patron of Buddhism.

- He founded the Vikramasila monastery in Bhagalpur district in Bihar, which developed into a great centre of Buddhist learning and culture.
- He built a grand vihara at Somapura in modern Paharapura (presentday Bangladesh).
- Dharmapala also built a monastery at Odantapuri in Bihar.
- He patronised Harisbhadra, a Buddhist writer.

Source: Tamil Nadu state board.

**Q.10)** Consider the following pairs of post of Pallava Administration:

- | Term                       | Meaning                           |
|----------------------------|-----------------------------------|
| 1. Adhikarna Mandapa       | Council of Ministers              |
| 2. Rahasyadhikrita         | Spy                               |
| 3. Manikkappandaram Kappan | Officer-in-charge of the treasury |

Which of the above given pair is/are correctly matched?

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

**ANS: D**

**Explanation:** Distinctions are made between amatyas and mantrins. While a mantri is generally understood to be a diplomat, amatya is a counsellor.

- Mantri Mandala was a council of ministers. Rahasyadhikrita was a private secretary of the king.
- Manikkappandaram-Kappan was an officer in charge of the treasury (Manikka - valuables; Pandaram - treasury; Kappan – keeper).
- Kodukkappillai was the officer of gifts. They were central officers under the Pallava king.
- Kosa-adhyaksa was the supervisor of the Manikkappandaram-kappan.
- Judicial courts were called Adhikarna Mandapa and judges called Dharmadhikarins.
- Fines are mentioned in the Kasakudi plates of Nandivarman Pallava as Karanadandam (fine in superior/ higher court) and Adhikaranadandam (fine in district level).

Source: Tamil Nadu state board.