



**PRESTORMING™ 2020**

**MOCK TEST V - EXPLANATION**

**INDEX**

<b>QUESTION NO</b>	<b>PAGE NO</b>
1. ....	5
2. ....	6
3. ....	6
4. ....	8
5. ....	8
6. ....	9
7. ....	9
8. ....	10
9. ....	11
10. ....	12
11. ....	14
12. ....	15
13. ....	17
14. ....	19
15. ....	21
16. ....	22
17. ....	25
18. ....	26
19. ....	27
20. ....	28
21. ....	30
22. ....	31
23. ....	33
24. ....	34
25. ....	35
26. ....	36
27. ....	38
28. ....	39
29. ....	41
	1



**A SERIES**

30.	.....	42
31.	.....	43
32.	.....	44
33.	.....	45
34.	.....	48
35.	.....	49
36.	.....	50
37.	.....	51
38.	.....	53
39.	.....	55
40.	.....	56
41.	.....	58
42.	.....	61
43.	.....	62
44.	.....	63
45.	.....	65
46.	.....	66
47.	.....	67
48.	.....	68
49.	.....	69
50.	.....	70
51.	.....	71
52.	.....	71
53.	.....	72
54.	.....	73
55.	.....	75
56.	.....	77
57.	.....	78
58.	.....	79
59.	.....	80
60.	.....	81
61.	.....	82
62.	.....	83



**A SERIES**

63.	.....	85
64.	.....	87
65.	.....	87
66.	.....	88
67.	.....	90
68.	.....	91
69.	.....	91
70.	.....	92
71.	.....	93
72.	.....	95
73.	.....	96
74.	.....	97
75.	.....	98
76.	.....	99
77.	.....	101
78.	.....	102
79.	.....	103
80.	.....	103
81.	.....	105
82.	.....	105
83.	.....	107
84.	.....	110
85.	.....	112
86.	.....	114
87.	.....	115
88.	.....	116
89.	.....	117
90.	.....	118
91.	.....	119
92.	.....	119
93.	.....	121
94.	.....	124
95.	.....	124



**A SERIES**

96.	.....	126
97.	.....	132
98.	.....	133
99.	.....	135
100.	.....	135

**PRESTORMING™ 2020**

**MOCK TEST V - EXPLANATION**

**1. Which one of the following technology works behind the establishment of Video based Customer Identification Process (V-CIP), which will be a consent-based for making the banks and other regulated entities to adhere the RBI's know your customer norms by leveraging the digital technology?**

- (a) Geo-Targeting
- (b) Geo-Beaconing
- (c) Geo-Tagging**
- (d) Geo-Framing

**EXPLANATION:**

The RBI amended the KYC norms allowing banks and other lending institutions regulated by it to use Video based Customer Identification Process (V-CIP), a move which will help them onboard customers remotely.

The V-CIP, which will be consent-based, will make it easier for banks and other regulated entities to adhere to the RBI's Know Your Customer (KYC) norms by leveraging the digital technology.

Live location of the customer (Geotagging) shall be captured to ensure that customer is physically present in India.

Geotagging, or GeoTagging, is the process of adding geographical identification metadata to various media such as a geotagged photograph or video, websites, SMS messages, QR Codes or RSS feeds and is a form of geospatial metadata. **So, option (c) is correct.**

**ADDITIONAL INFORMATION:**

- **Geotargeting** in geomarketing and internet marketing is the method of determining the geolocation of a website visitor and delivering different content to that visitor based on their location. This includes country, region/state, city, metro code/zip code, organization, IP address, ISP or other criteria

**Geo-Beaconing**

- Beacons are little physical objects (under two square inches, in most cases) that can be placed in desired locations. Their sole purpose is to detect you, or more specifically, your device, as you move into their range. The beacons themselves don't

send content. Like geofencing, a signal is triggered when you're near one, and a server sends a push, text, in-app message, or even an email (though currently, that's a less likely application for beacons).

- Beacons are sometimes referred to as BLEs, for Bluetooth Low Energy, which is what fans of this technology like about it. The low energy bit means the batteries in a beacon will last for a long time. The bluetooth bit means that beacons can work well for marketing even in areas with no WiFi or spotty cell service.
- Bluetooth tech is low cost, and accessible to anyone with a smartphone, but it requires the user to have bluetooth turned on.
- Beacons aren't designed to know you're you, where you were a moment ago, or where you're going next. By and large, they're just little stationary computers that react: when your device moves near the beacon itself, it triggers a ping, and your app—if you have an app with notifications enabled for the beacon's particular location—goes to work communicating with you. When you move out of that beacon's range, it's basically a done deal.
- **Geo-Retargeting or Geo-Framing:** This tactic is just done on mobile devices and is a method of capturing mobile device IDs of users who have entered a defined geographic location (Geo-Fence), AND targeting them with ads after they have left the Geo-Fenced area, even if they never saw your ad while inside the Geo-Fence.

**SOURCE:**

**<https://www.livemint.com/industry/banking/rbi-introduces-video-based-identification-process-for-kyc-11578598810566.html>**

**2. Which of the following physical features spreads over maximum number of countries?**

- (a) Andes Mountain
- (b) Himalayan mountain ranges
- (c) Nile river basin**
- (d) Amazon forest

**3. Consider the following statements about the Microbial fuel cells:**

- 1. It is a device that converts chemical energy to electrical energy by the action of microorganisms.**
- 2. It uses protozoa and viruses as the catalysts to oxidize organic and inorganic matter and generates electricity.**

**3. These fuel cells can be used as batteries in Electric Vehicles.**

**Which of the statements given above are correct?**

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

**EXPLANATION:**

A microbial fuel cell (MFC) is a device that converts chemical energy to electrical energy by the action of microorganisms. These electrochemical cells are constructed using either a bioanode and/or a biocathode. **So, statement 1 is correct.**

A microbial fuel cell (MFC) is a bio-electrochemical system that drives an electric current by using bacteria and a high-energy oxidant such as O<sub>2</sub>, mimicking bacterial interactions found in nature. They are devices that use bacteria as the catalysts to oxidize organic and inorganic matter and generate current. **So, statement 2 is not correct.**

These fuel cells can be used as batteries in Electric Vehicles. **So, statement 3 is correct.**

**ADDITIONAL INFORMATION:**

Microbial fuel cells

- They are devices that use bacteria as the catalysts to oxidize organic and inorganic matter and generate current.
- Electrons produced by the bacteria are transferred to the negative terminal and flow to the positive terminal.
- Plants naturally deposit biomaterial as they grow which in turn feeds the natural bacteria present in the soil.
- This creates energy that can be harnessed by fuel cells and used to power a wide range of vital conservation tools remotely, including sensors, monitoring platforms and camera traps.

**SOURCE:**

**<https://indianexpress.com/article/explained/microbial-fuel-cells-technology-that-enabled-a-fern-to-take-its-own-selfies-6071048/>**

4. In 1931, Mahatma Gandhi expressed his ideas of how the Indian constitution should do in

- (a) Common Wheel
- (b) **Young India**
- (c) Indian opinion
- (d) Navjivan

5. With reference to the Indian Economy, consider the following statements:

1. When RBI purchases US Dollars from the Indian market, there is a possibility of depreciation of Indian rupee.
2. When interest rates remain low to negative in the developed countries, there may be fall in capital inflows to India.

Which of the statements given above is/are correct?

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

**EXPLANATION:**

The aggressive dollar buying by RBI has clearly checked the rupee's strengthening amid foreign fund inflows. Hence, When RBI purchases dollars, there is every possibility of depreciation of rupee. **So, statement 1 is correct.**

When there are differences in real interest rates between two countries that allow for the flow of financial capital, that capital flows to the country with the relatively higher real interest rate and out of the country with the relatively lower real interest rate. When interest rates remain low to negative in the developed countries, there may be an increase in capital inflows to India. **So, statement 2 is not correct.**

**SOURCE:**

<https://economictimes.indiatimes.com/markets/forex/how-rbis-dollar-buying-impacts-rupee/articleshow/73025295.cms?from=mdr>



**6. In the context of the cultural history of India, a mudra called “Katakamukha Hasta” has been a favourite of most of the classical dances. Which one of the following statements best describes it?**

- (a) The fingers are held in such a manner as if to ask ‘why’
- (b) **Three fingers are joined to symbolise ‘Om’**
- (c) The fingers are held straight and close together like the ‘stop sign’
- (d) All the finger are held straight and together except the thumb finger

**EXPLANATION:**

Katakaamukha means “Opening in a Bracelet”. Its done by bringing together the index finger, middle finger and thumb. The ring finger and the little finger are raised at angles. Katakaamukha is generally used to express the following

- Plucking or picking flowers
- Holding a necklace or a garland
- Pulling the bow string
- Talking and Seeing
- To show preparing a paste of sandal or musk
- Offering Beetle leaves

Here, it best describes Threefingers are joined to symbolise ‘Om’. **So, option (b) is correct.**

**7. With reference to the Constitution of India. consider the following statements:**

- 1. No Parliamentary sanction is required for acquisition of any geographical territory which is not a part of India.**
- 2. The newly acquired territory from foreign nations shall remain as the ‘Union Territory’ until the Indian Constitution is amended.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

No Parliamentary sanction is required for acquisition of territory which is not part of India. But admitting the acquired territory into union of india needs parlimentry approval. **So statement 1 is correct.**

The newly acquired territory from foreign nations can remain as the Union Territory or

state but only after constitution amendment. **So statement 2 is not correct.**

**ADDITIONAL INFORMATION:**

**ARTICLE 2 : ADMISSION OR ESTABLISHMENT OF NEW STATES**

Parliament may by law admit into the Union, or establish, new States on such terms and conditions as it thinks fit.

**ARTICLE 3 : FORMATION OF NEW STATES AND ALTERATION OF AREAS, BOUNDARIES OR NAMES OF EXISTING STATES**

Parliament may by law –

- (a) form a new State by separation of territory from any State or by uniting two or more States or parts of States or by uniting any territory to a part of any State;
- (b) increase the area of any State;
- (c) diminish the area of any State;
- (d) alter the boundaries of any State;
- (e) alter the name of any State;

Provided that no Bill for the purpose shall be introduced in either House of Parliament except on the recommendation of the President and unless, where the proposal contained in the Bill affects the area, boundaries or name of any of the States, the Bill has been referred by the President to the Legislature of that State for expressing its views thereon within such period as may be specified in the reference or within such further period as the President may allow and the period so specified or allowed has expired.

**SOURCE:**

Indian Polity - Laxmikanth

**8. Which one of the following epochs is the most recent?**

- (a) Paleocene
- (b) **Pliocene**
- (c) Oligocene
- (d) Miocene

**EXPLANATION:**

	Eon	Era	Period	Epoch	
Younger ↑ ↓ Older		Cenozoic	Quaternary	Holocene	← Today
				Pleistocene	← 11.8 Ka
			Neogene	Pliocene	
				Miocene	
			Paleogene	Oligocene	
				Eocene	
				Paleocene	← 66 Ma
		Mesozoic	Cretaceous	~	
			Jurassic	~	
			Triassic	~	← 252 Ma
		Paleozoic	Permian	~	
			Carboniferous	Pennsylvanian	~
				Mississippian	~
			Devonian	~	
			Silurian	~	
			Ordovician	~	
			Cambrian	~	← 541 Ma
		Proterozoic	~	~	← 2.5 Ga
		Archean	~	~	← 4.0 Ga
		Hadean	~	~	← 4.54 Ga

**So option (b) is correct.**

**9. Which one of the following statements best describes about the term “Synthetic meat” which was seen in the news recently?**

- (a) It is a transgenic meat prepared in laboratory through ex-vivo method
- (b) Totipotency stem cell culture method is preferred for its growth in labs
- (c) It has an enhanced taste and nutrient value than the conventional meat
- (d) It increases the carbon footprint by releasing more methane to the nature

**EXPLANATION:**

Cultured meat is meat produced by in vitro cell culture of animal cells, instead of from slaughtered animals. It is a form of cellular agriculture. Besides cultured meat, the terms slaughter-free meat, in vitro meat, vat-grown, lab-grown meat, cell-based meat, clean meat, cultivated meat and synthetic meat have all been used by various outlets to describe the product. **So, option (a) is correct.**

**ADDITIONAL INFORMATION:**

- Cultured meat is produced using many of the same tissue engineering techniques traditionally used in regenerative medicine.

- The concept of cultured meat was popularized by Jason Matheny in the early 2000s after co-authoring a seminal paper on cultured meat production and creating New Harvest, the world's first non-profit organization dedicated to supporting in vitro meat research.
- In 2013, Mark Post, a professor at Maastricht University, was the first to showcase a proof-of-concept for cultured meat by creating the first burger patty grown directly from cells.
- Since then, several cultured meat prototypes have gained media attention: however, because of limited dedicated research activities, cultured meat has not yet been commercialized, although several plants for the production of cultured meat are already being built.
- The production process still has much room for improvement, but it has advanced under various companies.
- Its applications lead it to have several prospective moral, health, environmental, cultural, and economic considerations in comparison to conventional meat.

**SOURCE:**

**<https://recipes.timesofindia.com/articles/food-facts/7-facts-you-must-know-about-synthetic-meat/photostory/66119864.cms>**

**10. Consider the following statements:**

1. **Vedic farming is a natural agriculture free from pesticide and chemical fertilizer.**
2. **Homoeo-farming involves the use of small potent substances to stimulate the already existing potential of soil.**
3. **Natural eco-farming is done by recycling of farm waste and not by tilling the land.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

Homeo is use of small potent substances to stimulate the already existing potential of soil. **So option 2 is correct.**

Vedic farming is a natural agriculture free from pesticide and fertilizer. Vedic farming is a farming done during vedic age. **So option 1 is correct.**

Natural farming is a system where the laws of nature are applied to agricultural practices. This method works along with the natural biodiversity of each farmed area, encouraging the complexity of living organisms, both plants, and animals that shape each particular ecosystem to thrive along with food plants. In natural farming, decomposition of organic matter by microbes and earthworms is encouraged right on the soil surface itself, which gradually adds nutrition in the soil, over the period. In natural farming there no plowing, no tilting of soil and no fertilizers, and no weeding is done just the way it would be in natural ecosystems. **So option 3 is correct.**

**ADDITIONAL INFORMATION:**

Similarities between natural farming and organic farming:

- Natural and organic both are chemical free and more or less poison free farming methods.
- Both systems discourage farmers from using any chemical fertilizers, pesticides on plants and in all agricultural practices.
- Both farming methods encourage farmers to use local breeds of seeds, and native varieties of vegetables, grains, pulses and other crops.
- Organic and natural farming methods promote nonchemical and homemade pest control methods.

Key differences between natural farming and organic farming:

- In organic farming, organic fertilizers and manures like compost, vermicompost, manure, etc. are used and added to farmlands from external sources.
- In natural farming, neither chemical nor organic fertilizers are added to the soil. In fact, no external fertilizers are added to soil or give to plants whatsoever.
- In natural farming, decomposition of organic matter by microbes and earthworms is encouraged right on the soil surface itself, which gradually adds nutrition in the soil, over the period.

- Organic farming still requires basic agro practices like plowing, tilting, mixing of manures, weeding, etc. to be performed.
- In natural farming there no plowing, no tilting of soil and no fertilizers, and no weeding is done just the way it would be in natural ecosystems.
- Organic farming is still expensive due to the requirement of bulk manures, and it has an ecological impact on surrounding environments; whereas, natural agriculture is an extremely low-cost farming method, completely molding with local biodiversity.
- There are many working models of natural farming all over the world, the zero budget natural farming (ZBNF) is the most popular model in India. This comprehensive, natural, and spiritual farming system is developed by Padma ShriSubhashPalekar.

**SOURCE:**

**<http://www.ugao.com/knowledge-center/what-is-natural-farming-how-is-it-different-from-organic-farming/>**

**11. Which of the following is/are the example(s) of the process of Symbiosis?**

- 1. Lice on humans**
- 2. Escherichia coli in gut of animals**
- 3. Cuscuta on body of plants**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

Symbiosis is a close relationship between two species in which at least one species benefits. For the other species, the relationship may be positive, negative, or neutral. There are three basic types of symbiosis: mutualism, commensalism, and parasitism. Lice on humans is an example of parasitism. Escherichia coli in gut of animals is an example of mutualism. Cuscuta on body of plants is an example of parasitism.  
**So, option (d) is correct.**

**ADDITIONAL INFORMATION:**

**Mutualism**

- Mutualism is a symbiotic relationship in which both species benefit. An example of mutualism involves goby fish and shrimp. The nearly blind shrimp and the fish spend most of their time together. The shrimp maintains a burrow in the sand in which both the fish and shrimp live. When a predator comes near, the fish touches the shrimp with its tail as a warning. Then, both fish and shrimp retreat to the burrow until the predator is gone. From their relationship, the shrimp gets a warning of approaching danger. The fish gets a safe retreat and a place to lay its eggs.

**Commensalism**

- Commensalism is a symbiotic relationship in which one species benefits while the other species is not affected. One species typically uses the other for a purpose other than food. For example, mites attach themselves to larger flying insects to get a “free ride.” Hermit crabs use the shells of dead snails for homes.

**Parasitism**

- Parasitism is a symbiotic relationship in which one species (the parasite) benefits while the other species (the host) is harmed. Many species of animals are parasites, at least during some stage of their life. Most species are also hosts to one or more parasites.
- Some parasites live on the surface of their host. Others live inside their host. They may enter the host through a break in the skin or in food or water. For example, roundworms are parasites of mammals, including humans, cats, and dogs. The worms produce huge numbers of eggs, which are passed in the host’s feces to the environment. Other individuals may be infected by swallowing the eggs in contaminated food or water.

**12. “Buddhacharita”, the biography of Buddha, was composed by which one of the following poet?**

- (a) **Ashvaghosa**
- (b) Soundaranatha
- (c) Vatsyayana
- (d) Bharavi

**EXPLANATION:**

Buddhacharita was composed by Ashvaghosa. **So option (a) is correct.**

**ADDITIONAL INFORMATION:**

- There was political instability between the era of 500 years after the fall of the Mauryan Empire and before the rise of the Gupta Empire. This period is marked as the development of Dravidian languages and literature in the South India.
- The Sanskrit language and various forms of Prakrit language developed and some distinctive literature was written in these languages.
- The two great Epics, the Ramayana and the Mahabharata, were compiled. Besides, some of the Dharmasastra were also composed in this period.

**Smritis**

- The Smritis have continued to play a very important role in Hindu life as it were playing since the last two thousand years.
- The Smritis explained the religious duties, usage, laws, and social customs.
- The Smritis are the expanded version of the Dharmasutras, which covered the period from (about) sixth century to third century B.C.
- The Smritis compiled almost in the period of eight hundred years or even more.
- Manusmriti is the oldest among all. It was composed in about the 1st century B.C.

Other important Smritis are –

- Naradasmriti,
- Vishnusmriti,
- Yajnavalkyasmriti,
- Brihaspatismriti, and
- Katyayanasmriti.
- These Smritis (discussed above) are very important sources of law and social customs of the contemporary society and hence, declared to be of divine origin.
- Mahabhasya written by Patanjali was the most outstanding work in the field of grammar during the period of 2nd century B.C.
- The center of Sanskrit grammar learning shifted to the Deccan after Patanjali.
- In Deccan, the Katantra School developed in the first century A.D. Sarvavarman composed the grammar of Katantra. He was a great scholar in the court of Hala (Satavahana King)
- Katantra's grammar was short and handy to help the learning of Sanskrit in about six months.



- Hala, the King of Satavahana wrote a great poetical work, namely 'Gathasaptasati' in Prakrit language.
- Asvaghosha was an important literary figure of this period. He was a great Buddhist philosopher. He had written many poetry, plays, etc. Important of them are –
  - Saundarananda,
  - Buddhacharita,
  - Vajrasuchi, etc.
- 'Buddhacharita' was written in the form of Mahakavya. It is a complete life of Buddha. It has been translated into many languages of the world.
- Remains of Asvaghosha's plays have been recovered from Turfan (in central Asia).
- 'Svapnavasavadatta' was written by Bhasa. It is famous Sanskrit play of the period.
- The art of dance and drama had already been codified by Panini's time and mentioned by Kautilya and Patanjali.
- Natyashastra was written by Bharata in the same period.
- 'Milindapanho' was written in Pali language. It explains the Buddhist doctrines in the form of a dialogue between Milinda and his teacher (the great Buddhist philosopher Nagasena). Milinda is generally identified with the Indo-Greek king Menander.

**SOURCE:**

Themes 2

**13. Consider the following statements about the "World Food Programme":**

- 1. It is the world's largest humanitarian organization addressing hunger and promoting food security.**
- 2. It annually publishes the 'Global Hunger Index' to measure the extreme of poverty and hunger.**
- 3. It also works to improve and develop agriculture, forestry, fisheries, and land and water resources.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

The World Food Programme (WFP) is the food-assistance branch of the United Nations and the world's largest humanitarian organization addressing hunger and promoting food security. **So, statement 1 is correct.**

The Global Hunger Index report, prepared and published jointly by Irish aid agency Concern Worldwide and German organization Welt Hunger Hilfewas, calculated on the basis of four indicators that are - child mortality, undernourishment, child wasting (weight for age) and child stunting. **So, statement 2 is not correct.**

The Food and Agriculture Organization of the United Nations (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger and improve nutrition and food security. It helps governments and development agencies coordinate their activities to improve and develop agriculture, forestry, fisheries, and land and water resources. **So, statement 3 is not correct.**

**ADDITIONAL INFORMATION:**

**World Food Programme**

- The World Food Programme (WFP) is the food-assistance branch of the United Nations and the world's largest humanitarian organization addressing hunger and promoting food security.
- According to the WFP, it provides food assistance to an average of 91.4 million people in 83 countries each year.
- From its headquarters in Rome and from more than 80 country offices around the world, the WFP works to help people who cannot produce or obtain enough food for themselves and their families.
- It is a member of the United Nations Development Group and part of its executive committee

**Goals and strategies**

- The WFP strives to eradicate hunger and malnutrition, with the ultimate goal in mind of eliminating the need for food aid itself. Its objectives are to:
  - "Save lives and protect livelihoods in emergencies"
  - "Support food security and nutrition and (re)build livelihoods in fragile settings and following emergencies"

- "Reduce risk and enable people, communities and countries to meet their own food and nutrition needs"
- "Reduce under-nutrition and break the inter-generational cycle of hunger"
- "Zero Hunger in 2030"
- WFP food aid is also directed to fight micronutrient deficiencies, reduce child mortality, improve maternal health, and combat disease, including HIV and AIDS. Food-for-work programmes help promote environmental and economic stability and agricultural production

**SOURCE:**

<https://www.wfp.org/overview>

**14. Which of the following are the important functions of the National Bank for Agriculture and Rural Development (NABARD) of India?**

- 1. Refinance to Rural Financial Institutions for investment credit.**
- 2. Loans to State Governments for developing rural infrastructure.**
- 3. Direct lending to Cooperatives and Producers' Organization.**
- 4. Direct lending to the individuals for developing warehousing infrastructure.**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

The following are the important credit related functions of the NABARD Bank (National Bank for Agriculture and Rural Development)

- Refinance to Rural Financial Institutions for investment credit (long term loan) and production and marketing credit (short term loan) purposes for farm and off-farm activities in rural areas. **(statement 1 is correct)**
- Loans to State Governments for developing rural infrastructure and strengthening of the Cooperative Credit Structure. **(statement 2 is correct)**
- Loans for warehousing infrastructure to State Governments, State/ Central government Owned/ assisted entities, Cooperatives, Federation of cooperatives, Farmers' Producers Organizations (FPOs), Federations of Farmers' Collectives, Primary Agricultural Credit Societies (PACS) / Cooperative Marketing Societies (CMS) or similar institutions, Corporates/ Companies, Individual entrepreneurs, etc., **(statement 4 is correct)**

- Direct lending to Cooperatives and Producers' Organization, support to State owned institutions /corporations under NABARD Infrastructure Development Assistance and direct lending to individuals, partnership firms, corporates, NGOs, MFIs, Farmers' collectives etc. under Umbrella Programme for Natural Resource Management (UPNRM)(**statement 3 is correct**)
- Pass through agency of select Government of India Capital Investment Subsidy Schemes.

**So, option (c) is correct.**

**ADDITIONAL INFORMATION:**

- The major functions of NABARD include promotion and development, refinancing, financing, planning, monitoring and supervision.

Non-credit related:

- Credit Planning and Monitoring, Coordination with various agencies and institutions.
- Assist in policy formulation of GoI, RBI and State Governments on matters related to agricultural credit and rural development
- Institutional development and capacity building of Cooperatives and Regional Rural Banks (RRBs) to strengthen the rural credit delivery system. Statutory inspection of Regional Rural Banks (RRBs), State Cooperative Banks and District Central Cooperative Banks (DCCBs), voluntary inspection of State Cooperative Agriculture and Rural Development Banks (SCARDBs) and their off-site surveillance
- Promotional and developmental initiatives in the areas of farm, off-farm, micro finance, financial inclusion, Convergence with Govt sponsored programmes.
- Supporting the financial inclusion efforts of Regional Rural Banks and Cooperative Banks
- Thrust on promotion of livelihood opportunities and Micro Enterprises
- Capacity Building of Personnel and Board Members of Credit Cooperatives and Staff of Rural Financial Institutions.
- Support to research and development, rural innovations, etc.

**SOURCE:**

**<https://www.nabard.org/ftrcontent.aspx?id=492#:~:text=The%20major%20functions%20of%20NABARD,with%20various%20agencies%20and%20institutions.>**

**15. Which of the following is/are considered to be the primary scientific goals of study at the world's largest radio telescope "FAST", which recently got its full-fledged operation in China?**

- 1. Pulsar observations**
- 2. Detecting gravitational waves**
- 3. Search for aliens**
- 4. Neutral Hydrogen survey**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

The FAST website lists the following science objectives of the radio telescope:

- Large scale neutral hydrogen survey
- Pulsar observations
- Leading the international very long baseline interferometry (VLBI) network
- Detection of interstellar molecules
- Detecting interstellar communication signals (Search for extraterrestrial intelligence)
- Pulsar timing arrays

**So, option (c) is correct.**

**ADDITIONAL INFORMATION:**

- The Five-hundred-meter Aperture Spherical radio Telescope (FAST) is a radio telescope located in the Dawodang depression, a natural basin in Pingtang County, Guizhou, southwest China.
- It consists of a fixed 500 m (1,600 ft) diameter dish constructed in a natural depression in the landscape. It is the world's largest filled-aperture radio telescope, and the second-largest single-dish aperture after the sparsely-filled RATAN-600 in Russia.

- It has a novel design, using an active surface made of metal panels that can be tilted by a computer to help change the focus to different areas of the sky.
- The cabin containing the feed antenna suspended on cables above the dish is also moved using a digitally-controlled winch by the computer control system to steer the instrument to receive from different directions. It observes at wavelengths of 10 cm to 4.3 m.

**SOURCE:**

**<https://www.thehindu.com/news/international/World%E2%80%99s-largest-radio-telescope-begins-operations/article14998964.ece>**

**16. Recently, the Government of India has expanded the scope of “Pradhan Mantri Garib Kalyan Package”. Which of the following are the key components of the expanded scheme?**

- 1. Free food Grains to the poor people.**
- 2. Cash transfer to farmers under PM-KISAN Yojana.**
- 3. Insurance scheme for health workers who are fighting COVID-19.**
- 4. Free gas cylinders to the poor families.**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

The following are the key components of the expanded scheme

- Insurance scheme for health workers fighting COVID-19 in Government Hospitals and Health Care Centres
- Cash transfer to farmers under PM KisanYojana - The first instalment of Rs 2,000 due in 2020-21 will be front-loaded and paid in April 2020 itself under the PM KISAN Yojana.
- Free Food Grains to the poor people - Government of India would not allow anybody, especially any poor family, to suffer on account of non-availability of foodgrains due to disruption in the next three months. 80 crore individuals, i.e., roughly two-thirds of India’s population would be covered under this scheme.
- Free Gas cylinders to Poor families - Under PM Garib Kalyan Yojana, gas cylinders, free of cost, would be provided to 8 crore poor families for the next three

months.

**So, option (d) is correct.**

**ADDITIONAL INFORMATION:**

**PRADHAN MANTRI GARIB KALYAN PACKAGE**

Insurance scheme for health workers fighting COVID-19 in Government Hospitals and Health Care Centres

- Safai karamcharis, ward-boys, nurses, ASHA workers, paramedics, technicians, doctors and specialists and other health workers would be covered by a Special insurance Scheme.
- Any health professional, who while treating Covid-19 patients, meet with some accident, then he/she would be compensated with an amount of Rs 50 lakh under the scheme.
- All government health centres, wellness centres and hospitals of Centre as well as States would be covered under this scheme approximately 22 lakh health workers would be provided insurance cover to fight this pandemic.

PM Garib Kalyan Ann (अन्न) Yojana

- Government of India would not allow anybody, especially any poor family, to suffer on account of non-availability of foodgrains due to disruption in the next three months.
- 80 crore individuals, i.e, roughly two-thirds of India's population would be covered under this scheme.
- Each one of them would be provided double of their current entitlement over next three months.
- This additionality would be free of cost.
- Pulses:
  - To ensure adequate availability of protein to all the above mentioned individuals, 1 kg per family, would be provided pulses according to regional preferences for next three months.
  - These pulses would be provided free of cost by the Government of India.

Under Pradhan Mantri Garib Kalyan Yojana,

- Benefit to farmers:

- The first instalment of Rs 2,000 due in 2020-21 will be front-loaded and paid in April 2020 itself under the PM KISAN Yojana.
- It would cover 8.7 crore farmers

**Cash transfers Under PM Garib Kalyan Yojana:**

- **Help to Poor:**
  - A total of 20.40 crores PMJDY women account-holders would be given an ex-gratia of Rs 500 per month for next three months.
- **Gas cylinders:**
  - Under PM Garib Kalyan Yojana, gas cylinders, free of cost, would be provided to 8 crore poor families for the next three months.
- **Help to low wage earners in organised sectors:**
  - Wage-earners below Rs 15,000 per month in businesses having less than 100 workers are at risk of losing their employment.
  - Under this package, government proposes to pay 24 percent of their monthly wages into their PF accounts for next three months.
  - This would prevent disruption in their employment.
- **Support for senior citizens (above 60 years), widows and Divyang:**
  - There are around 3 crore aged widows and people in Divyang category who are vulnerable due to economic disruption caused by COVID-19.
  - Government will give them Rs 1,000 to tide over difficulties during next three months.
- **MNREGA**
  - Under PM Garib Kalyan Yojana, MNREGA wages would be increased by Rs 20 with effect from 1 April, 2020. Wage increase under MNREGA will provide an additional Rs 2,000 benefit annually to a worker.
  - This will benefit approximately 13.62 crore families.

**Self-Help groups:**

- Women organised through 63 lakhs Self Help Groups (SHGs) support 6.85 crore households.
- Limit of collateral free lending would be increased from Rs 10 to Rs 20 lakhs.

**Other components of PM Garib Kalyan package**

- **Organised sector:**
  - Employees' Provident Fund Regulations will be amended to include Pandemic as the reason to allow non-refundable advance of 75 percent of the amount or three months of the wages, whichever is lower, from their accounts.



- Families of four crore workers registered under EPF can take benefit of this window.
- Building and Other Construction Workers Welfare Fund:
  - Welfare Fund for Building and Other Constructions Workers has been created under a Central Government Act.
  - There are around 3.5 Crore registered workers in the Fund.
  - State Governments will be given directions to utilise this fund to provide assistance and support to these workers to protect them against economic disruptions.
- District Mineral Fund
  - The State Government will be asked to utilise the funds available under District Mineral Fund (DMF) for supplementing and augmenting facilities of medical testing, screening and other requirements in connection with preventing the spread of COVID-19 pandemic as well as treating the patients affected with this pandemic.

**SOURCE:**

**<https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1608345>**

**17. The term “Anthurium”, recently seen in the news, is**

- (a) **a domestic flowering plant which can purify the surrounding air and remove harmful airborne chemicals**
- (b) an enzyme in a plant which that plant releases to its damaged part so that a new branch grows from that spot
- (c) a lichen, also a indicator species, grown in the Eastern Himalayas
- (d) a herb, grows in the Western Ghats, that is used by Kerala state government in the treatment of COVID-19 patients

**EXPLANATION:**

It is a vast group of beautiful blooming plants available in a wide range of colors. These are large beautiful flowers. These have better shelf life and good market value. They remove harmful airborne chemicals like formaldehyde, ammonia, toluene, xylene, and allergens. Due to Its importance of removing toxic substances from the air, NASA has placed it in the list of air purifier plants. **So option (a) is correct.**

**ADDITIONAL INFORMATION:**

- National Innovation Foundation-India (NIF) has recently boosted new varieties of Anthurium, a flower with high market value.
- These flowers which help to purify air are cultivated by a lady innovator from Kerala.

**National Innovation Foundation-India**

- It is India's national initiative to strengthen the grassroots technological innovations and outstanding traditional knowledge.
- Mission: To help India become a creative and knowledge-based society.
- It was set up with the support of Honey Bee Network.
- NIF supports grassroots innovations which are developed by individuals and local communities in any technological field without any help from formal sector.
- It also tries to ensure that such innovations spread widely through commercial and/or non-commercial channels which will help in generating material or non-material incentives for the innovators.

**18. "The World Press Freedom Index" is annually released by which one of the following organizations?**

- (a) World Economic Forum
- (b) International Press Institute
- (c) **Reporters Without Borders**
- (d) World Press Institute

**EXPLANATION:**

The World Press Freedom Index is an annual ranking of countries compiled and published by Reporters Without Borders. It is based upon the organization's own assessment of the countries' press freedom records. It intends to reflect the degree of freedom that journalists, news organisations, and netizens have in each country, and the efforts made by authorities to respect this freedom. The report is partly based on a questionnaire which asks questions about pluralism media independence, environment and self-censorship, legislative framework, transparency, and infrastructure. **So, option (c) is correct.**

**ADDITIONAL INFORMATION:**

**World Press Freedom Index**

- India has dropped two places on a global press freedom index to be ranked 142nd out of 180 countries in the annual World Press Freedom Report.
- Norway is ranked first in the Index for the fourth year running.
- India ranked better than its neighbours Pakistan (145) and Bangladesh (151), but worse than Sri Lanka (127) and Nepal (112).
- China at 177th position is just three places above North Korea, which is at 180th.
- The report said that with no murders of journalists in India in 2019, as against six in 2018.
- However, there have been constant press freedom violations, including police violence against journalists, ambushes by political activists, and reprisals instigated by criminal groups or corrupt local officials.
- According to the index the Middle East and North Africa region continues to be the most difficult and dangerous for journalists.
- Across the world, press freedom is under pressure from aggressive authoritarian regimes.
- The media is also facing a technological crisis, due to a lack of democratic guarantees and a democratic crisis following polarization and repressive policies, the report reads.
- In addition comes a crisis of trust following growing suspicion and even hatred of the media, and an economic crisis and impoverishing of quality journalism.
- Among other issues, the report has listed coordinated social media hate campaigns against journalists reporting on issues that “annoy right-wing followers”, criminal prosecutions to gag journalists critical of authorities and police violence against journalists.

**SOURCE:**

**<https://rsf.org/en/ranking>**

**19. With reference to the Sufism, consider the following pairs:**

<i>Term</i>		<i>Meaning</i>
1. Khanqah	-	Hospice
2. Qawwals	-	Musicians
3. Ziyarat	-	Pilgrimage

**Which of the pairs given above is/are correctly matched?**

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

**EXPLANATION:**

A khanqah or khaniqah is a building designed specifically for gatherings of a Sufi brotherhood or tariqa and is a place for spiritual retreat and character reformation. In the past, and to a lesser extent nowadays, they often served as hospices for saliks (Sufi travelers), Murids (initiates) and talibs (Islamic students). Khanqahs are very often found adjoined to dargahs (shrines of Sufi saints) and türbes (tombs of notables), mosques and madrasas (Islamic schools). **So, pair 1 is correct.**

Qawwali is a musical vehicle by which a group of male musicians—called qawwals—delivers inspirational Sufi messages to a traditionally male assembly of devotees. **So, pair 2 is correct.**

In Islamziyarat is a form of pilgrimage to sites associated with Muhammad, his family members and descendants, his companions and other venerated figures in Islam such as the prophets, Sufi auliya, and Islamic scholars. Sites of pilgrimage include mosques, maqams, battlefields, mountains, and caves. **So, pair 3 is correct.**

**20. Consider the following statements with reference to National Population Register (NPR)**

- 1. NPR database would contain demographic data and biometric particulars.**
- 2. NPR database does not include a foreigner who is temporarily residing within the political boundary of India for past 1 year.**
- 3. Till now, NPR was once carried out in India only in the state of Assam.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

It collects both demographic data and biometric particulars. **So statement 1 is correct.**

It is a list of “usual residents of the country”. A “usual resident of the country” is one who has been residing in a local area for at least the last six months, or intends to stay in a particular location for the next six months. **So statement 2 is not correct.**

It is a nationwide project except for Assam. because in assam already NRC exercise has been carried out. **So statement 3 is not correct.**

**ADDITIONAL INFORMATION:**

National Population Register

Definition:

- It is a list of “usual residents of the country”.
- A “usual resident of the country” is one who has been residing in a local area for at least the last six months, or intends to stay in a particular location for the next six months.

Legal Provisions:

- The NPR is being prepared under provisions of the Citizenship Act 1955 and the Citizenship (Registration of Citizens and Issue of National Identity Cards) Rules, 2003.
- It is mandatory for every “usual resident of India” to register in the NPR.

Background:

- The data for the NPR was first collected in 2010 along with the house listing phase of Census 2011.
- In 2015, this data was further updated by conducting a door-to-door survey.
- However, with the use of Aadhaar as the key vehicle for transfer of government benefits in the last few years, the NPR has taken a backseat.

Scope:

- The NPR exercise is conducted at the local, sub-district, district, state and national levels.
- The NPR will collect both demographic data and biometric data. Biometric data will be updated through Aadhar details.
- In the 2010 exercise, the RGI had collected only demographic details.
- In 2015, it updated the data further with the mobile, Aadhaar and ration card numbers of residents.
- For the 2020 exercise, it has dropped the ration card number but added other categories.

Advantages:

- It will streamline data of residents across various platforms.
- For instance, it is common to find a different date of birth of a person on different government documents. NPR will help eliminate that.
- It will help the government formulate its policies better and also aid national security.
- It will help to target government beneficiaries in a better way and also further cut down paperwork and red tape in a similar manner that Aadhaar has done.
- It will help in implementing the idea of 'One Identity Card' that has been recently floated by the government.
- 'One Identity Card' seeks to replace duplicate and siloed documentations of Aadhaar card, voter ID card, banking card, passport, and more.

Privacy Concern:

- There is no clarity on the mechanism for protection of the vast amount of data that will be collected through NPR.

NPR and the NRC:

- Unlike the NRC, the NPR is not a citizenship enumeration drive, as it would record even a foreigner staying in a locality for more than six months.
- With the government insisting that the NRC would be implemented across the country, the NPR has raised anxieties around the idea of citizenship in the country.
- All this is happening in the backdrop of the NRC in Assam which has excluded 19 lakh among the 3.3 crore who had applied.
- NRC countrywide would only happen on the basis of the upcoming NPR.
- After a list of residents is created (i.e. NPR), a nationwide NRC could go about verifying the citizens from that list

**SOURCE:**

**<https://www.livemint.com/news/india/npr-vs-nrc-all-you-need-to-know-about-the-national-population-register-11577186091362.html>**

**21. Consider the following protected areas in India:**

- 1. Sohola wetland**
- 2. Dihing Patkai Elephant Reserve**

**3. Bura-Chapori Wildlife Sanctuary**

**4. Umananda Island**

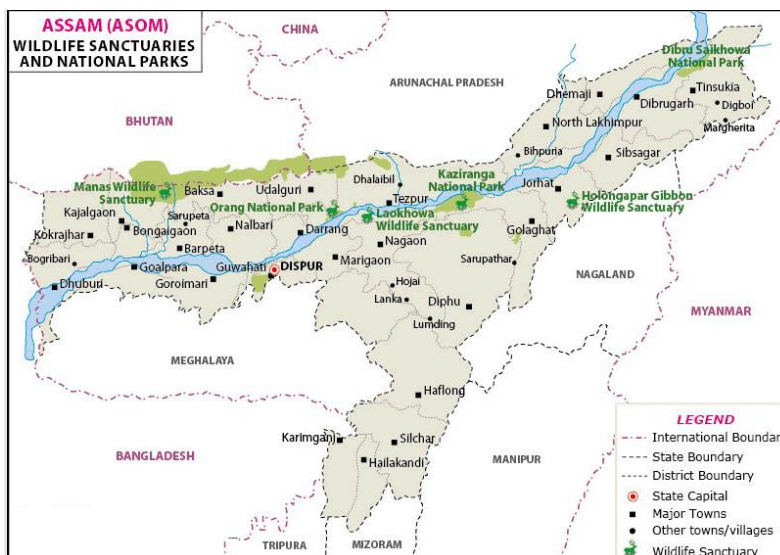
**Which one of the following Indian state has all the above mentioned protected areas?**

- (a) Meghalaya
- (b) **Assam**
- (c) Mizoram
- (d) Manipur

**EXPLANATION:**

Sohola wetland, DihingPatkai Elephant Reserve, Bura-Chapori Wildlife Sanctuary, Umananda Island are present in the state of assam. **So option (b) is correct.**

**ADDITIONAL INFORMATION:**



**22. Which one of the following has the highest flow rate among the surface ocean currents?**

- (a) Kuroshio current
- (b) The Gulf stream
- (c) **Antarctic Circumpolar Current**
- (d) Agulhas Current

**EXPLANATION:**

**Flow rate** is defined as the volume of fluid flowing through an area each second.  
Antarctic ocean current has the highest flow rate. **So option (c) is correct.**

**ADDITIONAL INFORMATION:**

The Antarctic Circumpolar Current, or ACC is changing as the world's climate warms. Scientists are studying the current to find out how it might affect the future of Antarctica's ice sheets, and the world's sea levels.

**It's significance:**

The Antarctic Circumpolar Current, or ACC, is the strongest ocean current on our planet. It extends from the sea surface to the bottom of the ocean, and encircles Antarctica. It is vital for Earth's health because it keeps Antarctica cool and frozen.

The ACC carries an estimated 165 million to 182 million cubic metres of water every second (a unit also called a "Sverdrup") from west to east, more than 100 times the flow of all the rivers on Earth. It provides the main connection between the Indian, Pacific and Atlantic Oceans.

The tightest geographical constriction through which the current flows is Drake Passage, where only 800 km separates South America from Antarctica. While elsewhere the ACC appears to have a broad domain, it must also navigate steep undersea mountains that constrain its path and steer it north and south across the Southern Ocean.

**What is the Antarctic Circumpolar Current?**

Antarctica is a frozen continent surrounded by icy waters. Moving northward, away from Antarctica, the water temperatures rise slowly at first and then rapidly across a sharp gradient. It is the ACC that maintains this boundary.

The ACC is created by the combined effects of strong westerly winds across the Southern Ocean, and the big change in surface temperatures between the Equator and the poles.

Ocean density increases as water gets colder and as it gets more salty. The warm, salty surface waters of the subtropics are much lighter than the cold, fresher waters close to Antarctica. The depth of constant density levels slopes up towards Antarctica. The westerly winds make this slope steeper, and the ACC rides eastward along it, faster where the slope is steeper, and weaker where it's flatter.



**SOURCE:**

**<https://www.indiatoday.in/education-today/gk-current-affairs/story/antarctic-circumpolar-current-how-climate-change-is-affecting-the-world-s-most-influential-ocean-current-1391669-2018-11-19>**

**23. Consider the following statements about the working conditions of “Covid-19 Quarantine Alert System (CQAS)” which was developed by the Department of Telematics in India:**

- 1. It’s an app based service that works either with Wi-Fi or with cellular data.**
- 2. It functions on the concept of location based service rendered completely by the private cellular operators in India.**
- 3. Operation with cellular data ensures the accuracy of location upto 2 Km.**

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

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

**EXPLANATION:**

Covid-19 Quarantine Alert System (CQAS) is an app based service that works either with Wi-Fi or with cellular data. **So, statement 1 is correct.**

The CQAS prepares a list of mobile numbers, segregates them on the basis of telecom service providers, and the location data provided by the telecom companies is run on the application to create geo-fencing. **So, statement 2 is correct.**

This mobile application triggers e-mails and SMS alerts to an authorised government agency if a person has jumped quarantine or escaped from isolation, based on the person’s mobile phone’s cell tower location. The “geo-fencing” is accurate by up to 300 m. **So, statement 3 is not correct.**

**ADDITIONAL INFORMATION:**

- The Department of Telecommunications (DoT) has shared a Standard Operating Procedure (SOP) with all telecom service providers regarding the application called COVID-19 Quarantine Alert System (CQAS).

- CQAS collects phone data, including the device's location, on a common secured platform and alerts the local agencies in case of a violation by COVID patients under watch or in isolation.
- The CQAS prepares a list of mobile numbers, segregates them on the basis of telecom service providers, and the location data provided by the telecom companies is run on the application to create geo-fencing.
- The location information is received periodically over a secure network for the authorised cases with "due protection of the data received".
- The System triggers e-mails and SMS alerts to an authorised government agency if a person has jumped quarantine or escaped from isolation, based on the person's mobile phone's cell tower location. The "geo-fencing" is accurate by up to 300 m.
- The States have been asked to seek the approval of their Home Secretaries under the provisions of Section 5(2) of the Indian Telegraph Act, 1885, for the specified mobile phone numbers to request the DoT to provide information by email or SMS in case of violation of "geo-fencing".

**SOURCE:**

**<https://www.thehindu.com/news/national/coronavirus-geo-fencing-app-will-be-used-to-locate-quarantine-violators/article31241055.ece>**

**24. Consider the following statements about the "Helicopter money" which was seen in the news recently:**

- 1. It involves printing large amounts of paper currency and distributing it to the public.**
- 2. It increases liquidity in the economic system and reduces the market interest rates.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

Helicopter Money involves printing large sums of money and distributing it to the public. **So, statement 1 is correct.**

By using this Money, the liquidity will be increased among the public and the interest rate will be brought down. **So, statement 2 is correct.**

**ADDITIONAL INFORMATION:**

**Helicopter Money**

- This is an unconventional monetary policy tool aimed at bringing a flagging economy back on track.
- It involves printing large sums of money and distributing it to the public. American economist Milton Friedman coined this term.
- It basically denotes a helicopter dropping money from the sky.
- Friedman used the term to signify “unexpectedly dumping money onto a struggling economy with the intention to shock it out of a deep slump.”
- Under such a policy, a central bank “directly increases the money supply and, via the government, distributes the new cash to the population with the aim of boosting demand and inflation.”

**Helicopter money vs quantitative easing (QE)**

- Quantitative easing involves the use of printed money by central banks to buy government bonds.
- But not everyone views the money used in QE as helicopter money.
- It sure means printing money to monetize government deficits, but the govt has to pay back for the assets that the central bank buys.
- It's not the same as bond-buying by central banks “in which bank-owned assets are swapped for new central bank reserves.
- Helicopter money is also different from a central bank directly financing the debt of a government.

**SOURCE:**

**<https://economictimes.indiatimes.com/news/et-explains/what-is-helicopter-money-and-why-is-it-in-news/articleshow/75106564.cms>**

**25. Which of the following farming practices help in Carbon Sequestration?**

- 1. Mulching**
- 2. Crop rotation**
- 3. Strip cropping**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

Carbon sequestration or carbon dioxide removal (CDR) is the long-term removal, capture or sequestration of carbon dioxide from the atmosphere to slow or reverse atmospheric CO<sub>2</sub> pollution and to mitigate or reverse global warming. Carbon dioxide (CO<sub>2</sub>) is naturally captured from the atmosphere through biological, chemical, and physical processes. These changes can be accelerated through changes in land use and agricultural practices, such as converting crop and livestock grazing land into land for non-crop fast growing plants.

A mulch is a layer of material applied to the surface of soil. Reasons for applying mulch include conservation of soil moisture, improving fertility and health of the soil, reducing weed growth and enhancing the visual appeal of the area.

Crop rotation is the practice of growing a series of different types of crops in the same area across a sequenced of growing seasons. It reduces reliance on one set of nutrients, pest and weed pressure, and the probability of developing resistant pest and weeds.

Strip cropping is a method of farming which involves cultivating a field partitioned into long, narrow strips which are alternated in a crop rotation system. It is used when a slope is too steep or when there is no alternative method of preventing soil erosion. All three farming practices help in Carbon Sequestration. **So, option (d) is correct.**

**SOURCE:**

Environment by Shankar IAS academy

**26. In India, the warnings for cyclones are given through the colours of Yellow, Orange and Red. Which one of the following is the nodal agency for giving these warnings in India?**

- (a) National Disaster Management Authority
- (b) State Disaster Management Authority
- (c) **Indian Meteorological Department**
- (d) Indian National Centre for Ocean Information Services

**EXPLANATION:**

In India, the warnings for cyclones are given through the colours of Yellow, Orange and

Red. It is issued by the Indian Meteorological Department (IMD) whose objective is to alert people ahead of severe or hazardous weather which has the potential to cause damage, widespread disruption or danger to life. **So, option (c) is correct.**

**ADDITIONAL INFORMATION:**

Stages of Cyclone Warning

- The cyclone warnings are issued to state government officials in four stages, they are as follows
- **Pre cyclone watch** - Issued 72 hours in advance contains early warning about the development of a cyclonic disturbance in the north Indian Ocean, its likely intensification into a tropical cyclone and the coastal belt likely to experience adverse weather.
- This early warning bulletin is issued by the Director General of Meteorology himself and is addressed to the Cabinet Secretary and other senior officers of the Government of India including the Chief Secretaries of concerned maritime states.
- **Cyclone Alert (Color code - Yellow)** - It is issued at least 48 hrs. in advance of the expected commencement of adverse weather over the coastal areas.
- It contains information on the location and intensity of the storm likely direction of its movement, intensification, coastal districts likely to experience adverse weather and advice to fishermen, general public, media and disaster managers, This is issued by the concerned ACWCs/CWCs and CWD at HQ.
- **Cyclone Warning (Color code - Orange)** - It is issued at least 24 hours in advance of the expected commencement of adverse weather over the coastal areas.
- Landfall point is forecast at this stage. These warnings are issued by ACWCs/CWCs/and CWD at HQ at 3 hourly interval giving the latest position of cyclone and its intensity, likely point and time of landfall, associated heavy rainfall, strong wind and storm surge along with their impact and advice to general public, media, fishermen and disaster managers.
- **Post Landfall Outlook (Color code - Red)** It is issued by the concerned ACWCs/CWCs/and CWD at HQ at least 12 hours in advance of expected time of landfall.
- It gives likely direction of movement of the cyclone after its landfall and adverse weather likely to be experienced in the interior areas.

**27. Consider the following statements about “Tarabhai Shinde”:**

- 1. She is the author of “Stree Purusha ki Tulana”.**
- 2. She was associated with “Satyashodhak Samaj”.**
- 3. She established an organisation called as “Arya Mahila Samaj”.**

**Which of the statements given above are correct?**

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

**EXPLANATION:**

'Stree-Purush Tulana' was written by Tarabai Shinde and was published in the year 1882. She was a feminist activist who protested patriarchy and caste in 19th century India. This book was a comparison between women and men. It was very controversial for its time in challenging the Hindu religious scriptures which acted as a source of women oppression. **So, statement 1 is correct.**

Tarabhai Shinde was a member of Satyashodhak Samaj. Hence, she was associated with Satyashodhak Samaj. **So, statement 2 is correct.**

Pandita Ramabai Sarasvati founded Arya Mahila Samaj (Arya Women's Society). The purpose of the society was to promote the cause of women's education and deliverance from the oppression of child marriage. **So, statement 3 is not correct.**

**ADDITIONAL INFORMATION:**

- Tarabai Shinde (1850–1910) was a feminist activist who protested patriarchy and caste in 19th century India.
- She is known for her published work, Stripurush Tulana ("A Comparison Between Women and Men"), originally published in Marathi in 1882.
- The pamphlet is a critique of upper-caste patriarchy, and is often considered the first modern Indian feminist text. It was very controversial for its time in challenging the Hindu religious scriptures themselves as a source of women's oppression, a view that continues to be controversial and debated today.
- Shinde was an associate of social activists Jotirao and Savitribai Phule and was a founding member of their Satyashodhak Samaj ("Truth Finding Community") organisation. The Phules shared with Shinde an awareness of the separate axes of

oppression that constitute gender and caste, as well as the intermeshed nature of the two.

**28. Who among the following are the members of National Human Rights Commission (NHRC)?**

- 1. Chairperson of National Commission for Scheduled Castes**
- 2. Chairperson of National Commission for Backward Classes**
- 3. Chief Commissioner for Persons with Disabilities**
- 4. Chairperson of National Commission for Women**
- 5. Chairperson of National Commission for the Protection of Child Rights**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

- Composition of NHRC: The Bill provides that a person who has been Chief Justice of the Supreme Court, or a Judge of the Supreme Court can be the chairperson of the NHRC.
- The Bill allows 3 members to be appointed, of which at least one will be a woman.
- Members of the NHRC: The chairpersons of the National Commission for Scheduled Castes, National Commission for Scheduled Tribes, and National Commission for Women, National Commission for Backward Classes, the National Commission for the Protection of Child Rights, and the Chief Commissioner for Persons with Disabilities.
- Chairperson of SHRC: The Bill provides for a person who has been Chief Justice or Judge of a High Court can be chairperson of a SHRC.

**So option (b) is correct.**

**ADDITIONAL INFORMATION:**

What are the provisions of the Act?

- Composition of NHRC: The chairperson of the NHRC is a person who has been a Chief Justice of the Supreme Court.
- The Act provides for 2 persons having knowledge of human rights to be appointed as members of the NHRC.

- Members of the NHRC: The chairpersons of the National Commission for Scheduled Castes, National Commission for Scheduled Tribes, and National Commission for Women.
- Chairperson of SHRC: A person who has been a Chief Justice of a High Court.
- Term of office: The chairperson and members of the NHRC and SHRC will hold office for 5 years or till the age of 70 years, whichever is earlier.
- The Act allows for the reappointment of members of the NHRC and SHRCs for a period of 5 years.
- Powers of Secretary-General: The Act provides for a Secretary-General of the NHRC and a Secretary of a SHRC, who exercise powers as may be delegated to them.

#### What are the amendments made?

- Composition of NHRC: The Bill provides that a person who has been Chief Justice of the Supreme Court, or a Judge of the Supreme Court can be the chairperson of the NHRC.
- The Bill allows 3 members to be appointed, of which at least one will be a woman.
- Members of the NHRC: The chairpersons of the National Commission for Scheduled Castes, National Commission for Scheduled Tribes, and National Commission for Women, National Commission for Backward Classes, the National Commission for the Protection of Child Rights, and the Chief Commissioner for Persons with Disabilities.
- Chairperson of SHRC: The Bill provides for a person who has been Chief Justice or Judge of a High Court can be chairperson of a SHRC.
- Term of office: The Bill reduces the term of office to 3 years or till the age of 70 years, whichever is earlier.
- The Bill removes the five-year limit for reappointment found in the act.
- Powers of Secretary-General: The Bill allows the Secretary-General and Secretary to exercise all administrative and financial powers (except judicial functions), subject to the respective chairperson's control.
- Union Territories: The Bill provides that the central government may confer on a SHRC human rights functions being discharged by Union Territories. Functions relating to human rights in the case of Delhi will be dealt with by the NHRC.

#### SOURCE:

**[https://www.iasparliament.com/current-affairs/the-protection-of-human-rights-amendment-bill-](https://www.iasparliament.com/current-affairs/the-protection-of-human-rights-amendment-bill-2019#:~:text=The%20Protection%20of%20Human%20Rights%20(Amendment)%20Bill%2C%202019%20was,of%20Human%20Rights%20Act%2C%201993.)**

**2019#:~:text=The%20Protection%20of%20Human%20Rights%20(Amendment)%20Bill%2C%202019%20was,of%20Human%20Rights%20Act%2C%201993.**



**29. Consider the following statements about the Wildlife Protection Act, 1972:**

- 1. Scheduled Tribes in Andaman and Nicobar Islands cannot hunt any animals protected under the Schedules I and II of this act.**
- 2. It bans international trading of any animals protected under Schedule I and II of this 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**

**EXPLANATION:**

Wildlife Protection Act, 1972 does not affect the hunting rights of the Scheduled Tribes in Andaman and Nicobar Islands. **So, statement 1 is not correct.**

It has provisions for the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). It bans only illegal trade (not legal trade). **So, statement 2 is not correct.**

**ADDITIONAL INFORMATION:**

The Wildlife (Protection) Act of 1972

- The passing of the Wildlife Act of 1972 constitutes an important landmark in the history of wildlife legislation in the country.
- This is because of the fact that the “Forest” including “Wildlife” was then a State subject falling in Entry 20 List II of Seventh Schedule, Parliament had no power to make law on the same except as provided in Articles 249, 250 and 252 of the constitution.
- Having regard to the importance of the matter, the Act has been adopted by all the States except that of Jammu and Kashmir which has a similar law enacted for the purpose of wildlife protection. The operation of the Act is mandatory in the Union Territories too.
- The Wildlife (Protection) Act of 1972 provides the basic framework to ensure the protection and management of wildlife. The Act was amended subsequently in 1982, 1986, 1991 and 1993 to accommodate provision for its effective implementation.

Salient features of the Act:

- The Wildlife Protection Act, 1972 is a product of process which started long ago in 1887 for the protection of a few wild birds and after addition of wild animals in 1912 and specified plants in 1919 it covered almost all the wildlife resources which need protection and management.
- The rating of the Schedules I to V is in accordance with the risk of survival of the wildlife (fauna) enlisted in them. Animals included Schedule are provided for total protection from hunting and the trade and commerce related to such animals are strictly regulated. The schedule VI has been added to include the specified plant species to be protected by the Wildlife (Protection) Amendment Act of 1991.
- An expert committee, constituted by the Indian Board of Wildlife considers amendments to the Act, as and when necessary.
- With the amendment of the Act in 1991, powers of the State Governments have been withdrawn almost totally. Now the State Governments are not empowered to declare any wild animal a vermin. Further by addition of provision, immunization of livestock within a radius of 5 km from a National Park or sanctuary has been made compulsory.

**SOURCE:**

Environment by Shankar IAS academy

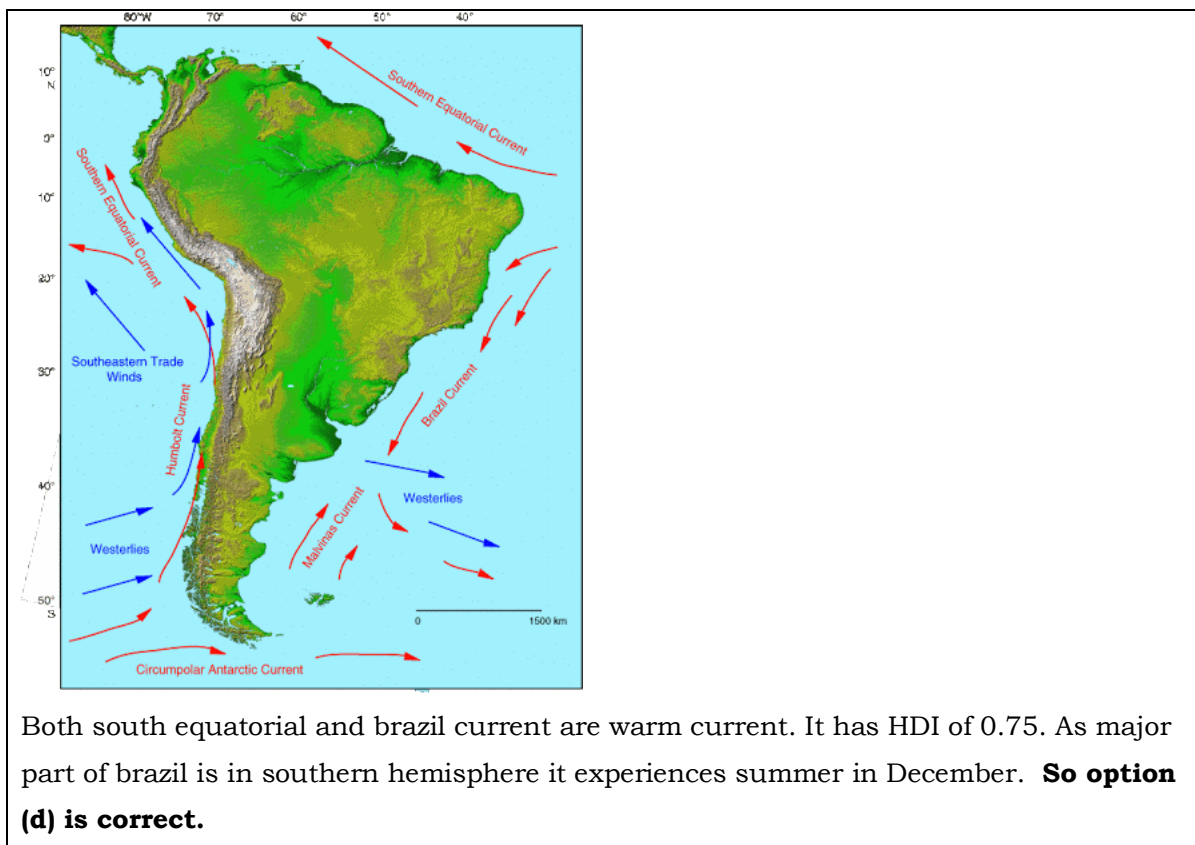
**30. Consider the following statements about a country:**

- 1. Its coastline has a warm ocean current.**
- 2. It experiences summer in the month of December.**
- 3. The country has a Human Development Index of approximately 0.75.**

**Based on the above statements, the country is**

- (a) Mexico
- (b) The Bahamas
- (c) Australia
- (d) **Brazil**

**EXPLANATION:**



**31. With reference to medieval history of India, which of the following schools of miniature paintings originated in the Himalayan foothills around the modern-day state of Himachal Pradesh?**

1. Basohli
2. Bundi
3. Kangra

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

Basohli painting was a vigorous, bold and imaginative artistic style, rich, stylish and unconventional. A style of painting characterized by vigorous use of primary colours and a peculiar facial formula prevailed in the seventeenth and early eighteenth centuries in

the foothills of the Western Himalayas in the Jammu and Punjab States. The earliest paintings in this style have been dated to the time of Raja Kirpal Pal.

Bundi painting is an important school of the **Rajasthani style** of Indian miniature painting that originated in the princely state of Bundi, located between Jaipur and Udaipur. The blend of Mughal and Deccani art elements in Bundi style are unique. Bundi paintings excelled in its illustrations of Krishna-Lila and Rasikapriya.

Kangra painting is the pictorial art of Kangra, named after Kangra, Himachal Pradesh, a former princely state, which patronized the art. It became prevalent with the fading of Basohli school of painting in mid-18th century, and soon produced such a magnitude in paintings both in content as well as volume, that the Pahari painting school, came to be known as Kangra paintings. **So, option (b) is correct.**

**32. In India, a particular industry has been declared as a “Public Utility Service” under which one of the following Acts?**

- (a) **Industrial Disputes Act, 1947**
- (b) Minimum Wages Act, 1948
- (c) Trade Unions Act, 1926
- (d) Factories Act, 1948

**EXPLANATION:**

The Union Government has declared the banking industry as a public utility service for six months till October 21 under the provisions of the Industrial Disputes Act. The move means that the banking sector would not see any strikes by employees or officers during the operation of the act starting from April 21. The Department of Financial Services announced that Labour and Employment Ministry has declared the banking industry as a public utility service for six months till October 21. **So, option (a) is correct.**

**ADDITIONAL INFORMATION:**

- The Industrial Disputes Act, 1947 extends to the whole of India and regulates Indian labour law so far as that concerns trade unions as well as Individual workman employed in any Industry within the territory of Indian mainland. Enacted on 11th March 1947 and It came into force 1 April 1947.
- An act to make provision for the investigation and settlement of industrial disputes, and for certain other purposes.
- The objective of the Industrial Disputes Act is to secure industrial peace and harmony by providing mechanism and procedure for the investigation and

settlement of industrial disputes by conciliation, arbitration and adjudication which is provided under the statute.

- The main and ultimate objective of this act is "Maintenance of Peaceful work culture in the Industry in India" which is clearly provided under the Statement of Objects & Reasons of the statute.
- The laws apply only to the organised sector. Chapter V talks about the most important and often in news topic of 'Strikes and Lockouts'. It talks about the Regulation of strikes and lockouts and the proper procedure which is to be followed to make it a Legal instrument of 'Economic Coercion' either by the Employer or by the Workmen. Chapter V-B, introduced by an amendment in 1976, requires firms employing 300 or more workers to obtain government permission for layoffs, retrenchments and closures. A further amendment in 1982 (which took effect in 1984) expanded its ambit by reducing the threshold to 100 workers.
- The Act also lays down:
  - The provision for payment of compensation to the workman on account of closure or lay off or retrenchment.
  - The procedure for prior permission of appropriate Government for laying off or retrenching the workers or closing down industrial establishments
  - Unfair labour practices on part of an employer or a trade union or workers.

**SOURCE:**

**<https://www.hindustantimes.com/business-news/banking-declared-as-public-utility-service-for-six-months/story-iwKMcxLxO4kIzzUI7ARWbL.html#:~:text=The%20government%20has%20declared%20banking,of%20the%20Industrial%20Disputes%20Act.&text=All%20public%20sector%20banks%2C%20old,Bank%20are%20members%20of%20IBA.>**

**33. Which one of the following National Park is a part of Biosphere Reserve, UNESCO World Heritage Site and UNESCO World network of Biosphere Reserve?**

- (a) **Nanda Devi National Park**
- (b) Corbett National Park
- (c) Nokrek National Park
- (d) Khangchendzonga National Park

**EXPLANATION:**

Nanda devi national park comes under Biosphere reserve, UNESCO World heritage site

and also UNESCO World network of biosphere reserve. <b>So option (a) is correct.</b>
Corbett national park is not a UNESCO world heritage site. <b>So option (b) is not correct.</b>
Nokrek is a biosphere reserve. <b>So option (c) is not correct.</b>
Khangchendzonga National Park is UNESCO world network of biosphere reserve and biosphere reserve. <b>So option (d) is not correct.</b>

**ADDITIONAL INFORMATION:**

**Unesco world heritage sites**

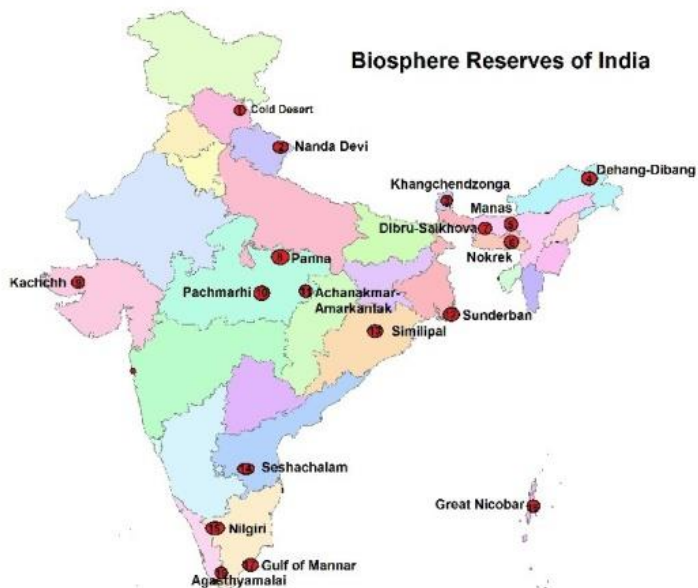
Kaziranga National Park	Assam
Keoladeo Ghana National Park	Rajasthan
Manas Wildlife Sanctuary	Assam
Nanda Devi National Park and Valley of Flowers	Uttarakhand
Sundarbans National Park	West Bengal
Western Ghats	Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala
Great Himalayan National Park	Himachal Pradesh

**Unesco world network of biosphere reserve**

#	Name
1	Nilgiri Biosphere Reserve
2	Gulf of Mannar Biosphere Reserve

#	Name
3	Sundarbans Biosphere Reserve
4	Nanda Devi Biosphere Reserve
5	Nokrek Biosphere Reserve
6	Pachmarhi Biosphere Reserve
7	Simlipal Biosphere Reserve
8	Great Nicobar Biosphere Reserve
9	Achanakmar-Amarkantak Biosphere Reserve
10	Agasthyamalai Biosphere Reserve
11	Khangchendzonga National Park

Biosphere reserve in india



**34. Consider the following statements about the “Swamitva scheme”, which was recently launched by the Government of India:**

- 1. This scheme will create records of land ownership in villages and would help in reducing the disputes over property.**
- 2. It was launched on a pilot basis for the integrated development of 1000 villages each with more than 50% Scheduled Caste population.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

The Swamitva scheme will create records of land ownership in villages and would help in reducing the disputes over property. **So, statement 1 is correct.**

Pradhan Mantri Adarsh Gram Yojana (PMAGY), a Government of India initiative for the empowerment of deprived sections, aims to achieve integrated development of selected villages through the convergent implementation of all relevant Central and State schemes. The scheme was launched in March 2010 on a pilot basis for the integrated development of 1000 villages, each with more than 50% SC population. **So, statement 2 is not correct.**

**ADDITIONAL INFORMATION:**

- Swamitva Yojana is meant to create a record of land ownership in rural areas using modern technology.
- The scheme is piloted by the Panchayati Raj ministry of the Union government and has been launched on April 24 2020, the Panchayati Raj Diwas.
- The need for this Yojana was felt since several villagers in the rural areas don't have papers proving ownership of their land. In most states, survey and measurement of the populated areas in the villages has not been done for the purpose of attestation/verification of properties.
- Swamitva Yojana is aimed to fill the above gap to provide ownership rights to people in the villages. It is expected to go a long way in settling property rights in rural hinterlands and likely to become a tool for empowerment and entitlement, reducing social strife on account of discord over properties.



- The residential land in villages will be measured using drones to create a non-disputable record. It is the latest technology for surveying and measuring of land.
- The scheme will be carried out in close coordination with the Central Panchayati Raj ministry, Survey of India, Panchayati Raj departments and Revenue departments of
- Drones will draw a digital map of every property falling within the geographical limits of a village and demarcate the boundaries of every revenue area.
- Property card for every property in the village will be prepared by states using accurate measurements delivered by drone-mapping. These cards will be given to property owners and will be recognised by the land revenue records department.
- The delivery of property rights through an official document will enable villagers to access bank finance using their property as collateral.
- The property records for a village will also be maintained at the Panchayat level, allowing for the collection of associated taxes from the owners. The money generated from these local taxes will be used to build rural infrastructure and facilities.
- Freeing the residential properties including land of title disputes and the creation of an official record is likely to result in appreciation in the market value of the properties.
- The accurate property records can be used for facilitating tax collection, new building and structure plan, issuing of permits and for thwarting attempts at property grabbing

**SOURCE:**

<https://www.hindustantimes.com/india-news/what-is-swamitva-yojana-launched-by-pm-narendra-modi-all-you-need-to-know/story->

[UpshkST02eW59ZGsF9jxLK.html#:~:text=1.,2020%2C%20the%20Panchayati%20Raj%20Diwas.](https://www.hindustantimes.com/india-news/what-is-swamitva-yojana-launched-by-pm-narendra-modi-all-you-need-to-know/story-)

**35. For the same insolation, continents heat up faster when compared to the oceans because**

- (a) Land is a very good conductor of heat
- (b) **Water has a high specific heat capacity**
- (c) Ocean topography is much more complex than land
- (d) Plants absorb large amount of heat

**EXPLANATION:**

The specific heat is the amount of heat per unit mass required to raise the temperature by one degree Celsius. It is high for water so water needs more heat to show high

temperature. So continents heat up faster compared to the oceans for the Same insolation. **So option (b) is correct.**

**Source:**

Physical Geography NCERT

**36. The Common Services Centres (CSC) is a strategic cornerstone of the National e-Governance Plan (NeGP), to introduce e-governance on a massive scale. Which of the following kind of services are offered under this CSC scheme?**

- 1. Rural Banking and Insurance Services including Micro-credit.**
- 2. Commercial Services including Internet Browsing and Village level BPO.**
- 3. Agriculture Services including Sericulture, Animal Husbandry and Fisheries.**
- 4. Health Services including Telemedicine and Health Check-ups.**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

The following kind of services are offered under this CSC scheme are

- Agriculture Services (Agriculture, Horticulture, Sericulture, Animal Husbandry, Fisheries, Veterinary)
- Education & Training Services (School, College, Vocational Education, Employment, etc.)
- Health Services (Telemedicine, Health Check-ups, Medicines)
- Rural Banking & Insurance Services (Micro-credit, Loans, Insurance)
- Entertainment Services (Movies, Television)
- Utility Services (Bill Payments, Online bookings)
- Commercial Services (DTP, Printing, Internet Browsing, Village level BPO).

**So, option (d) is correct.**

**ADDITIONAL INFORMATION:**

**Common Services Centres**

- The CSC is a strategic cornerstone of the National e-Governance Plan (NeGP), approved by the Government in May 2006, as part of its commitment in the National Common Minimum Programme to introduce e-governance on a massive scale.
- The CSCs would provide high quality and cost-effective video, voice and data content and services, in the areas of e-governance, education, health, telemedicine, entertainment as well as other private services.
- A highlight of the CSCs is that it will offer web-enabled e-governance services in rural areas, including application forms, certificates, and utility payments such as electricity, telephone and water bills
- The Scheme creates a conducive environment for the private sector and NGOs to play an active role in implementation of the CSC Scheme, thereby becoming a partner of the government in development of rural India.
- The PPP model of the CSC scheme envisages a 3-tier structure consisting of the CSC operator (called Village Level Entrepreneur or VLE); the Service Centre Agency (SCA), that will be responsible for a division of 500-1000 CSCs; and a State Designated Agency (SDA) identified by the State Government responsible for managing the implementation in the entire State.

**SOURCE:**

**[https://meity.gov.in/content/csc-scheme#:~:text=Agriculture%20Services%20\(Agriculture%2C%20Horticulture%2C,%2Dcredit%2C%20Loans%2C%20Insurance\)](https://meity.gov.in/content/csc-scheme#:~:text=Agriculture%20Services%20(Agriculture%2C%20Horticulture%2C,%2Dcredit%2C%20Loans%2C%20Insurance))**

**37. Consider the following statements about the Market Intervention Scheme (MIS) in India:**

- 1. It is a price support mechanism for procurement of raw cotton, raw jute and copra in the event of a fall in market prices.**
- 2. The Food Corporation of India is responsible for implementing this scheme and procures the commodities at a fixed Market Intervention Price.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

MIS is a price support mechanism implemented on the request of State Governments for the procurement of perishable and horticultural commodities in the event of a fall in market prices.**So, statement 1 is not correct.**

The Department of Agriculture & Cooperation is implementing the scheme.**So, statement 2 is not correct.**

**ADDITIONAL INFORMATION:**

**Market Intervention Scheme**

- MIS is a price support mechanism implemented on the request of State Governments for the procurement of perishable and horticultural commodities in the event of a fall in market prices.
- It is implemented when there is at least a 10% increase in production or a 10% decrease in the ruling rates over the previous normal year.
- MIS works in a similar fashion to Minimum Support Price based procurement mechanism for food grains but is an ad-hoc mechanism.
- Its objective is to protect the growers of these horticultural/agricultural commodities from making distress sale in the event of the bumper crop.
- Under MIS, support can be provided in some years, for a limited but defined period, in specified critical markets and by purchasing specified quantities. The initiative has to emerge from the concerned state.

**Commodities covered**

- The MIS has been implemented in case of commodities like apples, garlic, oranges, grapes, mushrooms, clove, black pepper, pineapple, ginger, red-chillies, coriander seed, chicory, onions, potatoes, cabbage, mustard seed, castor seed, copra, palm oil etc.

**Remuneration under MIS**

- MIS provides remunerative prices to the farmers in case of glut in production and fall in prices.
- Proposal of MIS is approved on the specific request of State/UT Government, if they are ready to bear 50% loss (25% in case of North-Eastern States), if any, incurred on its implementation.

- Further, the extent of total amount of loss shared is restricted to 25% of the total procurement value which includes cost of the commodity procured plus permitted overhead expenses.

**SOURCE:**

[http://www.arthapedia.in/index.php?title=Market\\_Intervention\\_Scheme\\_\(MIS\)](http://www.arthapedia.in/index.php?title=Market_Intervention_Scheme_(MIS))

**38. Consider the following statements about the Parliamentary privileges in India:**

- 1. President of India, who is integral part of the Indian Parliament, also enjoys these privileges.**
- 2. Normally, a Member of Parliament can raise a question involving a breach of privilege in the Houses of Parliament even without the consent of the Presiding Officer of that House.**
- 3. The Parliament of India has not codified its privileges.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

President, though an integral part of the parliament, does not enjoy parliamentary privileges. These rights are mainly from the members of both the Houses of Parliament. Apart from this, these rights are also given to those individuals who speak and participate in any committee of the Parliament, which includes the Attorney General of India and the Union Ministers.

**So statement 1 is not correct.**

A member can raise a question involving a breach of privilege only with the consent of the Speaker or the Chairperson. **So statement 2 is not correct.**

The Parliament has not yet codified its privileges. **So statement 3 is correct.**

**ADDITIONAL INFORMATION:**

Originally the constitution envisaged two types of privileges under the article 105 of the Indian constitution. One is freedom of speech in Parliament and the right of publication of its proceedings.

Concept of parliamentary privilege in the Constitution of India has been taken from the British Constitution. The main motive of these privileges is to uphold the supremacy of the office of the Parliament and its members.

### What are Parliamentary Privileges?

Parliamentary privileges are special rights, immunities, exceptions enjoyed by the members of the two houses of Parliament and their committees.

### Who Enjoys Parliamentary Privileges

These rights are mainly from the members of both the Houses of Parliament. Apart from this, these rights are also given to those individuals who speak and participate in any committee of the Parliament, which includes the Attorney General of India and the Union Ministers.

It is necessary to tell that the President, even if he is part of Parliament, does not have parliamentary privileges.

### Parliamentary privileges can be broadly divided into two categories;

- A. Enjoyed by the Members of Parliament collectively
- B. Enjoyed by the Members of Parliament individually

### The collective privileges of Members of Parliament are as follows;

1. No person (either a member or outsider) can be arrested and no legal process (criminal or civil) can be initiated within the premises of the house without the permission of the presiding officer of the house.
2. No Court has the right to investigate proceedings of the House or any of its committees.
3. Parliament can exclude guests from its proceedings and in some cases of national interest it can also hold a secret meeting on any important matter.
4. Parliament can punish members as well as outsiders for breach of its privileges or its contempt by reprimand, admonition or imprisonment (also suspension or expulsion in case of members).

### Individual Privileges are as Follows;

1. When the Parliament is in session, a Member of Parliament or a privileged person may refuse to appear in court or to present any evidence in a court.
2. The members of Parliament can't be arrested during the session of the Parliament and 40 days before the beginning and 40 days after the end of the session. However this privilege is available in civil cases only not in criminal cases.

3. No member is liable to any proceedings in any given court for anything said or any vote by him/her in the parliament or its committees.

What is called breach of Parliamentary Privileges;

If any person or officer violates the individual or collective privileges of a Member of Parliament, such as, disrespect, abuse, attack, etc., such acts are considered as breach of Parliamentary Privileges which is punishable by the house.

Thus, the above facts make it clear that Parliamentary Privileges in India have been enforced so that the respect of Parliament its members can be ensured.

But it is observed that after winning the election, these representatives do not respect the public while on the other hand they expect that public should give them due respect.

Apart from this, you may have noticed that Parliamentarians are often seen misbehaving with the officials and the general public. This is called misuse of parliamentary privileges.

Therefore, it is the need of the hour that if government want to maintain the dignity of the democracy then it should make appropriate changes in the parliamentary privileges because nobody can be superior to the general public.

**SOURCE:**

Indian Polity - Laxmikanth

**39. Consider the following passage about a river in India:**

**“It is a tributary of the river Godavari. It passes through the states of Maharashtra, Karnataka and Telangana. It originates in the Balaghat range of hills and flows on the Balaghat plateau along with its tributaries - Terna, Tawarja and Gharni. Nizam Sagar project is constructed on this river.**

Which one of the following river is described in the above passage?

- (a) Krishna
- (b) Bhima
- (c) Pranhita
- (d) **Manjira**

**EXPLANATION:**

The river mentioned above is manjira. <b>So option (d) is correct</b>
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**ADDITIONAL INFORMATION:**

NizamSagar Dam is an Indian dam named after the Nizam of Hyderabad. It is a reservoir constructed across the Manjira River, a tributary of the Godavari River, between Achampet and BanjePally villages of the Kamareddy district in Telangana, India. It is located at about 144 km north-west of Hyderabad. NizamSagar is the oldest dam in the state of Telangana.

**SOURCE:**

**<https://www.newindianexpress.com/states/tehangana/2019/aug/11/andhra-pradesh-and-tehangana-decide-to-release-nagarjuna-sagar-project-water-for-farmers-2017274.html>**

**40. Geofencing technology can be great if you are a retailer operating on a local scale. There are several ways to enhance the business by targeting the customers on super granular level. Which of the following applications uses the Geofencing technology?**

- 1. Social networking filters**
- 2. Marketing promotions**
- 3. Monitoring Assets**
- 4. Turnaround times in logistics**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

The common geofencing applications are

- Social networking: One of the most recognizable uses for geofencing comes in the form of popular social networking apps — most notably, Snapchat. Location-based filters, stickers and other shareable content are all made possible with geofencing. Whether you're using a promoted filter at a concert, using a custom-made filter for a friend's birthday or uploading to public, location-based stories, it's all thanks to these virtual perimeters.



- **Marketing:** Besides social networking, geofencing is also a popular way for businesses to deliver in-store promotions, alerting you right as you step in range of the store. Geofencing also helps businesses target ads to a specific audience to figure out what strategies work best based off user's location-data.
- **Audience engagement:** Geofencing is used to engage crowds of people at organized events, like concerts, festivals, fairs and more. For example, a concert venue might use a geofence to crowdsource social media posts or deliver information about the venue or event.
- **Smart appliances:** As more of our appliances get "smart," with Bluetooth capabilities, it's easier than ever to program your fridge to remind you that you're out of milk the next time you pass by the grocery store. Or you can make sure the thermostat is set to the perfect temperature when you get home from work by using a geofence.
- **Human resources:** Some companies rely on geofencing for monitoring employees, especially workers who spend time off-site doing field work. It's also an easy way to automate time cards, clocking employees in and out as they come and go.
- **Telematics:** Geofencing can also be helpful with telematics, allowing companies to draw virtual zones around sites, work areas and secure areas. They can be triggered by a vehicle or a person and send alerts or warnings to the operator.
- **Security:** Geofencing might seem invasive — and it certainly has the potential to sometimes feel like an overreach depending on how it's used. However, geofencing can also be used to bring more security to your mobile device. For example, you can set your phone to unlock when you're home using a geofence or to get alerts when someone enters the house or leaves.
- **Monitoring assets -** Not only it helps in tracking assets, but it is also possible to check on the frequency of a particular asset. It can be a machine that works in a fixed location or a vehicle that is running down the road. It is possible to read all the data when that particular asset falls in the area.
- **Turnaround times -** Geofencing technology can be used to monitor asset timing – entry and exit – from a specific location. Through this, it is possible to track down the turnaround time and also to identify whether the location performance is poor or accurate. This sort of application is usually followed in the logistics industry or transport sector to keep a track on the vehicles. It is easy to check that the products are loaded, unloaded or reloaded on time to reach the end point.

**So, option (d) is correct.**

**ADDITIONAL INFORMATION:**

- GeoFencing is a technology that helps in determining geographical boundaries. It is used for GPS and RFID (Radio Frequency Identification).
- This technology allows anyone to set up triggers based on location information. When any person or device enters a specific boundary or area, then it will issue an alert. In simple words, it is a virtual map perimeter through which it is easy to track in real-time.
- It is most commonly used as a perimeter for a particular point where a diameter can be a house, a store or can be spread out to some miles.
- However, there are many other uses of geofencing, for instance Google Earth which manages it with the help of satellites that displays the boundaries of a particular area. On another hand, it is used as per the latitude and longitudinal boundaries of the user and web-based maps.

**Types of GeoFencing**

- There are two types of geofence virtual barriers.
  - Active geofence depends on the end-user – it can easily use location services to track them down. It can also be done with the help of a certain smartphone apps.
  - Passive geofencing is one which stays on all the time. These type of fencing depends on internet connectivity that can be cellular or via Wi-Fi rather than RFID and GPS. They always work in the background if the location on a smartphone is switched on.

**41. With reference to the Sikhism, who among the following laid the foundation of the “Khalsa Panth” and defined its five symbols?**

- (a) Guru Nanak
- (b) Guru Arjan Dev
- (c) Guru Tegh Bahadur
- (d) **Guru Gobind Singh**

**EXPLANATION:**

Khalsa refers to both a community that considers Sikhism as its faith, as well as a special group of initiated Sikhs. The Khalsa tradition was initiated in 1699 by the last living Guru of Sikhism, Guru Gobind Singh. Its formation was a key event in the history of Sikhism. The founding of Khalsa is celebrated by Sikhs during the festival of Vaisakhi.

Guru Gobind Singh created and initiated the Khalsa as a warrior with a duty to protect the innocent from any form of religious persecution. The Khalsa redefined the Sikh tradition from the start. It formulated an initiation ceremony (amrit pahul, nectar ceremony) and rules of conduct for the Khalsa warriors. It created a new institution for the temporal leadership of the Sikhs, replacing the masand system maintained by the earlier Gurus of Sikhism. Additionally, the Khalsa provided a political and religious vision for the Sikh community.

Upon initiation, a Khalsa Sikh was given the titles of Singh (male) meaning lion and Kaur (female) meaning princess. The rules of life, included behavioral code (Rahit, such as no tobacco, no alcohol, no adultery, no halal meat), and a dress code (Five Ks). They are: Kesh (uncut hair), Kangha (a wooden comb for the hair), Kara (an iron bracelet), Kachera (100% cotton tieable undergarment) (not an elastic one) and Kirpan (an iron dagger large enough to defend oneself). **So, option (d) is correct.**

#### **ADDITIONAL INFORMATION:**

##### Sikh Gurus

- The era of the ten gurus of Sikhism spans from the birth of Nanak Dev in 1469, through the life of Guru Gobind Singh.
- At the time of Guru Gobind Singh's death in 1708, he passed the title of Guru to the Sikh scripture, Guru Granth.

##### 1. Guru Nanak Dev - Guru from 1469 to 1539

- Guru Nanak Dev, first of the 10 gurus, founded the Sikh faith, introducing the concept of one God.
- He started the institution of Guru Ka Langar. Langar is the term in the Sikh religion refers to the common kitchen where food is served to everyone without any discrimination.
- He emphasized the equality of women and rejected the path of renunciation and he rejected the authority of the Vedas.
- He was the contemporary of Mughal emperor - Babur.

##### 2. Guru Angad Dev - Guru from 1539 to 1552

- Guru Angad Dev, second of the 10 gurus, invented and introduced the Gurmukhi (written form of Punjabi) script.
- He compiled the writings of Nanak Dev in Guru Granth Sahib in Gurmukhi Script.

- Popularized and expanded the institution of Guru ka Langar which was started by Guru Nanak Dev.

3. Guru Amardas Sahib - Guru from 1552 to 1574

- Guru Amardas introduced the Anand Karaj marriage ceremony for the Sikhs, replacing the Hindu form.
- He established Manji & Piri system of religious missions for men and women respectively.
- He strengthened the tradition of Guru Ka Langar.
- He also completely abolished amongst the Sikhs, the custom of Sati and purdah system.
- He was the contemporary of Mughal emperor - Akbar.

4. Guru Ram Das - Guru from 1574 to 1581

- Guru Ram Das, fourth of the 10 gurus, founded the city of Amritsar.
- He started the construction of the famous Golden Temple at Amritsar, the holy city of the Sikhs.
- He requested the Muslim Sufi, Mian Mir to lay the cornerstone of the Harmandir Sahib.

5. Guru Arjan Dev - Guru from 1581 to 1606

- He compiled the Adi Granth, the scriptures of the Sikhs.
- He completed construction of Sri Darbar Sahib also known as Golden Temple in Amritsar.
- He founded the town of Tarn Taran Sahib near Goindwal Sahib.
- He became the first great martyr in Sikh history when Emperor Jahangir ordered his execution. Thus, he was hailed as Shaheedan-de-Sartaj (The crown of martyrs).

6. Guru Har Gobind Sahib - Guru from 1606 to 1644

- He was the son of Guru Arjan Dev and was known as a "soldier saint".
- He organised a small army and became the first Guru to take up arms to defend the faith.
- He waged wars against Mughal rulers Jahangir and Shah Jahan.

7. Guru Har Rai Sahib - Guru from 1644 to 1661

- Though he was a man of peace, he never disbanded the armed sikh warriors who were earlier maintained by Guru Har Gobind.

- He gave shelter to Dara Shikoh, the eldest son of Mughal Ruler Shah Jahan, who was later persecuted by Aurangazeb.
- He cautiously avoided conflict with Emperor Aurangzeb and devoted his efforts to missionary work.

8. Guru Har Krishan Sahib - Guru from 1661 to 1664

- Guru Har Krishan was the youngest of the Gurus. He was installed as Guru at the age of five.
- He was contemporary of Aurangazeb and summoned to Delhi by him under framed charges of anti-Islamic blasphemy.

9. Guru Tegh Bahadur Sahib - Guru from 1665 to 1675

- He established the town of Anandpur.
- He opposed the forced conversion of the Hindu Kashmiri Pandits by Mughal ruler Aurangazeb and he was consequently persecuted for this.

10. Guru Gobind Singh Sahib - Guru from 1675 to 1708

- He became Guru after the martyrdom of his father Guru Tegh Bahadur.
- He created the Khalsa in 1699, changing the Sikhs into a saint-soldier order for protecting themselves.
- Last Sikh Guru in human form and he passed the Guruship of the Sikhs to the Guru Granth Sahib.

Guru Granth Sahib

- Guru Granth Sahib (also known as the Adi Granth) is the scripture of the Sikhs.
- The Granth was written in Gurmukhi script and it contains the actual words and verses as uttered by the Sikh Gurus.
- It is considered the Supreme Spiritual Authority and Head of the Sikh religion, rather than any living person.

**42. In the context of the economy, which one of the following indicator is used to measure whether people in one country is better-off than the people in another country?**

- (a) **Average income**
- (b) Total income
- (c) GDP growth
- (d) Literacy rate

**43. Which one of the following statements is *not* correct about the Mahatma Gandhi National Rural Employment Guarantee Act?**

- (a) At least one-third of the beneficiaries shall be women who have registered and requested work under this scheme
- (b) It benefits only the adult members of rural households who are willing to do public work-related unskilled manual work at the statutory minimum wage
- (c) The Union Ministry of Rural Development is monitoring the entire implementation of this scheme in association with state governments
- (d) **By recent amendment to this act, it provides a legal guarantee of employment in every financial year for around 250 days**

**EXPLANATION:**

At least one-third beneficiaries shall be women who have registered and requested work under the scheme. **So, option (a) is correct.**

It benefits only the adult members of rural households willing to do public work-related unskilled manual work at the statutory minimum wage. **So, option (b) is correct.**

The Ministry of Rural Development (MRD), Government of India is monitoring the entire implementation of this scheme in association with state governments. **So, option (c) is correct.**

It provides a legal guarantee of employment in every financial year for around 100 days. **So, option (d) is not correct.**

**ADDITIONAL INFORMATION:**

- Mahatma Gandhi Employment Guarantee Act 2005 (or, NREGA No 42, later renamed as the "Mahatma Gandhi National Rural Employment Guarantee Act", MGNREGA), is an Indian labour law and social security measure that aims to guarantee the 'right to work'. This act was passed in September 2005.
- It aims to enhance livelihood security in rural areas by providing at least 100 days of wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work.
- The MGNREGA was initiated with the objective of "enhancing livelihood security in rural areas by providing at least 100 days of guaranteed wage employment in a financial year, to every household whose adult members volunteer to do unskilled manual work".

- Another aim of MGNREGA is to create durable assets (such as roads, canals, ponds and wells).
- Employment is to be provided within 5 km of an applicant's residence, and minimum wages are to be paid.
- If work is not provided within 15 days of applying, applicants are entitled to an unemployment allowance. That is, if the government fails to provide employment, it has to provide certain unemployment allowances to those people. Thus, employment under MGNREGA is a legal entitlement.
- MGNREGA is to be implemented mainly by gram panchayats (GPs). The involvement of contractors is banned.
- Apart from providing economic security and creating rural assets, NREGA can help in protecting the environment, empowering rural women, reducing rural-urban migration and fostering social equity, among others."
- The law provides many safeguards to promote its effective management and implementation. The act explicitly mentions the principles and agencies for implementation, list of allowed works, financing pattern, monitoring and evaluation, and most importantly the detailed measures to ensure transparency and accountability.

**SOURCE:**

**<https://vikaspedia.in/social-welfare/rural-poverty-alleviation-1/schemes/faqs-on-mgnrega/mahatma-gandhi-national-rural-employment-guarantee-act>**

**44. In India, which of the following farming methods are recognised as “Global Agricultural Heritage Systems” (GIAHS) by the Food and Agriculture Organization (FAO)?**

- 1. Kuttanad Below Sea Level Farming System of Kerala**
- 2. Bamboo Drip Irrigation method in Meghalaya**
- 3. Pampore Saffron Heritage of Kashmir**
- 4. Koraput Traditional Agriculture of Odisha**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

Three recognised GIAHS sites in India are

- Kuttanad Below Sea Level Farming System of Kerala
- Koraput Traditional Agriculture of Odisha
- Pampore Saffron Heritage of Kashmir

**So, option (c) is correct.**

**ADDITIONAL INFORMATION:**

- Globally Important Agricultural Heritage Systems (GIAHS) is to promote public understanding, awareness about sustainable agriculture and to safeguard the social, cultural, economic and environmental goods and services these provide to family farmers, smallholders, indigenous peoples and local communities.
- Hence, FAO started to identify the economic viability of the system, the identification of environmentally sustainable strategies in the face of growing climate change, and the empowerment of small holder/traditional family farming and indigenous communities under Globally Important Agricultural Heritage Systems (GIAHS).

Objectives of Globally Important Agricultural Heritage Systems (GIAHS)

- To identify and provide institutional support to nature friendly agricultural practices of local and tribal populations around the world.
- Capacity building of local farming communities to conserve and manage revenue based farming in a sustainable fashion.
- To mitigate risks of erosion of biodiversity and traditional knowledge, land degradation
- To strengthen conservation and sustainable use of biodiversity and natural resources.
- To reduce vulnerability to climate change and enhance sustainable agriculture and rural development.
- To achieve food security and poverty alleviation.
- To promote enabling regulatory policies and incentive environments to support the conservation, evolutionary adaptation and viability of GIAHS.
- Providing incentives for local population by measures like eco-labelling, eco-tourism.



**45. Consider the following statements about the “Genetic Engineering Appraisal Committee” (GEAC):**

- 1. It is a statutory body established under the “Biological Diversity Act, 2002”.**
- 2. The approval of the GEAC is mandatory for the public and private research organisations to carry out research on genetically modified organisms in India.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

The Genetic Engineering Appraisal Committee (GEAC) is a statutory body constituted under the ‘Rules for the Manufacture, Use /Import /Export and Storage of Hazardous Microorganisms/Genetically Engineering Organisms or Cells, 1989’ notified under the Environment (Protection) Act, 1986. **So, statement 1 is not correct.**

The approval of the GEAC is mandatory before genetically modified organisms and products can be used commercially. **So, statement 2 is not correct.**

**ADDITIONAL INFORMATION:**

The functions of GEAC as prescribed in the Rules 1989 are as follows:

- To appraise activities involving large scale use of hazardous microorganisms and recombinants in research and industrial production from the environmental angle.
- To appraise proposals relating to release of genetically engineered organisms and products into the environment including experimental field trials.
- The committee or any persons authorized by it has powers to take punitive action under the Environment Protection Act.

The composition of the GEAC has been prescribed in Rules 1989 as given below:

- Chairman- Special Secretary/Additional Secretary, Ministry of Environment, Forest and Climate Change (MoEF&CC); Co-Chairman - Representative of Department of Biotechnology.
- Members: Representative of concerned Agencies and Departments, namely, Ministry of Industrial Development, Department of Biotechnology and the Department of Atomic Energy.

- Expert members: Director General of Indian Council of Agricultural Research, Director General of Indian Council of Medical Research, Director General of Council of Scientific and Industrial Research, Director General of Health Services, Plant Protection Adviser, Directorate of Plant Protection, Quarantine and storage, Chairman, Central Pollution Control Board and three outside experts in individual capacity.
- Member Secretary: An official of the Ministry of Environment, Forest and Climate Change (MoEF&CC).

**SOURCE:**

<https://geacindia.gov.in/about-geac-india.aspx>

**46. Consider the following statements about the Micro, Small and Medium Enterprises (MSMEs) in India:**

- 1. MSMEs accounted for more than 25% of GDP and more than 40% of the overall exports from India.**
- 2. Public Sector Units have been mandated to procure 25% of their purchases from MSMEs.**
- 3. MSMEs in manufacturing sector are exempted from major labour laws in India.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

MSMEs accounted for 45 per cent of the country's total manufacturing output, 40 per cent of exports — and almost 30 per cent of the national GDP. **So, statement 1 is correct.**

The government had directed all departments and public sector companies to purchase at least 25% of their goods and services from such enterprises. **So, statement 2 is correct.**

MSMEs in manufacturing sector are not exempted from major labour laws in India. **So, statement 3 is not correct.**

**SOURCE:**

<https://indianexpress.com/article/business/economy/india-coronavirus-lockdown-economy-msme-6391186/>

<https://economictimes.indiatimes.com/news/economy/policy/government-seeks-data-from-cpses-on-procurement-from-msme-sector/articleshow/66662601.cms?from=mdr>

**47. Consider the following statements about the “National Emergency” imposed under the Article 352 of the Indian Constitution:**

- 1. The Parliament of India can suspend the state legislatures and can make laws on the State subjects.**
- 2. The proclamation of Emergency must be approved by both the Houses of Parliament within two months from the date of its issue.**
- 3. The Centre can alter distribution of revenue between the Union and the State governments.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

State Govt. is not suspended. Union Govt. can issue orders to the State Govt. on subjects on the State List (something that it can't normally do). **So statements 1 is not correct.**

The proclamation of Emergency must be approved by both the Houses of Parliament within two months from the date of its issue. **So statements 2 is correct.**

The Centre can alter distribution of revenue between the union and the state. The Centre can alter distribution of revenue between the union and the state. **So statement 3 is correct**

**ADDITIONAL INFORMATION:**

When can it be imposed?

3 conditions – War, External Aggression, Armed Rebellion

Armed Rebellion was changed from Internal Disturbance on the recommendation of the Shah Commission. Internal Disturbance was a vague term prone to misuse.

### Features

- Can only be proclaimed on the written advice of the Union Cabinet (not the PM). Perhaps, this is the only place where Union Cabinet has a role.
- Expires in 1 month from its issue unless approved by a Special Majority (of the second kind\*) – Not less than 2/3rd of the Members present and voting + Absolute Majority – in both the houses of the Parliament.
- If the LS is dissolved, then RS shall approve it within 1 month and the re-constituted LS shall ratify within 30 days.
- Once approved, the proclamation is extended for 6 months, which can be extended again for 6 more months.
- Not less than 1/10th of the Members of the LS (this can only be initiated in the LS) may give notice in writing to the Speaker or President (when LS is not in session). If there is no session, a special sitting of the LS shall be held within 14 days. If the resolution, the President has to revoke the Emergency.

### Effects

- Executive : State Govt. is not suspended. Union Govt. can issue orders to the State Govt. on subjects on the State List (something that it can't normally do).
- Legislature : State Legislature is not suspended. However, Parliament can make laws on the State subjects. Such laws remain valid for 6 months after the Emergency ceases to be.
- Financial : Distribution as per the President's will subject to approval by the Parliament.

### Effect on FR (2 clauses here)

- Art. 19 automatically suspended (only in case of War and External Aggression)
- President by a further order can specify other FRs that won't be operative, excepting Art. 20 and 21.

### **SOURCE:**

Indian Polity - Laxmikanth

**48. Recently, Indian Air Force had officially inducted the indigenously developed “Tejas” aircraft into service. Which among the following statement is *not* correct about “Tejas”?**

- (a) It's the lightest and smallest multirole supersonic fighter aircraft in its class
- (b) It's being the second fighter jet that got developed under LCA programme

(c) It's capable to fire short range air-air beyond visual range missile

**(d) It's naval version LCA-MK1 Tejas is capable to perform landing over INS Shivaji**

**EXPLANATION:**

It is the smallest lightweight, multi-role, single-engine tactical fighter aircraft in the world. **So, option (a) is correct.**

It came from the Light Combat Aircraft (LCA) programme, which began in the 1980s to replace India's ageing MiG-21 fighters. The Tejas is the second supersonic fighter developed by Hindustan Aeronautics Limited (HAL) after the HAL HF-24 Marut. **So, option (b) is correct.**

Tejas successfully demonstrated an Air-to-Air Beyond Visual Range (BVR) missile firing capability by releasing Derby Air-to-Air BVR missile in RADAR guided mode. **So, option (c) is correct.**

The Naval LCA Tejas successfully carried out its first arrested landing on the aircraft-carrier INS Vikramaditya. **So, option (d) is not correct.**

**SOURCE:**

**<https://economictimes.indiatimes.com/news/defence/tejas-successfully-performs-critical-test-for-naval-deployment/articleshow/71115286.cms#:~:text=NEW%20DELHI%3A%20The%20naval%20version,navy%20for%20carrier%2Dborne%20operations.>**

**49. The painting of "Bharat Mata" which was first seen during the Swadeshi movement was done by**

(a) Rabindranath Tagore

**(b) Abanindranath Tagore**

(c) Bankim Chandra Chatterjee

(d) Aurobindo Ghose

**EXPLANATION:**

Bharat Mata is a work painted by the Indian painter Abanindranath Tagore in 1905. The work depicts Bharat Mata, or Mother India, in the style of a Hindu Goddess. The painting was the first illustrated depiction of the concept, and was painted during with Swadesh

ideals during the larger Indian Independence movement. **So, option (b) is correct.**

**ADDITIONAL INFORMATION:**

- Bharat Mata is depicted as a saffron-clad woman, holding a book, sheaves of paddy, a piece of white cloth and a rosary in her four hands. The painting holds historical significance as it is one of the earliest visualizations of Bharat Mata, or "Mother India."
- The work was painted during the Swadeshi movement. The movement began as a response to the Partition of Bengal (1905), when Lord Curzon split the largely Muslim eastern areas of Bengal from the largely Hindu western areas. In response, Indian nationalists participating in the swadeshi movement resisted the British by boycotting British goods and institutions, holding meetings and processions, forming committees, and applying diplomatic pressure.
- The painting's central figure holds multiple items associated with Indian culture and the economy of India in the early twentieth century, such as a book, sheaves of paddy, a piece of white cloth and a garland. Moreover, the painting's central figure has four hands, evocative of Hindu imagery, which equates multiple hands with immense power.
- The painting has been characterized as "an attempt of humanisation of 'Bharat Mata' where the mother is seeking liberation through her sons," by Jayanta Sengupta, curator of the Indian Museum in Kolkata, India.

**50. Consider the following parameters:**

- 1. Eccentricity of the Earth's orbit.**
- 2. Obliquity of the Earth's rotational axis.**
- 3. Precession of the Earth.**

**Which of the parameter(s) mentioned above affects the total radiation received by the Earth during a particular year?**

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

**EXPLANATION:**

Eccentricity is defined as the difference in shape between an ellipse and a perfect circle. In a similar fashion to Earth's obliquity, the more uniform Earth's orbit is (more like a perfect circle), the less difference there is in climate change throughout the year. Unlike obliquity, eccentricity affects the entire planet approximately the same, instead of primarily changing polar climate. The base idea with eccentricity is this: "How far away is the earth as a whole from the sun?" If there is no eccentricity to Earth's orbit, then Earth will remain at the same distance from the sun throughout the year, therefore producing no climate change, seeing as how the Earth's orbit would be perfectly circular around the sun.

So when earth is at perihelion position it receives more radiation. **So statement 1 is correct.**

The precession of solstices and equinoxes is the third factor that plays a role in Earth climate change that deals directly with the earth itself. It does not affect the radiation received. **So statement 3 is not correct.**

**SOURCE:**

G C leong

**51. The term "Schistocerca gregaria", sometimes seen in the news recently, is a**

- (a) world's largest cave fish discovered in the north eastern part of India
- (b) **dangerous trans-boundary locust that attacks on the standing crops**
- (c) new species of stegosaurus dated to 168 million years ago
- (d) newly discovered bacterium that had naturally evolved to eat plastic

**52. Consider the following pairs:**

<i><b>Biodiversity heritage site</b></i>	<i><b>State</b></i>
<b>1. Ambaraguda</b>	<b>- Andhra Pradesh</b>
<b>2. Ameenpur lake</b>	<b>- Telangana</b>
<b>3. Hogrekan</b>	<b>- Karnataka</b>

**Which of the pairs given above is/are correctly matched?**

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

**EXPLANATION:**

Ambaraguda is located in Shimoga, Karnataka. This portion of Western Ghats has precious reserves of unique and endemic plant species which helped earn the status of a Biodiversity Heritage Site. Ambaraguda is located between Sharavathi Wildlife Sanctuary and Someshwara Wildlife Sanctuary. **So, pair 1 is not correct.**

Ameenpur Lake is located in Sangareddy, Telangana. First water body to be recognised as a Biodiversity Heritage Site, Ameenpur Lake is a man-made lake dating more than 300 years old. The lake is home to many resident and migratory birds, such as flamingos, egrets, herons, cormorants, kingfishers, and river terns, to name a few. And because of high number of migratory species, Ameenpur Lake earned the status of a BHS. The site is every birdwatcher's delight. **So, pair 2 is correct.**

Hogrekan is located in Chikmagalur, Karnataka. The Shola vegetation of Hogrekan is home to a number of unique medicinal plants. Shola forests are stunted tropical montane forest, interspersed by undulating grasslands. Due to its proximity to Bhadra Wildlife Sanctuary and Yemmedode Tiger Reserve, it also serves as an important wildlife corridor. A lot of floral species from this site have medicinal values and are endemic in nature. According to some studies, these Shola grasslands are thousands of years old. **So, pair 3 is correct.**

**53. With reference to the Economic Survey 2019-20, consider the following statements:**

- 1. The public expenditure as percentage of GDP for education increased much faster than that on health during 2014-15 to 2019-20.**
- 2. As a proportion of GDP, the expenditure on social services decreased during 2014-15 to 2019-20.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

The expenditure on education, as percentage of GDP increased from 2.8% to 3.1% between 2014-15 and 2019-20 (BE), expenditure on health increased from 1.2% to 1.6% during the same period as percentage of GDP. Hence, The public expenditure as percentage of GDP for education increased not much faster than that on health during 2014-15 to 2019-20. **So, statement 1 is not correct.**



According to the Economic Survey, as a proportion of gross domestic product (GDP), the expenditure on social services has registered an increase of 1.5 percentage points during the period 2014-15 to 2019-20 from 6.2% to 7.7%. **So, statement 2 is not correct.**

**SOURCE:**

**<https://economictimes.indiatimes.com/news/economy/indicators/govt-spend-on-social-services-up-by-1-5-in-six-years-eco-survey/articleshow/73798267.cms#:~:text=While%20the%20expenditure%20on%20education,the%20pre%20Budget%20document%20notes.>**

**54. With reference to the British rule in India, which one of the following peasant movements is related to the “Nij system” of cultivation?**

- (a) Rangpur uprising
- (b) Deccan Uprising
- (c) **Indigo Revolt**
- (d) Moplah Rebellion

**EXPLANATION:**

In Nij Cultivation system, the planter produced indigo on lands which were under his direct control. The planter either bought the land or rented it from other zamindars. He directly employed labourers to produce indigo.

In Bengal, the indigo planters, nearly all Europeans, exploited the local peasants by forcing them to grow indigo on their lands instead of the more paying crops like rice. The planters forced the peasants to take advance sums and enter into fraudulent contracts which were then used against the peasants. The planters intimidated the peasants through kidnappings, illegal confinements, flogging, attacks on women and children, seizure of cattle, burning and demolition of houses and destruction of crops. It resulted in the form of Indigo revolt by peasants. **So, option (c) is correct.**

**ADDITIONAL INFORMATION:**

**Rangpur Dhing – The Uprising**

- Debi Singh practised extremely harsh measures against the peasants. When the peasants sent a petition to the company asking for relief, it did not pay any heed to the farmers' grievances. This led to the farmers taking things into their own hands.

- The uprising started on January 18, 1783, when peasants and zamindars took control of the Parganas of Kakina, Kazirhat and Tapa in district Rangpur.
- They attacked the courts, looted grains and released prisoners. For a whole 5 weeks, these areas were under the control of the rebels who appointed a nawab and other officials for running a parallel government.
- One of the main leaders of the revolt was Kena Sarkar. They forbid all revenue payments to the company. The uprising spread to Dinajpur also.
- Ultimately, the uprising was put down by the British and many rebels were killed.

### **Moplah Uprisings**

- Hike in revenue demand and reduction of field size, coupled with the oppression of officials, resulted in widespread peasant unrest among the Moplahs of Malabar. Twenty-two rebellions took place between 1836 and 1854. None, however, proved successful.
- The second Moplah uprising occurred after the Moplah came to be organised by the Congress and the Khilafat supporters during the Non-cooperation Movement. But Hindu-Muslim differences distanced the Congress and the Moplahs from each other. By 1921, the Moplahs had been subdued.

### **Deccan Riots**

- The ryots of Deccan region of western India suffered heavy taxation under the Ryotwari system. Here again the peasants found themselves trapped in a vicious network with the moneylender as the exploiter and the main beneficiary. These moneylenders were mostly outsiders—Marwaris or Gujaratis.
- The conditions had worsened due to a crash in cotton prices after the end of the American Civil War in 1864, the Government's decision to raise the land revenue by 50% in 1867, and a succession of bad harvests.
- In 1874, the growing tension between the moneylenders and the peasants resulted in a social boycott movement organised by the ryots against the "outsider" moneylenders.
- The ryots refused to buy from their shops. No peasant would cultivate their fields. The barbers, washermen, shoemakers would not serve them. This social boycott spread rapidly to the villages of Poona, Ahmednagar, Sholapur and Satara. Soon the social boycott was transformed into agrarian riots with systematic attacks on the moneylenders' houses and shops.
- The debt bonds and deeds were seized and publicly burnt. The Government succeeded in repressing the movement. As a conciliatory measure, the Deccan

Agriculturists Relief Act was passed in 1879. This time also, the modern nationalist intelligentsia of Maharashtra supported the peasants' cause.

**SOURCE:**

A brief history of modern India by Spectrum

**55. Consider the following statements about the "State Disaster Management Authority" (SDMA) in India:**

- 1. All State Governments in India are mandated under the Disaster Management Act, 2005 to establish a State Disaster Management Authority.**
- 2. The SDMA of a particular Indian state is headed by the Chief Minister of that state.**
- 3. In case of Union Territory, the Disaster Management Authority will be headed by the President of India.**
- 4. The Chairperson of District Disaster Management Authority (DDMA) will be the Collector or District Magistrate or Deputy Commissioner of that district.**

**Which of the statements given above are correct?**

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

**EXPLANATION:**

All State Governments are mandated under Section 14 of the Disaster Management Act, 2005 to establish a State Disaster Management Authority (SDMA). **So, statement 1 is correct.**

The SDMA consists of the Chief Minister of the State, who is the Chairperson, and no more than eight members appointed by the Chief Minister. **So, statement 2 is correct.**

In case of Union Territory, the Disaster Management Authority will be headed not by the President of India but by Lt Governor. For Pondicherry it is headed by Chief Minister. **So, statement 3 is not correct.**

The Chairperson of District Disaster Management Authority (DDMA) will be the Collector or District Magistrate or Deputy Commissioner of the district. The elected representative of the area is member of the DDMA as an ex officio co-Chairperson. **So, statement 4 is correct.**

**ADDITIONAL INFORMATION:**

- The Disaster Management Act, 2005 has been enacted as the central Act to deal with the management of disasters. This act envisaged a three tier Disaster Management structure in India at National, States and District levels. Under the act, the NDMA, SDMA, NEC, NDRF, NIDM and disaster related funds were established.

National Authority

- The Act calls for the establishment of National Disaster Management Authority (NDMA), with the Prime Minister of India as chairperson.
- The NDMA may have no more than nine members including a Vice-Chairperson. The tenure of the members of the NDMA shall be five years. The NDMA is responsible for "laying down the policies, plans and guidelines for disaster management" and to ensure "timely and effective response to disaster". Under section 6 of the Act it is responsible for laying "down guidelines to be followed by the State Authorities in drawing up the State Plans".

National Executive Committee

- The Act under Section 8 enjoins the Central Government to Constitute a National Executive Committee (NEC) to assist the National Authority.
- The NEC is composed of Secretary level officers of the Government of India in the Ministries of home, agriculture, atomic energy, defence, drinking water supply, environment and forests, finance (expenditure), health, power, rural development, science and technology, space, telecommunication, urban development, and water resources, with the Home secretary serving as the Chairperson, ex officio.
- The Chief of the Integrated Defence Staff of the Chiefs of Staff Committee, is an ex officio member of the NEC.
- The NEC under section of the Act is responsible for the preparation of the National Disaster Management Plan for the whole country and to ensure that it is "reviewed and updated annually".

State Disaster Management Authority

- All State Governments are mandated under Section 14 of the act to establish a State Disaster Management Authority (SDMA).
- The SDMA consists of the Chief Minister of the State, who is the Chairperson, and no more than eight members appointed by the Chief Minister.
- State Executive Committee is responsible (Section 22) for drawing up the state disaster management plan, and implementing the National Plan.

- The SDMA is mandated under section 28 to ensure that all the departments of the State prepare disaster management plans as prescribed by the National and State Authorities.

#### District Disaster Management Authority

- The Chairperson of District Disaster Management Authority (DDMA) will be the Collector or District Magistrate or Deputy Commissioner of the district. The elected representative of the area is member of the DDMA as an ex officio co-Chairperson, (Section 25).

#### National Disaster Response Force (NDRF)

- The Section 44–45 of the Act provides for constituting a National Disaster Response Force "for the purpose of specialist response to a threatening disaster situation or disaster" under a Director General to be appointed by the Central Government.

#### **SOURCE:**

**<https://vikaspedia.in/social-welfare/disaster-management-1/disaster-management-in-india>**

#### **56. With reference to the religious history of India, “Pubbaseliya”, “Aparaseliya” and “Gokulika” were the sub-sects of**

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

#### **EXPLANATION:**

The Dīpavamsa ("Chronicle of the Island") is the oldest historical record of Sri Lanka. The chronicle is believed to be compiled from Atthakatha and other sources around the 3rd to 4th century CE. Together with the Mahavamsa, it is the source of many accounts of ancient history of Sri Lanka and India. Its importance resides not only as a source of history and legend, but also as an important early work in Buddhist and Pali literature. **Gokulika** is the sub-sect of Buddhism. The Dīpavamsa lists the following six schools without identifying the schools from which they arose:

- Hemavatika (Sanskrit: Haimavata)
- Rajagiriya

- Siddhatthaka
- **Pubbaseliya**
- **Aparaseliya** (Sanskrit: Aparasaila)
- Apararajagirika

**So, option (a) is correct.**

**57. Which one of the following climatic types has the highest vertical depth for weathering?**

- (a) Tundra
- (b) **Equatorial**
- (c) Savanna
- (d) Desert

**EXPLANATION:**

Equatorial temperature has high vertical depth of weathering because many important factors of weathering act in high intensity in equatorial region. For example equatorial region has high temperature, high rainfall. **So option (b) is correct**

**ADDITIONAL INFORMATION:**

Weathering

- The process of wearing away of earth's surface is commonly known as denudation & is generally carried out in four phases Weathering, Erosion, Transportation & Deposition
- Warm wet climate promotes rapid chemical weathering while dry climate provide good conditions for physical weathering

Chemical Weathering

- Extremely slow & gradual decomposition of rocks due to exposure to air & water
- For example Granite when exposed to weather is found to be rough surfaced because it is mainly made up of Quartz, Feldspar & Mica; Feldspar is more quickly weathered than Quartz hence is worn away, eventually leaving loosened quartz crystals.
- Regolith → Weathered material from the rock or mineral remains of decomposed rocks.

- When a soil cover on the rock exists, chemical weathering of the rock enhances because the soil absorbs rain water & keeps the underlying rock in contact with this moisture.
- Rain water absorbs organic acids from the soil & thus become a stronger weathering agent than pure water acting on a bare rock.

#### Physical Weathering

- Also known as Mechanical Weathering
- Disintegration by Mechanical Process
- Types of physical weathering → By insolation, by Frost

#### Biological Weathering

- By Men, Animals, Insects & Vegetation
- vegetation grows into crevices of rock cracks or in courtyards or building walls

#### **SOURCE:**

G C Leong

**58. Consider the following statements about the “Interstellar object”.**

- 1. It is an astronomical object such as an asteroid, a comet or a rogue planet that is located in the interstellar space.**
- 2. Oumuamua is the first known interstellar object detected passing through the Solar System.**

**Which of the statements given above is/are correct?**

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

#### **EXPLANATION:**

An interstellar object is an astronomical object (such as an asteroid, a comet, or a rogue planet, but not a star) that is located in interstellar space and is not gravitationally bound to a star. **So, statement 1 is correct.**

Oumuamua is the first known interstellar object detected passing through the Solar System. **So, statement 2 is correct.**

**ADDITIONAL INFORMATION:**

- An interstellar object is an astronomical object (such as an asteroid, a comet, or a rogue planet, but not a star) that is located in interstellar space and is not gravitationally bound to a star.
- This term can also be applied to an object that is on an interstellar trajectory but is temporarily passing close to a star, such as certain asteroids and comets (including exocomets. In the latter case, the object may be called an interstellar interloper.
- The first interstellar object to be discovered in the Solar System was 1I/‘Oumuamua in 2017. The second was 2I/Borisov in 2019.
- They both have significant hyperbolic excess velocity proving they did not originate in the Solar System.
- In addition ‘Oumuamua has an orbital eccentricity of about 1.2 and Borisov has an orbital eccentricity of about 3.3, proving neither is gravitationally bound to the Sun.

**SOURCE:**

**<https://solarsystem.nasa.gov/asteroids-comets-and-meteors/comets/oumuamua/in-depth/>**

**59. With reference to Un-Plastic Collective (UPC), consider the following statements**

- 1. It is a voluntary initiative launched by the United Nations Environment Programme, WWF India and Confederation of Indian Industry.**
- 2. It aims to address ways to mitigate plastic pollution and move towards a circular economy through corporate commitments.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

The Un-plastic Collective (UPC) is co-founded by the Confederation of Indian Industry (CII), United Nations Environment Programme (UNEP) and WWF-India. **So, statement 1 is correct.**

The Collective seeks to minimise externalities of plastics on the ecological and social health of our planet. The word ‘un-plastic’ specifically refers to moving all types of plastics in a circular economy and removing unnecessary plastic in the long run, while



using sustainable alternative materials. **So, statement 2 is correct.**

**ADDITIONAL INFORMATION:**

The UPC is a voluntary initiative. As part of this companies set time-bound, public targets to:

- Eliminate unnecessary use of plastic
- Reuse and circulate plastics through the economy
- Replace with sustainable alternative or recycled plastics
- Turn commitments to meaningful, measurable action
- Implement EPR and improvements in materials management and recovery
- Undertake plastic incentivisation, baseline assessment

**SOURCE:**

**[https://www.wwfindia.org/about\\_wwf/making\\_businesses\\_sustainable/un\\_plastic\\_collective/](https://www.wwfindia.org/about_wwf/making_businesses_sustainable/un_plastic_collective/)**

**60. Which one of the following countries lies completely above the Tropic of Cancer?**

- (a) **Qatar**
- (b) Mexico
- (c) Haiti
- (d) Fiji

**EXPLANATION:**

Moving east of the Prime Meridian, the Tropic of Cancer passes through the following Countries:

- Algeria
- Niger
- Libya
- Egypt
- Saudi Arabia
- UAE (Abu Dhabi)
- Oman
- India
- Bangladesh

- Myanmar
- China
- Taiwan
- Mexico
- Bahamas
- Western Sahara (area claimed by Morocco; Sahrawi Arab Democratic Republic)
- Mauritania
- Mali

Qatar is above tropic of cancer. **So option (a) is correct.**

**61. Consider the following statements about the “National Pension System” (NPS) in India:**

- 1. It is a pension cum investment scheme launched by Government of India to provide old age security to Citizens of India.**
- 2. Any Indian Citizen between 18 and 60 years of age can join NPS.**
- 3. It is compulsory for all government employees to enrol in this scheme.**
- 4. Government of India will contribute 50% of the premium paid.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

National Pension System (NPS) is a pension cum investment scheme launched by Government of India to provide old age security to Citizens of India. **So, statement 1 is correct.**

Any Indian citizen between 18 and 60 years can join NPS. **So, statement 2 is correct.**

It is not compulsory for all government employees to enrol in this scheme. The Central Government had introduced the National Pension System (NPS) with effect from January 1, 2004 (except for armed forces). All the employees of Central Autonomous Bodies who have joined on or after the above mentioned date are also mandatorily covered under Government sector of NPS. Central Government/CABs employee contributes towards pension from monthly salary along with matching contribution from the employer.

Subsequent to Central Government, various State Governments adopted this architecture and implemented NPS with effect from different dates. A State Autonomous Body (SAB) can also adopt NPS if the concerned State Government/UT have adopted the NPS

architecture and initiated implementation of the same. State Government/SABs employees also contribute towards pension from monthly salary along with matching contribution from the employer. **So, statement 3 is not correct.**

The government will not contribute to the NPS account. **So, statement 4 is not correct.**

**ADDITIONAL INFORMATION:**

- NPS is a government-sponsored pension scheme. It was launched in January 2004 for government employees.
- It was extended to all citizens of Indian on voluntary basis from May 2009 and to corporates in December 2011 and to Non-Resident Indians in October 2015.
- PFRDA is the statutory Authority established by an enactment of the Parliament, to regulate, promote and ensure orderly growth of the NPS and pension schemes to which this Act applies.
- The scheme allows subscribers to contribute regularly in a pension account during their working life.
- On retirement, subscribers can withdraw a part of the corpus in a lumpsum and use the remaining corpus to buy an annuity to secure a regular income after retirement.
- Any Indian citizen between 18 and 60 years can join NPS.
- The only condition is that the person must comply with know your customer (KYC) norms.
- An NRI can join NPS. However, the account will be closed if there is a change in the citizenship status of the NRI.
- Now, any Indian citizen, resident or non-resident and OCIs are eligible to join NPS till the age of 65 years.

**SOURCE:**

**[https://npscra.nsdl.co.in/all-faq-about-nps.php#:~:text=National%20Pension%20System%20\(NPS\)%20is,and%20regulated%20market%2Dbased%20return.](https://npscra.nsdl.co.in/all-faq-about-nps.php#:~:text=National%20Pension%20System%20(NPS)%20is,and%20regulated%20market%2Dbased%20return.)**

**62. Under the National Policy on Biofuels of 2018, which of the following crops will be used as raw material for the production of Ethanol?**

- 1. Sugarcane juice and rotten Potatoes**
- 2. Sugar containing materials like Sugar Beet and sweet Sorghum**
- 3. Starch containing materials like Corn and Cassava**
- 4. Damaged food grains like Wheat and broken Rice**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

The National Policy on Biofuels of 2018 expands the scope of raw material for ethanol production by allowing use of Sugarcane Juice, Sugar containing materials like Sugar Beet, Sweet Sorghum, Starch containing materials like Corn, Cassava, Damaged food grains like wheat, broken rice, Rotten Potatoes, unfit for human consumption for ethanol production. **So, option (d) is correct.**

**ADDITIONAL INFORMATION:**

Salient Features of National Policy on Biofuels of 2018:

- The Policy categorises biofuels as "Basic Biofuels" viz. First Generation (1G) bioethanol & biodiesel and "Advanced Biofuels" - Second Generation (2G) ethanol, Municipal Solid Waste (MSW) to drop-in fuels, Third Generation (3G) biofuels, bio-CNG etc. to enable extension of appropriate financial and fiscal incentives under each category.
- The Policy expands the scope of raw material for ethanol production by allowing use of Sugarcane Juice, Sugar containing materials like Sugar Beet, Sweet Sorghum, Starch containing materials like Corn, Cassava, Damaged food grains like wheat, broken rice, Rotten Potatoes, unfit for human consumption for ethanol production.
- Farmers are at a risk of not getting appropriate price for their produce during the surplus production phase. Taking this into account, the Policy allows use of surplus food grains for production of ethanol for blending with petrol with the approval of National Biofuel Coordination Committee.
- With a thrust on Advanced Biofuels, the Policy indicates a viability gap funding scheme for 2G ethanol Bio refineries of Rs.5000 crore in 6 years in addition to additional tax incentives, higher purchase price as compared to 1G biofuels.
- The Policy encourages setting up of supply chain mechanisms for biodiesel production from non-edible oilseeds, Used Cooking Oil, short gestation crops.
- Roles and responsibilities of all the concerned Ministries/Departments with respect to biofuels has been captured in the Policy document to synergise efforts.

**SOURCE:**

<https://pib.gov.in/Pressreleaseshare.aspx?PRID=1532265>

**63. Consider the following statements about the “Right to Information Act, 2005”:**

- 1. Political parties will not come under the ambit of the Right to Information Act.**
- 2. Citizens can access to court records under provision of this 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**

**EXPLANATION:**

In a judgement Supreme court has said that political parties come under RTI. <b>So statement 1 is not correct</b>
---

Citizens cannot access to court records under provision of the Act. Only the office of CJI comes under RTI. <b>So statement 2 is not correct.</b>
---

**ADDITIONAL INFORMATION:**

Objectives of the Act

- To empower the citizens
- To promote transparency and accountability
- To contain corruption and
- To enhance people's participation in democratic process.

Reasons for Adoption of Information Act

The factors responsible for adoption of information act are as follows-

- Corruption and scandals
- International pressure and activism
- Modernization and the information society

Features of the Act

- Section 1(2) : It extends to the whole of India except the State of Jammu and Kashmir.
- Section- 2 (f): "Information" means any material in any form, including Records, Documents, Memos, e-mails, Opinions, Advices, Press releases, Circulars, Orders,

Logbooks, Contracts, Reports, Papers, Samples, Models, Data material held in any electronic form and information relating to any private body which can be accessed by a Public Authority under any other law for the time being in force.

- Section- 2(j) : "Right to Information" means the right to information accessible under this Act which is held by or under the control of any public authority and includes the right to:
  - Inspection of work, documents, records;
  - Taking notes, extracts or certified copies of documents or records;
  - Taking certified samples of material;
  - Obtaining information in the form of diskettes, floppies, tapes, video cassettes or in any other electronic mode or through printouts where such information is stored in a computer or in any other device.
- Section 4 of the RTI Act requires suo motu disclosure of information by each public authority. However, such disclosures have remained less than satisfactory.
- Section 8 (1) mentions exemptions against furnishing information under RTI Act.
- Section 8 (2) provides for disclosure of information exempted under Official Secrets Act, 1923 if larger public interest is served.
- The Act also provides for appointment of Information Commissioners at Central and State level. Public authorities have designated some of its officers as Public Information Officer. They are responsible to give information to a person who seeks information under the RTI Act.
- Time period: In normal course, information to an applicant is to be supplied within 30 days from the receipt of application by the public authority.
- If information sought concerns the life or liberty of a person, it shall be supplied within 48 hours.
- In case the application is sent through the Assistant Public Information Officer or it is sent to a wrong public authority, five days shall be added to the period of thirty days or 48 hours, as the case may be

**SOURCE:**

**<https://www.thehindu.com/news/national/political-parties-yet-to-comply-with-rti-act/article26601174.ece>**

**64. With reference to the views of Indian Freedom fighters on education system, consider the following statements:**

- 1. Mahatma Gandhi was highly critical of Western education while Rabindranath Tagore wanted to combine elements of modern Western civilisation with what he saw as the best within Indian tradition.**
- 2. 'Nai Talim' is a new education system proposed by Mahatma Gandhi.**
- 3. Rabindranath Tagore started a school 'Santiniketan' where he emphasized the need to teach Science and Technology, Art, Music and Dance.**

**Which of the statements given above are correct?**

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

**EXPLANATION:**

M.K Gandhi was highly critical of Western civilisation and its worship of machines and technology. In Gandhiji's own words Hind Swaraj 'is a severe condemnation of modern civilization'. Gandhiji's negative opinion about modern civilization extended to all its aspects. Modern technology, machine being the fundamental constituting unit of it; and Western social institutions, particularly those pertaining to law and medicine, came in for the most severe criticism. **So, statement 1 is correct.**

NaiTalim is a principle which states that knowledge and work are not separate. Mahatma Gandhi promoted an educational curriculum with the same name based on this pedagogical principle. Mahatma Gandhi has given his scheme of NaiTalim (New Education) in a well formulated approach to education in 1937 in his news paper 'Harijan'. **So, statement 2 is correct.**

Rabindranth Tagore started 'Santiniketan' where he emphasised the need to teach science and technology, art, music, dance. **So, statement 3 is correct.**

**65. Consider the following pairs:**

	<i><b>Festival</b></i>		<i><b>State</b></i>
<b>1.</b>	<b>Thalfavang Kut</b>	<b>-</b>	<b>Odisha</b>
<b>2.</b>	<b>Ashadhi Beej</b>	<b>-</b>	<b>Assam</b>
<b>3.</b>	<b>Lai Haraoba</b>	<b>-</b>	<b>Manipur</b>

**Which of the pairs given above is/are correctly matched?**

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

**EXPLANATION:**

Thalfavang Kut is a Mizoram's Harvest Festival. It is celebrated in the months of November this is also a festival concerning harvest. This marks the onset of harvest. Various communities and tribes gather around and pitch in their collections in the form of a feast as they merrily spend the time. Cultural activities are highlighted in the form of traditional games and sing alongs or dance and music. **So, pair 1 is not correct.**

Ashadi Beej or Ashadhi Bij is observed on the second day of the Shukla Paksha or waxing phase of moon in Ashada month. It is the Kutchi New Year. This Hindu New Year is observed in the Kutch region in Gujarat. Ashadi Beej is mostly a traditional affair and is a celebration of rains. During Ashadhi-beej, farmers check the moisture in the atmosphere to help predict which crop would do best in coming monsoon. **So, pair 2 is not correct.**

Lai Haraoba is one of the important festivals of Manipur, and it is celebrated to pay respect and honour to the local traditional deities and ancestors. The festival is usually celebrated by the Meitei community and is also referred to as the 'Festivity of the Gods'. **So, pair 3 is correct.**

**SOURCE:**

<http://newsonair.com/Main-News-Details.aspx?id=377056>

<https://pib.gov.in/Pressreleaseshare.aspx?PRID=1577160>

**66. Consider the following statements about the Household Air Pollution in India:**

- 1. It is the emissions of PM 10 generated by the burning of solid fuels in households.**
- 2. By recent studies, it is the single largest cause of Ambient Air Pollution.**
- 3. This pollution predominantly prevails in the rural part of India.**

**Which of the statements given above is/are correct?**

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



(c) 1 and 3 only

(d) 1, 2 and 3

**EXPLANATION:**

The emissions of PM 2.5 generated by the burning of solid fuels in households is termed Household Air Pollution (HAP). **So, statement 1 is not correct.**

Household air pollution is the single largest cause of Ambient Air Pollution. **So, statement 2 is correct.**

This pollution prevails both in the rural and urban part of India. **So, statement 3 is not correct.**

**ADDITIONAL INFORMATION:**

Household Air Pollution and how dangerous is it?

- Fine particulate matter refers to particles or droplets with a diameter of 2.5 micrometers (0.000001 metres) or less, and is also known as PM2.5.
- The emissions of PM 2.5 generated by the burning of solid fuels in households is termed Household Air Pollution (HAP).
- The study claims that approximately 800,000 premature deaths occur in India every year as a result of exposure to HAP indoors.
- Moreover, the HAP produced indoors travels outdoors, and becomes a contributor to ambient air pollution, with around 300,000 more premature deaths per year attributable to exposure to outdoor HAP.
- The full impact of HAP is thus composed of the exposures to HAP 1) inside and around a given house and 2) from the household contribution to ambient air pollution states the study.
- The median estimate for the contribution of HAP is, according to the study, around 30%, far greater than that of industries (2%-10%), power plants (8%-15%), and transportation (8%-11%).
- The contribution of HAP to premature mortality is, as per the median across all studies, 58% higher than premature mortality due to coal use, 303% higher than that due to open burning, and 1,056% higher than that due to transportation.

**SOURCE:**

**<https://indianexpress.com/article/explained/ujjwala-yojana-india-clean-fuel-air-pollution-5917902/>**

**67. Why is the Mediterranean region prone to more local winds?**

- (a) It is located in the shifting of pressure belts
- (b) The region experiences winter rainfall
- (c) **Its topography is very complex**
- (d) Only recently, the region became a sea

**EXPLANATION:**

The Mediterranean climatic region in Europe experiences many local winds due to the topography of the region with the Alps in the North, the Sahara desert in the South, the continental interiors in the East and the open Atlantic in the west. **So option (c) is correct.**

**ADDITIONAL INFORMATION:**

Sirocco

- This is a hot, dry and dusty wind.
- It originates in the Sahara desert and might occur at any time of the year but is mostly witnessed during spring.
- Normally it lasts only for a few days.
- It blows from the desert interiors of Sahara into the Mediterranean Sea and is usually associated with the depressions from the Atlantic ocean.
- After crossing the Sea, it is slightly cooled by the absorption of water vapour but is hot enough that it withers vegetation and crops of the region.
- Hence it is also called "Blood Rain" because it is carrying the red dust of the Sahara desert.

Mistral

- Mistral is a cold wind from the north.
- It rushes down the Rhone valley and its velocity is intensified by the funnelling effect in the valley between the Alps and the Central Massif[Plateau in France].
- In some extreme cases, the velocity of the wind is so high that trains can be derailed and trees are uprooted.
- In winter, if the Mistral is frequent the temperatures could go below the freezing point.

Other local winds

- Bora: Cold north-easterly wind along the Adriatic coast.
- Tramontana and Gregale: cold winds in the Mediterranean Sea.

**SOURCE:**

G C Leong

**68. Consider the following statements about “YadaYada” Virus which seems to be a novel virus that got detected in Australian mosquitoes:**

- 1. It’s a kind of small, single stranded RNA virus.**
- 2. It is capable to infect only the mosquitoes and not the humans.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

YadaYadavirus is an alphavirus, a group of viruses that the researchers described as small, single-stranded positive-sense RNA viruses. **So, statement 1 is correct.**

They are transmitted primarily by mosquitoes and (are) pathogenic in their vertebrate hosts. Unlike some other alphaviruses, YadaYada does not pose a threat to human beings. **So, statement 2 is correct.**

**SOURCE:**

**<https://indianexpress.com/article/explained/this-word-means-yada-yada-virus-6222274/>**

**69. With reference to the Ancient history of India, consider the following statements about the practise of agriculture during Mahajanapads:**

- 1. Introduction of wooden ploughs in the agricultural field increased the agricultural production.**
- 2. Transplanting technique was used in the production of paddy.**
- 3. Slaves were widely used for agricultural activities.**

**Which of the statements given above are correct?**

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

**EXPLANATION:**

Mahajanapadas used iron plough. <b>So statement 1 is not correct.</b>
Transplanting technique was used in production of paddy. <b>So statement 2 is correct.</b>
Slaves were used widely in agriculture. <b>So statement 3 is correct.</b>
These three were the important reason for agriculture development.

**ADDITIONAL INFORMATION:**

Around 600 B.C two major changes occurred in the agriculture. One was an increase in the use of iron ploughshare. By using iron ploughshare heavy, clayey soil could be turned over better than with a wooden ploughshare. This led to an increase in production of grains. Secondly, transplantation of paddy began during this time. In this process, instead of scattering seed on the ground, saplings were grown and then planted in the fields. This led to increased production, as many more plants survived. As a result of these two changes, the agriculture flourished in the Mahajanapadas.

**SOURCE:**

History class 6 ncert

**70. Consider the following statements about the VidyaDaan scheme which was recently launched by the Government of India:**

- 1. It is a program of the Union Ministry of Human Resource Development.**
- 2. It is a common national program for contribution of e-learning content for school and higher education levels.**
- 3. The program is aimed at integrating digital education with schooling for augmented learning.**

**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**

**EXPLANATION:**

VidyaDaan scheme is a program by the Union Ministry of Human Resource Development.

**So, statement 1 is correct.**

VidyaDaan is conceptualised as a common national program for individuals & organisations across the country to donate/contribute e-learning resources for both school and higher education to ensure continuity of quality learning. **So, statement 2 is correct.**

The program is aimed at integrating digital education with schooling for augmented learning. **So, statement 3 is correct.**

**ADDITIONAL INFORMATION:**

**VidyaDaan 2.0**

- Ministry of HRD launched national program VidyaDaan 2.0 for inviting e-learning Content contributions.
- VidyaDaan is a common national programme to develop and contribute e-learning content and a chance to be recognized nationally.
- VidyaDaan is conceptualised as a common national program for individuals and organizations across the country to contribute e-learning resources for both school and higher education to ensure continuity of quality learning.
- The content will be used on the DIKSHA app to help millions of children across the country to continue their learning anytime and anywhere.

**SOURCE:**

<https://timesofindia.indiatimes.com/india/mhrd-launches-vidyadaan-2-0-to-create-e-learning-content/articleshow/75298766.cms>

**71. When a spacecraft travelling in a straight line towards the Core of the Sun, arrange the following in the order as the spacecraft would witness:**

- 1. Convection Zone**
- 2. Chromosphere**

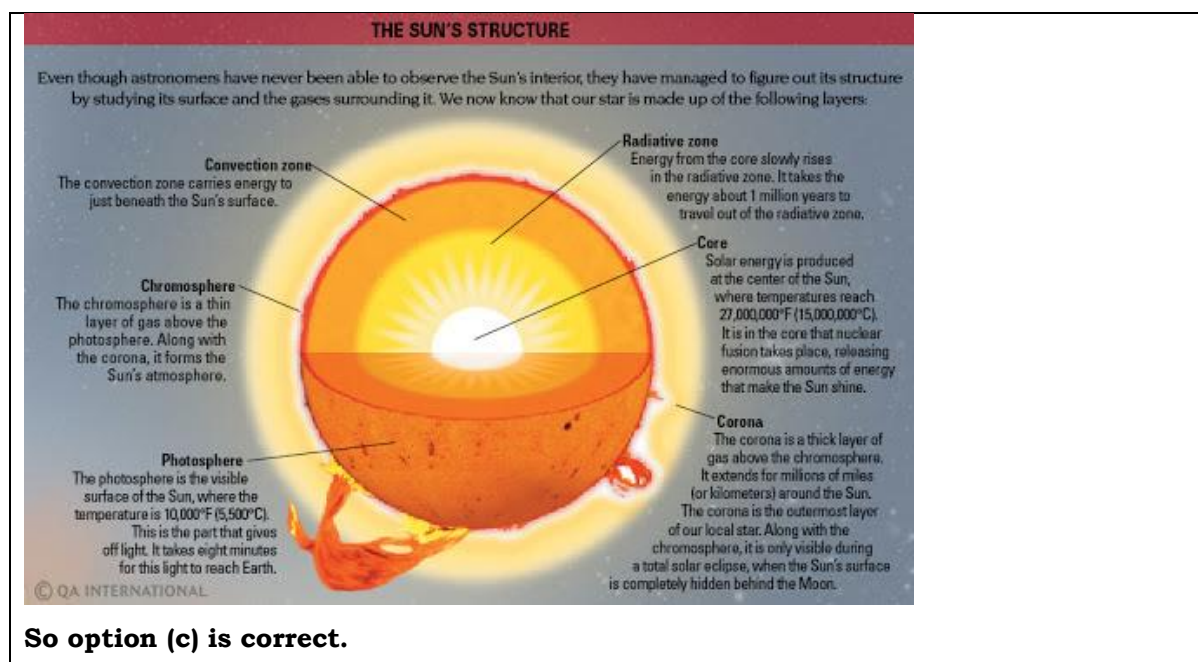
### 3. Photosphere

### 4. Corona

Select the correct answer using the code given below.

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

#### **EXPLANATION:**



#### **ADDITIONAL INFORMATION:**

What is Corona?

- The corona is the outermost part of the Sun's atmosphere. It is the aura of plasma that surrounds the Sun and other stars.
- The Sun's corona extends millions of kilometres into outer space and is most easily seen during a total solar eclipse, but it is also observable with a coronagraph.
- Spectroscopy measurements indicate strong ionization in the corona and a plasma temperature in excess of 1000000 Kelvin much hotter than the surface of the Sun.

Predicting in advance

- The Predictive Solar Surface Flux Transport model developed by the CESSI team can predict the shape of the corona well in advance.
- The researchers can predict the large-scale structure of the Sun's corona up to two months in advance.
- This model gives advance knowledge and a large window of preparedness for space weather driven by coronal magnetic fields.

**SOURCE:**

**<https://www.thehindu.com/sci-tech/science/scientists-unveil-most-detailed-images-of-suns-surface-showing-boiling-plasma/article30692287.ece>**

**72. Which of the following financial entities are regulated by the Securities and Exchange Board of India?**

- 1. Mutual funds**
- 2. Alternative investment bonds**
- 3. Real estate investment trusts**
- 4. Investment banks**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

Alternative Investments Funds come under the SEBI (Alternative Investment Fund) Regulations 2012. Under this regulatory regime, the funds which come under AIF are as follows:

- Venture Capital Funds
- PIPE (Private Investment in Public Equity ) Funds
- Private Equity Fund
- Debt Funds
- Infrastructure Equity Fund
- Real Estate Fund
- SME Fund
- Social Venture Funds

- Strategy Fund (Residual Category, including all varieties of funds such as hedge funds, if any).

SEBI perform the function of registration and regulation of the working of venture capital funds and collective investment schemes including mutual funds. It also regulates investment banks. **So, option (d) is correct.**

**73. “Financial Secrecy Index”, sometimes seen in the news recently, is released by**

- (a) World Bank
- (b) World Economic Forum
- (c) **Tax Justice Network**
- (d) Economist Intelligence Unit

**EXPLANATION:**

The Financial Secrecy Index ranks jurisdictions according to their secrecy and the scale of their offshore financial activities. A politically neutral ranking, it is a tool for understanding global financial secrecy, tax havens or secrecy jurisdictions, and illicit financial flows or capital flight. The index was unveiled by the Tax Justice Network (TJN). The index is based on twenty secrecy indicators which can be grouped into four broad dimensions. **So, option (c) is correct.**

**ADDITIONAL INFORMATION:**

- Switzerland no longer retains the top position in the newly released financial secrecy index (FSI-2020) – a slot occupied by it since 2011. Cayman Island ranked first, moving up two slots from the 2018 ranking. US continued to retain its second position.
- Tax Justice Network (TJN), an independent international network which pushes for transparency, ranks countries on the size and secretiveness of their financial sectors every two years.
- It examines how intensely the country’s legal and financial system allows wealthy individuals and criminals to hide and launder money.
- Parameters used in the ranking include automatic exchange of information and registration of beneficial ownership.
- According to TJN, an estimated \$21 to 32 trillion of private financial wealth is located, untaxed or lightly taxed, in secrecy jurisdictions (tax havens) around the world.



**SOURCE:**

<https://timesofindia.indiatimes.com/business/international-business/cayman-island-ranks-first-on-the-financial-secrecy-index-with-switzerland-dropping-down-two-ranks/articleshow/74211928.cms>

**74. Consider the following statements about a tiger reserve in India:**

1. It is located in the North Eastern part of the country.
2. It is known for its Hornbill Nest Adoption Programme.
3. It adjoins Assam's Nameri National Park.

**Which one of the following Tiger Reserve is described by the statements given above?**

- (a) Dampa Tiger reserve
- (b) **Pakke Tiger Reserve**
- (c) Namdhapa Tiger Reserve
- (d) Kamlang Wildlife Sanctuary

**EXPLANATION:**

Pakke Tiger Reserve, also known as Pakhui Tiger Reserve, is a Project Tiger reserve in the Pakke Kessang district of Arunachal Pradesh in northeastern India. The reserve is protected by the Department of Environment and Forest of Arunachal Pradesh. It is bounded by Bhareli or Kameng River in the west and north, and by Pakke River in the east. It is surrounded by contiguous forests on most sides. To the east lies Papum Reserve Forest. Towards the south and south-east, the sanctuary adjoins reserve forests and Assam's Nameri National Park. To the west, it is bounded by Doimara Reserve Forest and Eaglenest Wildlife Sanctuary; and to the north by Shergaon Forest Division. This Tiger Reserve has won India Biodiversity Award 2016 in the category of 'Conservation of threatened species' for its Hornbill Nest Adoption Program. **So, option (b) is correct.**

**ADDITIONAL INFORMATION:**

**Dampa Tiger Reserve**

- Dampa Tiger Reserve or Dampha Tiger Reserve is a tiger reserve of western Mizoram, India. It covers an area of about 500 km<sup>2</sup> in the Lushai Hills at an altitude range of 800–1,100 m (2,600–3,600 ft).

- It was declared a tiger reserve in 1994 and is part of Project Tiger.
- The tropical forests of Dampa Tiger Reserve are home to a diverse flora and fauna.
- It consists of forest interpolated with steep precipitous hills, deep valleys, jungle streams, ripping rivulets, natural salts licks. Dampa Tiger Reserve is not easily accessible unlike other park where you can ride on a four wheeler but one has to walk through the forest if one wishes to sight animals.
- In the tiger census of 2018, no tiger was found in this reserve

### **Namdapha National Park**

- Namdapha National Park is a 1,985 km<sup>2</sup> large protected area in Arunachal Pradesh of Northeast India.
- With more than 1,000 floral and about 1,400 faunal species, it is a biodiversity hotspot in the Eastern Himalayas.
- The national park harbours the northernmost lowland evergreen rainforests in the world at 27°N latitude.
- It also harbours extensive dipterocarp forests, comprising the northwestern parts of the Mizoram-Manipur-Kachin rain forests ecoregion.
- It is the fourth largest national park in India.

### **Kamlang Wildlife Sanctuary**

- The Kamlang Wildlife Sanctuary, established in 1989, is rich in flora and fauna.
- It is situated in the Lohit District of the northeastern Indian state of Arunachal Pradesh.
- The park is named after the Kamlang River which flows through it.
- The Mishmi, Digaru, and Mizo tribal people who reside around the periphery of the sanctuary claim their descent from the King Rukmo of the epic Mahabharata.
- They believe in a myth of an invisible god known as Suto Phenkhenynon jamalu.
- An important body of water in the sanctuary is the Glow Lake.
- Located in tropical and sub-tropical climatic zones, the sanctuary is the habitat of the four big cat species of India: tiger, leopard, clouded leopard and snow leopard

**75. With reference to Land Revenue system during the British India, which of the following areas were associated with the “Permanent Settlement System”?**

- 1. Bengal**
- 2. Bihar**
- 3. Banaras**
- 4. Madras**

**5. Bombay**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

The Ryotwari system was a land revenue system in British India, introduced by Thomas Munro in 1820 based on system administered by Captain Alexander Read in the Baramahal district. It allowed the government to deal directly with the cultivator ('ryot') for revenue collection and gave the peasant freedom to give up or acquire new land for cultivation. The peasant was assessed for only the lands he was cultivating. In Bombay, Madras, Assam and Burma the Zamindar usually did not have a position as a middleman between the government and the farmer. Hence, the Ryotwari system was followed in these places.

The Permanent Settlement, also known as the Permanent Settlement of Bengal, was an agreement between the East India Company and Bengali landlords to fix revenues to be raised from land that had far-reaching consequences for both agricultural methods and productivity in the entire British Empire and the political realities of the Indian countryside. Revenues were collected by zamindars, native Indians who were treated as landowners. The Permanent Settlement was followed in Bengal, Bihar, Varanasi and Banaras. **So, option (b) is correct.**

**76. Consider the following statements about the Question Hour of the Lok Sabha:**

- 1. Generally, the second hour of a sitting of Lok Sabha is devoted to the Question Hour.**
- 2. Questions making disrespectful references to foreign countries with whom India has friendly relations are not allowed.**
- 3. A member of Lok Sabha is allowed to give not more than ten notices of questions for a particular day.**

**Which of the statements given above are correct?**

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

**EXPLANATION:**

The first hour of every parliamentary sitting is allotted for this. <b>So statement 1 is not correct</b>
Questions making disrespectful references to foreign countries with whom India has friendly relations are not allowed. <b>So statement 2 is correct</b>
A member is allowed to give not more than ten notice of questions for a day. <b>So statement 3 is correct</b>

**ADDITIONAL INFORMATION:**

Question Hour:

- The first hour of every parliamentary sitting is allotted for this.
- The concerned Minister is obliged to answer to the Parliament, either orally or in writing, depending on the type of question raised.
- Question Hour is not mentioned in the Constitution.
- It finds mention in the Rules of Procedure of the House.

Types of Question:

Starred Questions:

- These are Questions to which answers are desired to be given orally on the floor of the House during the Question Hour.
- These are distinguished in the printed lists by asterisks. 15 such questions are listed each day.

Unstarred Questions:

- These are Questions to which written answers are given by Ministers which are deemed to have been laid on the Table of the House at the end of the Question Hour.
- Upto 160 such questions are listed each day in a separate list.

Short Notice Questions:

- Such questions can be asked orally in the House after the Question Hour or as the first item in the agenda where there is no Question Hour at a notice shorter than that prescribed for Starred and Unstarred Questions.
- These must relate to a subject-matter considered by the Chairman to be of urgent public importance.

**SOURCE:**

Indian Polity – Laxmikanth

**77. Consider the following statement about the “Bio-Village”:**

- 1. This concept was introduced in India based on the recommendation of M.S. Swaminathan committee.**
- 2. It is a geographical territory where the community people will practice only organic farming where natural fertilizers and seeds could be used.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

Bio-Village concept was not introduced in India based on the recommendation of M.S. Swaminathan committee. **So statement 1 is not correct.**

Bio-village means a village/territory where community people would live and breathe in nature and foster the biodiversified ecological balance. In this environment, they will practice organic farming, where natural fertilizers and seed could be used. **So statement 2 is correct.**

**ADDITIONAL INFORMATION:**

The concept of 'bio-village', though of recent origin, has gained much success due to its practical utility in addressing the issues faced by rural farmers across the nation. This concept advocates adoption of eco-friendly technologies and enterprise development based on biological resources, can be used as a tool in addressing the issues of sustainable livelihood and food security. It provides the poor access to multiple sources of livelihood through skill upgradation and technological empowerment. People in the states like Madhya Pradesh, Rajasthan and Bihar have started to get benefit by adopting the concept of bio-village. However, in the North Eastern region of the country it is yet to start materializing in spite of the sincere efforts of organizations like National Institute of Rural Development. This paper tries to highlight some of the sustainable technologies that can be undertaken for the development of bio-villages in NE India which are carefully chosen keeping in mind

the inherent strengths like rich biodiversity and weaknesses like unfavourable terrain for conventional agriculture. The technologies considered in detail here are the bio-briquette as a source of clean energy and the trellises supplying the different nutritional requirements of a family. These technologies, if adopted while developing bio-villages, would help to do away with the problem of hunger and poverty to a great extent in the region especially in the rural areas.

**SOURCE:**

**<https://economictimes.indiatimes.com/news/economy/agriculture/west-bengal-to-go-organic-plans-to-set-up-bio-villages/articleshow/4332127.cms?from=mdr>**

**78. Recently, Indian Air Force had test fired a beyond visual range air-air missile named as “MICA”. Which of the following aircrafts that operates with Indian Airforce is capable to fire “MICA” missile?**

- 1. Mirage 2000**
- 2. Rafale**
- 3. Tejas**
- 4. Sukhoi-30**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

The MICA (Missile d'Interception, de Combat et d'Autodéfense) is a short and Beyond Visual Range (BVR) AAM system developed by MBDA for the Rafale and advanced variants of Mirage 2000 combat aircraft.

The system includes two variants, namely MICA (EM) RF featuring an active radio frequency seeker and MICA IR featuring a dual waveband imaging infrared seeker to defeat enemy countermeasures. A surface-launched version named VL MICA is also available for use by naval or ground-based air defence systems.

The MICA is fitted with a HE warhead focused on splinter fragments and compatible with any advanced fighter aircraft. Its lightweight and compact dimensions allow the

integration of up to six missiles on medium to lightweight fighters. **So, option (a) is correct.**

**79. Consider the following statements about a tribal community in India:**

- 1. They are a tribal herdsmen community live predominantly in the state of Gujarat.**
- 2. They actively support the conservation of Asiatic Lions in India.**

**Which one of the following tribal community is indicated by the statements given above?**

- (a) Meenas
- (b) Gujjars
- (c) Bhils
- (d) **Maldharis**

**EXPLANATION:**

Maldharis are a tribal herdsmen community in Gujarat, India. Originally nomads, they came to be known as Maldharis after settling in Junagadh district (mainly Gir Forest). "Maldhari" is an occupational term which refers to people from a variety of castes and communities. The literal meaning of Maldhari is keeper (dhari) of the animal stock (mal). They are notable as the traditional dairymen of the region, and once supplied milk and cheese to the palaces of rajas. In different regions, the Maldharis belong to different castes. The Gir Forest National Park is home to around 8,400 Maldharis as of 2007. They actively support the conservation of Asiatic Lions in India. **So, option (d) is correct.**

**SOURCE:**

**<https://www.thehindu.com/sci-tech/energy-and-environment/drought-in-a-desert-why-has-drought-hit-the-maldharis-so-hard-this-year/article27090863.ece>**

**80. With reference to the Medieval history of India, consider the following statements:**

- 1. Mughal court chronicles were written in Turkish language.**
- 2. All books in Mughal India were manuscripts.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

Mughal court chronicles were written in Persian. As the Mughals were Chaghtai Turks by origin, Turkish was their mother tongue. It was Akbar who consciously set out to make Persian the leading language of the Mughal court. **So, statement 1 is not correct.**

All books in Mughal India were manuscripts, that is, they were handwritten. Calligraphy, the art of handwriting, was considered a skill of great importance. It was practised using different styles. Akbar's favourite was the nastaliq, a fluid style with long horizontal strokes. **So, statement 2 is correct.**

**ADDITIONAL INFORMATION:**

- Mughal court chronicles were written in Persian.
- As the Mughals were Chaghtai Turks by origin, Turkish was their mother tongue.
- It was Akbar who consciously set out to make Persian the leading language of the Mughal court.
- Cultural and intellectual contacts with Iran, as well as a regular stream of Iranian and Central Asian migrants seeking positions at the Mughal court, might have motivated the emperor to adopt the language.
- Mughal official histories such as the Akbar Nama were written in Persian, others, like Babur's memoirs, were translated from the Turkish into the Persian Babur Nama.
- The Mahabharata was translated as the Razmnama (Book of Wars).
- Painters too were involved in the production of Mughal manuscripts.
- Chronicles narrating the events of a Mughal emperor's reign contained, alongside the written text, images that described an event in visual form.
- The historian Abu'l Fazi described painting as a "magical art", in his view it had the power to make inanimate objects look as if they possessed life.
- The production of paintings portraying the emperor, his court and the people who were part of it, was a source of constant tension between rulers and representatives of the Muslim orthodoxy, the ulama.
- The latter did not fail to invoke the Islamic prohibition of the portrayal of human beings enshrined in the Qur'an as well as the hadis.



- Muslim rulers in many Asian regions during centuries of empire building regularly commissioned artists to paint their portraits and scenes of life in their kingdoms.

**81. Which one of the following country is *not* a part of Balkan Peninsula?**

- (a) Serbia
- (b) **Lithuania**
- (c) Albania
- (d) Bulgaria

**EXPLANATION:**



**So option (b) is correct.**

**82. Consider the following statements about the draft Battery Waste Management Rules, 2020:**

- 1. It will cover all types of batteries except lead-acid batteries.**
- 2. It does not cover appliances into which a battery is, or maybe incorporated.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

Draft Battery Waste Management Rules, 2020 will cover all types of batteries including lead-acid batteries. **So, statement 1 is not correct.**

The draft Rules will be applicable to various stakeholders involved in the life of batteries or its components, consumables, and spare parts which make the product operational. These include every manufacturer, producer, collection centre, importer, assembler, dealer, recycler, consumer, and bulk consumers. **So, statement 2 is not correct.**

**ADDITIONAL INFORMATION:**

- The Draft Rules seek to replace the Batteries (Management and Handling) Rules, 2001, which provide details for handling and management of batteries under the Environment (Protection) Act, 1986. The 1986 Act regulates the protection and improvement of the environment.
- The draft Rules will be applicable to various stakeholders involved in the life of batteries or its components, consumables, and spare parts which make the product operational. These include every manufacturer, producer, collection centre, importer, assembler, dealer, recycler, consumer, and bulk consumers.
- Currently, the Batteries (Management and Handling) Rules, 2001, apply to only lead-acid batteries.
- The Draft Rules will cover all types of batteries. It will also apply to all appliances into which a battery is, or maybe incorporated.
- It will not apply to batteries used in certain equipment such as military equipment, space exploration equipment, and emergency and alarm systems.

Responsibilities of manufacturer and dealers Under the Draft Rules:

- Collecting used batteries against the new ones sold and issuing purchase invoices (when they collect used batteries)
- Setting up collection centres by themselves or jointly at various places for collecting used batteries from dealers and consumers
- Ensuring safe transport of the collected batteries to the authorized/registered recyclers and
- Filing an annual record of their sales and buyback to the state pollution control board by December 31 of every year.

**SOURCE:**

**<https://theprint.in/environment/modi-govt-drafts-new-rules-on-battery-waste-management-wants-people-to-give-suggestions/371391/>**

**83. Consider the following statements about the “Uniform Civil Code” in India:**

- 1. The original constitution of India did not contain the provision for making of Uniform Civil Code in India.**
- 2. Goa and Sikkim are the only Indian states to have a Uniform Civil Code in the form of common family law.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

Article 44 has provisions for uniform civil code. **So statement 1 is not correct.**

Goa has a common family law, thus being the only Indian state to have a uniform civil code. The Special Marriage Act, 1954 permits any citizen to have a civil marriage outside the realm of any specific religious personal law. Personal laws were first framed during the British Raj, mainly for Hindu and Muslim citizens. **So statement 2 is not correct**

**ADDITIONAL INFORMATION:**

The Uniform Civil Code (UCC) calls for the formulation of one law for India, which would be applicable to all religious communities in matters such as marriage, divorce, inheritance, adoption. The code comes under Article 44 of the Constitution, which lays down that the state shall endeavour to secure a Uniform Civil Code for the citizens throughout the territory of India.

The issue has been at the center of political narrative and debate for over a century and a priority agenda for the Bharatiya Janata Party (BJP) which has been pushing for the legislation in Parliament. The saffron party was the first to promise the implementation of UCC if it comes to power and the issue was part of its 2019 Lok Sabha election manifesto.

### **Why is Article 44 important?**

The objective of Article 44 of the Directive Principles in the Indian Constitution was to address the discrimination against vulnerable groups and harmonise diverse cultural groups across the country. Dr. B R Ambedkar, while formulating the Constitution had said that a UCC is desirable but for the moment it should remain voluntary, and thus the Article 35 of the draft Constitution was added as a part of the Directive Principles of the State Policy in part IV of the Constitution of India as Article 44. It was incorporated in the Constitution as an aspect that would be fulfilled when the nation would be ready to accept it and the social acceptance to the UCC could be made.

Ambedkar in his speech in the Constituent Assembly had said, "No one need be apprehensive that if the State has the power, the State will immediately proceed to execute...that power in a manner may be found to be objectionable by the Muslims or by the Christians or by any other community. I think it would be a mad government if it did so."

### **Origin of Uniform Civil Code**

The origin of the UCC dates back to colonial India when the British government submitted its report in 1835 stressing the need for uniformity in the codification of Indian law relating to crimes, evidence, and contracts, specifically recommending that personal laws of Hindus and Muslims be kept outside such codification.

Increase in legislations dealing with personal issues in the far end of the British rule forced the government to form the B N Rau Committee to codify Hindu law in 1941. The task of the Hindu Law Committee was to examine the question of the necessity of common Hindu laws. The committee, in accordance with scriptures, recommended a codified Hindu law, which would give equal rights to women. The 1937 Act was reviewed and the committee recommended a civil code of marriage and succession for Hindus.

### **What is the Hindu Code Bill?**

The draft of the Rau Committee report was submitted to a select committee chaired by B R Ambedkar that came up for discussion in 1951 after the adoption of the Constitution. While discussions continued, the Hindu Code Bill lapsed and was resubmitted in 1952. The bill was then adopted in 1956 as the Hindu Succession Act to amend and codify the law relating to intestate or unwilled succession, among Hindus, Buddhists, Jains, and Sikhs.

The Act reformed the Hindu personal law and gave women greater property rights, and ownership. It gave women property rights in their father's estate.

The general rules of succession under the Act 1956 for a male who dies intestate is that heirs in Class I succeed in preference to heirs in other classes. An amendment to the Act in the year 2005 added more descendants elevating females to Class I heirs. The daughter is allotted the same share as is allotted to a son.

### **Difference between civil laws and criminal laws**

While the criminal laws in India are uniform and applicable equally on all, no matter what their religious beliefs are, the civil laws are influenced by faith. Swayed by religious texts, the personal laws which come into effect in civil cases have always been implemented according to constitutional norms.

### **What are personal laws?**

Laws that apply to a certain group of people based on their religion, caste, faith, and belief made after due consideration of customs and religious texts. The personal laws of Hindus and Muslims find their source and authority in their religious ancient texts.

In Hinduism, personal laws are applicable to legal issues related to inheritance, succession, marriage, adoption, co-parenting, obligations of sons to pay their father's debts, the partition of family property, maintenance, guardianship, and charitable donations. In Islam, personal laws apply to matters relating to inheritance, wills, succession, legacies, marriage, wakfs, dowry, guardianship, divorce, gifts, and pre-emption taking roots from Quran.

### **What will Uniform Civil Code do?**

The UCC aims to provide protection to vulnerable sections as envisaged by Ambedkar including women and religious minorities, while also promoting nationalistic fervour through unity. When enacted the code will work to simplify laws that are segregated at present on the basis of religious beliefs like the Hindu code bill, Shariat law, and others. The code will simplify the complex laws around marriage ceremonies, inheritance, succession, adoptions making them one for all. The same civil law will then be applicable to all citizens irrespective of their faith.

**SOURCE:**

Indian Polity - Laxmikanth

**84. Which one of the following type of natural vegetation has high shedding of its leaves?**

- (a) **Tropical evergreen forest**
- (b) Mid-latitude deciduous forest
- (c) Steppe grassland
- (d) Coniferous forest

**EXPLANATION:**

Tropical evergreen forest has high shedding of leaves. Though it appears evergreen all trees shed their leaf in different parts of the years

**ADDITIONAL INFORMATION:**

Types of Natural Vegetation in India

- (a) Tropical Evergreen Rain Forests
- (b) Deciduous or Monsoon Type of Forests
- (c) Dry Deciduous Forests
- (d) Mountain Forests
- (e) Tidal or Mangrove Forests
- (f) Semi-Desert and Desert Vegetations

Tropical Evergreen Rain forests

The Tropical Evergreen rain forests are found in the areas where precipitation is more than 200 cm. They are largely found in the Northeastern regions of Arunachal Pradesh, Meghalaya, Assam, Nagaland, the Western Ghats, the Tarai areas of the Himalayas and the Andaman groups of Islands. They are also found in the hills of Khasi and Jaintia. The trees in this area have intense growth. The major trees found in this area are Sandal Wood, Rosewood, Garjan, Mahogany, and bamboo. It has copious vegetation of all kinds – trees, shrubs, and creepers giving it a multilayered structure. The elephants, monkey, lemur are the common animals found in these areas.

Deciduous or Monsoon type of forests

The Deciduous forests are found on the lower slope of the Himalayas, West Bengal, Chhattisgarh, Bihar, Orissa, Karnataka, Maharashtra Jharkhand, and the adjoining areas. The precipitation in this area is between 100 cm and 200 cm. Teak is the dominant

species seen in the area. Along with that Deodar, Blue Gum, Pal Ash, Sal, Sandalwood, Ebony, Arjun, Khair, and Bamboo are also seen. The trees in this forest shed their leaves during dry winter and dry summer. On the basis of the availability of water, these forests are again divided into moist and dry deciduous.

#### Dry deciduous forests

These forests grow in areas where the precipitation is between 50 cm and 100 cm. These are mainly seen in the areas of the Central Deccan plateau, Punjab, Haryana, parts of Uttar Pradesh, Madhya Pradesh, and South-east of Rajasthan.

#### Mountain Forests/Montane Forests

Montane forests are those found in mountains. Mountain forests differ significantly along the slopes of the mountain. On the foothills of the Himalayas until a height of 1500 meters, evergreen trees like Sal, teak, and bamboo grow copiously. On the higher slope, temperate conifer trees like pine, fir, and oak grow. At the higher elevation of the Himalayas, rhododendrons and junipers are found. Further than these vegetation zones, alpine grasslands appear up to the snowfield.

#### Tidal or Mangrove forests

The tidal or mangrove forests grow by the side of the coast and on the edges of the deltas e.g., the deltas of the Cauvery, Krishna, Mahanadi, Godavari, and Ganga. In West Bengal, these forests are known as 'Sundarbans'. The 'Sundari' is the most major tree in these forests. The important trees of the tidal forests are Hogla, Garan, Pasur, etc. This forest is an important factor in the timber industry as they provide timber and firewood. Palm and coconut trees beautify the coastal strip.

#### Semi-deserts and Deserts vegetations

This area receives a rainfall of less than 50 cm. Thorny bushes, acacia, and Babul are found in this vegetation region. The Indian wild date is generally found here. They have long roots and thick flesh. The plants found in this region store water in their stem to endure during the drought. These vegetation are found in parts of Gujarat's, Punjab, and in Rajasthan.

#### **SOURCE:**

G C Leong

**85. With reference to the philosophy of Jainism and Buddhism, consider the following statements:**

- 1. Both Jainism and Buddhism follow strict celibacy.**
- 2. Both Buddhism and Jainism were against caste oppression.**
- 3. Both Mahavira and Buddha felt that only those who left their homes could gain true knowledge.**

**Which of the statements given above are correct?**

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

**EXPLANATION:**

Only Jainism followed strict celibacy and not buddism. **So statement 1 is not correct.**

Both Buddhism and Jainism were against caste oppression. One of their main aim was fighting against caste oppression. **So statement 2 is correct.**

Both the Mahavira and the Buddha felt that only those who left their homes could gain true knowledge. **So statement 3 is correct.**

**ADDITIONAL INFORMATION:**

Teachings of Jainism

- Mahavira rejected Vedic principles.
- He did not believe in God's existence. According to him, the universe is a product of the natural phenomenon of cause and effect.
- He believed in Karma and transmigration of the soul. The body dies but the soul does not.
- One will be punished or rewarded as per one's karma.
- Advocated a life of austerity and non-violence.
- Stressed on equality but did not reject the caste system, unlike Buddhism. But he also said that man may be 'good' or 'bad' as per his actions and not birth.
- Asceticism was taken to a great length. Starvation, nudity, and self-mortification were expounded.
- Two elements of the world: Jiva (conscious) and Atma (unconscious):



- Right faith
- Right knowledge
- Right conduct (observance of five vows)
  1. Ahimsa (non-violence)
  2. Satya (truth)
  3. Asteya (no stealing)
  4. Parigraha (no acquiring property)
  5. Brahmacharya (abstinence)

### Teachings of the Buddha

The teaching are mentioned below:

- It teaches the Middle Path renouncing extreme steps like indulgence and strict abstinence.

The four noble truths (Arya Satya) in Buddhism are:

1. The world is full of sorrow
2. Desire is the root cause of all sorrow
3. Sorrow can be conquered by conquering desire
4. Desire can be conquered by following the <b>eight-fold paths (Ashtangirka Marga)</b>

The eight-fold path in Buddhism is:

Right understanding
Right resolve
Right speech
Right action

Right living
Right efforts
Right thought
Right self-concentration.

- The Tri Ratnas of Buddhism are: Buddha, Dhamma and Sangha. Details are mentioned below:

Buddha:	the highest spiritual potential in everyone.
Dhamma:	the teachings of Buddha (Pali for Sanskrit Dharma or righteousness)
Sangha:	order of monks who follow Buddhism.

- Buddha did not believe in God or the soul.
- Stressed on karma and ahimsa.
- He was against the varna system. Buddha taught in Pali.
- Buddhism spread to several countries outside India. China adopted Buddhism in the 1st century AD. [/su\_box]

**SOURCE:**

History ncert

**86. The term “phantom capital”, sometimes seen in the news recently, is**

- a specified amount of capital that banks are required to hold as a risk mitigation requirement
- the capital typically passes through empty corporate shells that have no real business activity**
- the capital invested for ongoing production of goods and services with aim of maximising profit
- the capital and financial assets that Individuals hold as part of their net worth

**EXPLANATION:**

The Phantom capital is phantom in nature – investments that pass through empty corporate shells. These shells, also called special purpose entities, have no real business activities. Rather, they carry out holding activities, conduct intrafirm financing, or manage intangible assets – often to minimise multinationals' global tax bill. **So, option (b) is correct.**

**ADDITIONAL INFORMATION:**

- About \$15 trillion, or 38 per cent, of the world's foreign direct investment (FDI) in 2017 was "phantom capital" that was tailor-made to trim tax bills of multinational corporations, and tax havens were being used to funnel these investments, according to a study put out by the International Monetary Fund.
- The share of such investments in reported FDI has shot up by roughly seven percentage points since 2010 and serves to skew the global FDI data, shows the study by the International Monetary Fund (IMF) and the University of Copenhagen.
- Roughly a half of the phantom FDI — "investments that pass through empty corporate shells" with no real business activity — passes through just Luxembourg and the Netherlands.
- Once Hong Kong, the British Virgin Islands, Bermuda, Singapore, the Cayman Islands, Switzerland, Ireland, and Mauritius are added to the list, these 10 economies host more than 85 per cent of all phantom investments, the study finds.
- These nations typically have low tax rates.
- "FDI is often an important driver for genuine international economic integration, stimulating growth and job creation and boosting productivity," the report said. However, phantom capital is typically "financial and tax engineering" that "blurs traditional FDI statistics and makes it difficult to understand genuine economic integration".

**SOURCE:**

**<https://indianexpress.com/article/business/rise-in-phantom-capital-skews-global-fdi-data-5984560/>**

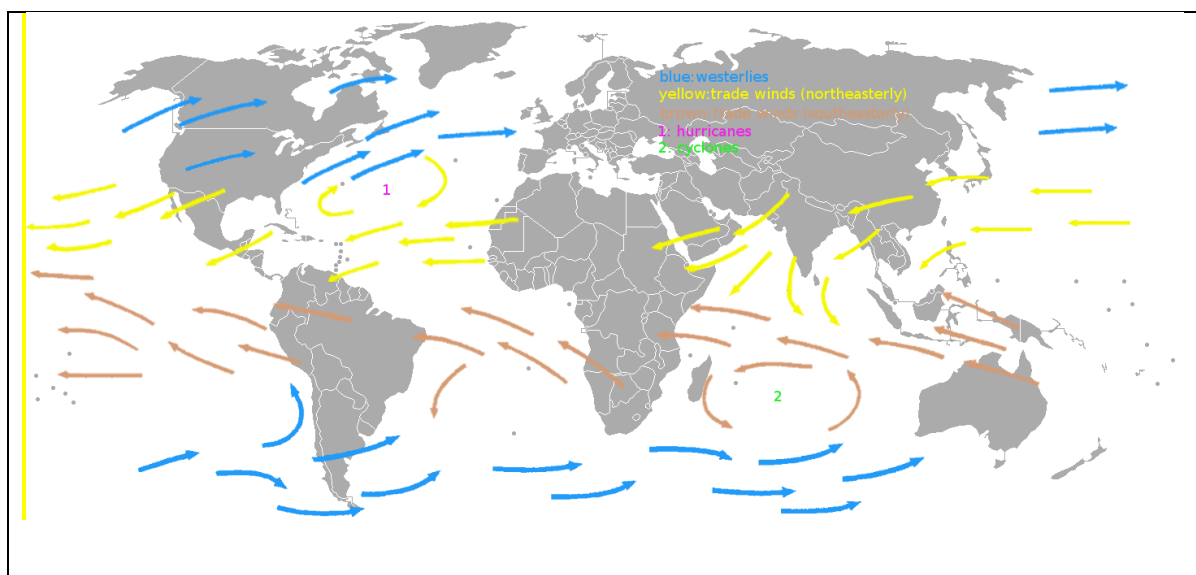
**87. Which one of the following cities experience Trade winds at least for once a year?**

- (a) **San Francisco**
- (b) Reykjavik

(c) Beijing

(d) Ottawa

**EXPLANATION:**



**88. Which of the following is/are the consequence(s) of Swadeshi movement which took place during the early part of the twentieth century in India?**

- 1. The British followed the 'policy of repression' over the students who supported the movement to refrain them from joining national schools and colleges.**
- 2. Prosecutions against a large number of nationalist newspapers were launched and freedom of the press was completely suppressed.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

During the Swadeshi movement, police adopted a repressive attitude towards the students. Schools and colleges whose students participated in the agitation were to be penalised by disaffiliating them or stopping of grants and privileges to them. Students who were found guilty of participation were to be disqualified for government jobs or for government scholarships, and disciplinary action—fine, expulsion, arrest, beating, etc.—was to be taken against them. **So, statement 1 is correct.**

Prosecutions against a large number of nationalist newspapers were launched and freedom of the press was completely suppressed. **So, statement 2 is correct.**

**ADDITIONAL INFORMATION:**

- Swadeshi Movement was started against partition and got formal proclamation of the movement was on August 7, 1905 at a meeting held at the Calcutta Town hall.
- It was suggested by Krishan Kumar Mitra's journal Sanjivani in AD 1905. In this movement, Swadeshi leaders appeal to Indian for boycotting of government service, courts, schools and colleges and of foreign goods, promotion of Swadeshi goods, Promotion of National Education through the establishment of national schools and colleges. Hence, it was not only political but economic movement as well.
- The Swadeshi Movement was a great success. In Bengal, even the landlords joined the movement. The women and students took to picketing. Students refused using books made of foreign paper.
- Many leaders were imprisoned and deported like Bal Gangadhar Tilak, Lala Lajpat Rai, Bipin Chandra Pal and Aurobindo Ghosh. Many Indian lost their job and student who took part in movement were not allowed to enter college and school premises.
- During the movement, singing Vande Mataram was meant to sedition. This was the first instance in which use of Indigenous goods were taken an account.

**SOURCE:**

Old NCERT History Modern India by Bipin Chandra (Class 12)

**89. Consider the following statements:**

- 1. Continental Shelf of Western Coast of India is larger than Eastern Coast.**
- 2. On an average Arabian sea has lower temperature compared to Bay of Bengal.**
- 3. On an average Arabian sea has high salinity than Bay of Bengal.**

**Which of the statements given above is/are correct?**

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

**90. Consider the following statements about the Minimum Alternate Tax in India:**

- 1. It is applicable for both corporate entities and non-corporate entities operating in India.**
- 2. It is not required to be paid by foreign companies having no Permanent Establishments in the country.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

Minimum Alternate Tax is applicable to all corporate entities, whether public or private. However, it does not apply to any income accruing or arising to a company from life insurance business. The corresponding tax similar to MAT, but imposed on individuals or non-corporate entities, who claim certain deductions under the IT Act (deduction under section 80H to 80RRB (except 80P), deduction under section 35AD and deduction under section 10AA), is known as Alternate Minimum Tax (AMT). **So, statement 1 is not correct.**

MAT would be applicable only to those foreign companies which have permanent establishment in India. Based on these rulings, a view was being taken that MAT did not apply to foreign companies not having permanent establishment in India. **So, statement 2 is correct.**

**ADDITIONAL INFORMATION:**

- Minimum Alternate Tax (MAT) is a tax effectively introduced in India by the Finance Act of 1987, vide Section 115J of the Income Tax Act, 1961 (IT Act), to facilitate the taxation of 'zero tax companies' i.e., those companies which show zero or negligible income to avoid tax. Under MAT, such companies are made liable to pay to the government, by deeming a certain percentage of their book profit as taxable income.
- MAT is an attempt to reduce tax avoidance; it was introduced to contain the practices followed by certain companies to avoid the payment of income tax, even though they had the "ability to pay".
- MAT is applied when the taxable income calculated as per the normal provisions in the IT Act is found to be less than 18.5% of the book profits.
- MAT is levied at the rate of 18.5% of the book profits. MAT rate has been progressively increased from 7.5% in 2000 to 18.5% in 2015. In other words, the tax

computed by applying 18.5% (plus surcharge and cess as applicable) on book profit is called MAT.

- Normal tax rate applicable to an Indian company is 30% (plus cess and surcharge as applicable), which has been decided to be progressively reduced to 25% by 2019. A company has to pay higher of normal tax liability or liability as per MAT provisions.
- MAT is applicable to all corporate entities, whether public or private. However, it does not apply to any income accruing or arising to a company from life insurance business. Nor does it apply to shipping income liable to tonnage taxation[2] as provided in section 115V to 115VZC of the IT Act.
- The corresponding tax similar to MAT, but imposed on individuals or non-corporate entities, who claim certain deductions under the IT Act (deduction under section 80H to 80RRB (except 80P), deduction under section 35AD and deduction under section 10AA), is known as Alternate Minimum Tax (AMT). The rate of AMT is also at 18.5%.

**SOURCE:**

[http://www.arthapedia.in/index.php?title=Minimum\\_Alternate\\_Tax\\_\(MAT\)](http://www.arthapedia.in/index.php?title=Minimum_Alternate_Tax_(MAT))

**91. Which one of the following best describes the term “Social banking”?**

- (a) Extension of Credit to young demography
- (b) Providing loans for the skill development initiatives
- (c) **Providing banking services for the poor population of the country**
- (d) Providing loans for the health and education sector

**92. Which one of the following Ashoka inscription speaks about the success of Ashoka’s policy with hunters and fisherman who gave up killing animals?**

- (a) **Kandahar inscription**
- (b) Mansehra inscription
- (c) Lampaka inscription
- (d) Shahbazgarhi inscription

**EXPLANATION:**

Kandhar inscription of Ashoka is a famous bilingual edicts in Greek and Aramaic, proclaimed and craved in stone by the Indian Mauryan Empire ruler Ashoka. It was discovered in 1958. It is an inscription of Ashoka that tells the success of his policy with the hunters and fishermen, who gave up killing animals and took to settled agricultural

life. **So, option (a) is correct.**

**ADDITIONAL INFORMATION:**

**Mansehra inscription**

- Mansehra Rock Edicts are fourteen edicts of the Mauryan emperor Ashoka, inscribed on rocks in Mansehra in Khyber Pakhtunkhwa, Pakistan.
- The edicts are cut into three boulders and date back to 3rd century BC and they are written in the ancient Indic script of Gandhara culture, Kharosthi. The edicts mention aspects of Ashoka's dharma.
- The site was submitted for inclusion in the World Heritage Sites and is currently in the tentative list.

**Lampaka inscription**

- The Pul-i-Darunteh Aramaic inscription, also called Aramaic inscription of Lampaka, is an inscription on a rock in the valley of Laghman ("Lampaka" being the transcription in Sanskrit of "Laghman"), Afghanistan, written in Aramaic by the Indian emperor Ashoka around 260 BCE.
- It was discovered in 1932 at a place called Pul-i-Darunteh.
- Since Aramaic was the official language of the Achaemenid Empire, which disappeared in 320 BCE with the conquests of Alexander the Great, it seems that this inscription was addressed directly to the populations of this ancient empire still present in northwestern India, or to border populations for whom Aramaic remained the language of use.

**Shahbazgarhi inscription**

- The Shahbazgarhi rock edicts are cut into the surface of two large boulders on the side of a small rocky outcrop in the Vale of Peshawar. The record fourteen edicts of the Mauryan emperor, Asoka (r. c. 272-235 BC) and represent the earliest irrefutable evidence of writing in South Asia.
- Dating to middle of the third century BC, they are written from right to left in the Kharosthi script.
- The presence of Kharosthi suggests that the influence of Achaemenid rule in this region, the province of Gandhara, outlived the short Alexandrian interlude of the fourth century BC.
- The fourteen major edicts recorded at the site present aspects of Asoka's dharma or righteous law. The edicts are located beside one of the ancient trade routes



connecting the Vale of Peshawar with the valley of Swat, Dir and Chitral to the North and the great city of Taxila to the South East.

**93. Consider the following statements about the “Unlawful Activities (Prevention) Act, 1967”:**

1. **This Act empowers the government to declare an organisation as “terrorist” and ban it within the territory of India.**
2. **The ‘unlawful activities’, defined by this act, includes terrorism and terror financing but excludes money laundering.**

**Which of the statements given above is/are correct?**

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

**EXPLANATION:**

Under the Act, the central government may designate an organisation as a terrorist organisation if it:

- commits or participates in acts of terrorism
- prepares for terrorism
- promotes terrorism
- is otherwise involved in terrorism

**so statement 1 is correct.**

The unlawful activities include terrorism and terror financing and also money laundering  
**so statement 2 is not correct.**

**ADDITIONAL INFORMATION:**

What is the Act on?

- The Act amends the Unlawful Activities (Prevention) Act, 1967 (UAPA).
- The original Act dealt with “unlawful” acts related to secession; anti-terror provisions were introduced in 2004.
- It provides special procedures to deal with terrorist activities, among other things.
- Concern - There is widespread opposition to the amendments on the ground that it could be used to target dissent against the government.
- The provisions could potentially affect citizens’ civil rights.

What are the key provisions in the Act?

- Definition - Under the Act, the central government may designate an organisation as a terrorist organisation if it:
  - commits or participates in acts of terrorism
  - prepares for terrorism
  - promotes terrorism
  - is otherwise involved in terrorism
- The Act additionally empowers the government to designate individuals as terrorists on the same grounds.
- The word “terror” or “terrorist” is not defined.
- However, a “terrorist act” is defined as any act committed with the intent -
  - to threaten or likely to threaten the unity, integrity, security, economic security, or sovereignty of India
  - to strike terror or likely to strike terror in the people or any section of the people in India or in any foreign country
- Investigation by NIA - Under the Act, investigation of cases may be conducted by officers of the rank of Deputy Superintendent or Assistant Commissioner of Police or above.
- The Act additionally empowers the officers of the National Investigation Agency (NIA), of the rank of Inspector or above, to investigate cases.
- Seizure of property by NIA - Under the Act, an investigating officer can seize properties that may be connected with terrorism with prior approval of the Director General of Police.
- The amendment Act, however, removes this requirement if the investigation is conducted by an officer of the NIA.
- The investigating officer, in that case, only requires sanction from the Director General of NIA.
- [Central agencies such as the CBI are required to obtain prior permission from the state government since law and order is a state subject under the Constitution.]
- Insertion to schedule of treaties - The Act defines terrorist acts to include acts committed within the scope of any of the treaties listed in a schedule to the Act.
- The Schedule lists 9 treaties, including -
  - the Convention for the Suppression of Terrorist Bombings (1997)
  - the Convention against Taking of Hostages (1979)
- The Act adds another treaty to the list, which is the International Convention for Suppression of Acts of Nuclear Terrorism (2005).

- Designation - The central government may designate an individual as a terrorist through a notification in the official gazette.
- His/her name is added to the schedule supplemented to the UAPA Act.
- The government is not required to give an individual an opportunity to be heard before such a designation.
- At present, legally, a person is presumed to be innocent until proven guilty.
- In this line, an individual who is convicted in a terror case is legally referred to as a 'terrorist'.
- And those suspected of being involved in terrorist activities are referred to as 'terror accused'.
- The Act does not clarify the standard of proof required to establish that an individual is involved or is likely to be involved in terrorist activities.
- On designation - The designation of an individual as a 'global terrorist' by the United Nations is associated with sanctions.
- The UAPA Act, however, does not provide any such detail.
- The Act also does not require the filing of cases or arresting individuals while designating them as terrorists.
- The consequences of the designation will be prescribed in the Rules supplemented to the law once the amendment Act is passed.

#### How can the names be removed?

- Application - The Act seeks to give the central government the power to remove a name from the schedule when an individual makes an application.
- The procedure for such an application and the process of decision-making will also be decided by the central government.
- If an application filed is rejected by the government, the Act gives the person the right to seek a review within one month of rejection.
- Review committee - Under the amendment Act, the central government will set up a review committee.
- It will consist of a chairperson (a retired or sitting judge of a High Court) and 3 other members.
- It will be empowered to order the government to delete the name of an individual from the schedule that lists "terrorists", if it considers the order to be flawed.
- Apart from these two avenues, the individual can also move the courts challenging the government's order.

**SOURCE:**

**[https://www.iasparliament.com/current-affairs/unlawful-activities-prevention-amendment-bill-](https://www.iasparliament.com/current-affairs/unlawful-activities-prevention-amendment-bill-2019#:~:text=The%20Unlawful%20Activities%20Prevention%20Amendment,provisions%20were%20introduced%20in%202004.)**

**2019#:~:text=The%20Unlawful%20Activities%20Prevention%20Amendment,provisions%20were%20introduced%20in%202004.**

**94. With reference to the political organizations during the British era, who among the following were the founders of the “Bombay Association” in 1852?**

- (a) Pheroshah Mehta, Badruddin Tayabji and KT Telang
- (b) **Jaggannath Shankersheth, Naoroji Fursungi and Dadabhai Naoroji**
- (c) Anand Mohan Bose, Surendranath Banerjea and Sisir Kumar Ghosh
- (d) MahadevGovind Ranade, S.H. Chiplunkar and Ganesh Vasudeo Joshi

**95. Consider the following water bodies:**

- 1. Lake Baikal**
- 2. Dead Sea**
- 3. River Rhine**

**Which of the water bodies mentioned above is/are present in a Rift Valley?**

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

**EXPLANATION:**

The Baikal Rift Zone is a series of continental rifts centered beneath Lake Baikal in southeastern Russia. **So statement 1 is correct.**

The Dead Sea is a rift lake in the Jordan Rift Valley. Although the Dead Sea is not the world's deepest lake, the deep Jordan Rift makes it the lowest land elevation on Earth. **So statement 2 is correct.**

The Upper Rhine Graben formed during the Oligocene as a response to the evolution of the Alps to the south and remains active to the present day. Today, the Rhine Rift Valley forms a downfaulted trough through which the river Rhine flows. **So statement 3 is correct.**

**ADDITIONAL INFORMATION:**

Africa is splitting

- A place near Nairobi, Kenya had a large crack on the ground that appeared during an intense spell of rain and flooding.
- The crack is 57 km long which is a locus of a future ocean formation.
- Such an event happened 138 million years ago when the South American and African continents separated to give rise to the current South Atlantic Ocean.
- All such signs on Earth's surface point to a totally new landscape, which resembled how it looked like when it was formed 4.5 billion years ago one huge continent.
- The farthest scientists can predict is that 250 million years from now all continents will unite again in one supercontinent and then will break apart again along the future rift systems.

Why such cracks?

- At first, geologists thought the crack in Kenya was formed due to “erosion of soft soils infilling an old rift-related fault.
- They later revealed that the crack had existed for quite some time, but was filled with ash from Mount Longmont, a volcano nearby.
- The rain had washed away the ash to expose the crack. This triggered a debate whether the crack was a part of the East African Rift system.

Rift in systems

- Rifts are the regions of extension of the crust and the lithosphere.
- Continental changes take place at the boundaries of tectonic plates which are divisions of the uppermost layer of the Earth and swim around on the fluid mantle layer below it.
- The extension may develop to a stage when two plates split apart, like in the example of the Red Sea and the Gulf of Aden. So continental rifts are potential places where new oceans are expected to form.
- These plates periodically crash into each other, giving rise to earthquakes and volcanic eruptions when the intensity is less over short periods of time.
- Over longer periods of time, they create all the geological and geographical features that we find on Earth like mountains, valleys and oceans.

Intra-continental drifting

- One of these processes is an intra-continental rift system which acts between tectonic plates and can give rise to rift valleys or even new oceans.

- The African Rift Valley, which is between Ethiopia and Kenya, is a classical example of this geodynamic process.
- There, volcanism, earth-quakes and fracturing of the Earth's surface result from the enormous forces that tear the eastern portion of the African continent apart.

East African rift system

- The East African rift system is more active in terms of volcanism and it is connected to the global ocean rift (ridge) system through the Afar-Red Sea—Gulf of Aden triple junction.
- The Red Sea and the Gulf of Aden are the rifts along which two continents break apart and new oceanic flow is formed.
- There are numerous rift systems around the world but the most active ones are the East African rift, Baikal rift, West Antarctic rift, Rio Grande rift, the Rhine Graben rift system in Europe and Shanxi rift system in China.
- When such geographical features become prominent enough they reshape the way the planet looks.
- The rifts undergo massive geological changes—shoulders of rifts grow and get eroded by rain and melting snow.
- At the same time, the axial parts of rifts subside and get filled with sediments, which gets eroded from the shoulders.

**SOURCE:**

G C Leong

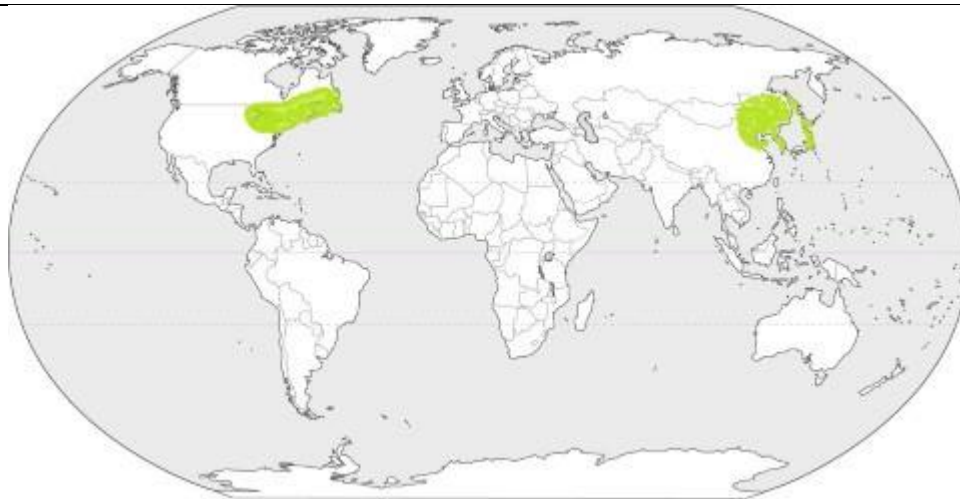
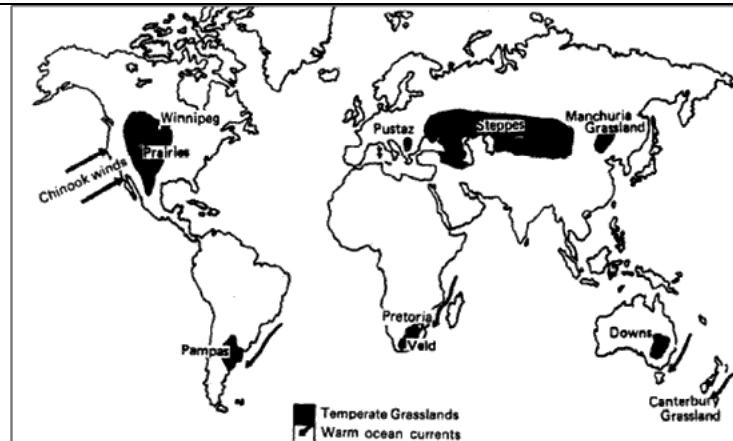
**96. Consider the following climatic types:**

- 1. Steppe**
- 2. Laurentian**
- 3. Siberian**

**Which of the climatic type(s) mentioned above is/are found in Russia?**

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

**EXPLANATION:**



So all three climates are found in Russia. **So option (d) is correct**

**ADDITIONAL INFORMATION:**

Steppe Climate

Temperature

- Climate is continental with extremes of temperature.
- Temperatures vary greatly between summer and winter.
- The summers are hot and the winters are cold.
- Summers are very warm, over 18 – 20° C.
- The steppe type of climate in the southern hemisphere is never severe.

### Precipitation

- The average rainfall may be taken as about 45 cm, but this varies according to location from 25 cm to 75 cm.
- The heaviest rain comes in June and July (late spring and early summer).
- Most of the winter months have about an 2.5 cm of precipitation, brought by the occasional depressions of the Westerlies and coming in the form of snow.
- The maritime influence in the southern hemisphere causes more rainfall.

### Natural Vegetation of Steppe Climate

#### Grasses

- Greatest difference from the tropical savanna is that steppes are practically treeless and the grasses are much shorter.
- Grasses are tall, fresh and nutritious. This is typical of the grass of the wheat-lands in North America, the rich black earth or chernozem areas of Russian Ukraine and the better watered areas of the Asiatic Steppes.
- Where the rainfall is light or unreliable, or the soil is poor, as in the continental interiors of Asia the short steppe type of grass prevails.
- The grasses are not only shorter but also wiry [lean, tough] and sparse [thinly dispersed or scattered].
- These areas are less suitable for arable farming and are used for some form of ranching as in the High Plains of U.S.A.
- The growth of grasses is not abruptly checked by summer droughts or winter cold.

#### Trees

- Polewards, an increase in precipitation gives rise to a transitional zone of wooded steppes where some conifers gradually appear.
- In the cultivated regions, such as the wheat farms of the Prairies, double rows of trees are planted around the house to shield the occupants from the strong wind.

#### Animals

- Does not have much animal diversity.
- Horses are common in Asian Steppes.

### Laurentian climate

#### i. The North American Region:

The most remarkable characteristic of the Laurentian climate of the North American region is its uniformity in precipitation (about 3 to 4 inches monthly) with a late summer



maximum. New York in Fig. 154(a) has an annual precipitation of 41 inches with the wettest months in July and August (4.2 inches each).

No month is really dry, and the driest month, November, has 2.5 inches of rain. This uniformity of precipitation is largely due to the Atlantic influence and that of the Great Lakes. The warm Gulf Stream increases the moisture content of easterly winds from the open Atlantic.

The prevailing Westerlies which penetrate across the Rockies carry depressions over the Great Lakes to the New England states. These winds thus promote wet conditions especially in winter, which are vital for the agricultural activities of northeastern North America.

The meeting of the warm Gulf Stream and the cold Labrador Current on coastal waters off Newfoundland produces dense mist and fog and gives rise to much precipitation.

St. John's, its capital has as much as 54 inches of annual precipitation. It is said that Newfoundland experiences more drizzles than any other part of the world. In summer the Westerlies bring less depression and extend their continental influence to the coast. Temperatures are normally high in summer for the latitude.

New York has a mean July temperature of 74°F. and sometimes even as high as 90°F. Once, on 7 August 1918, the absolute maximum of 104°F. was reached.

Such high temperatures in a cool temperate maritime region, where the relative humidity is high, can be very trying. Prolonged heat waves cause discomfort and frustration in crowded cities. In winter, the temperature drops and snow falls.

New York has two months below freezing- point, and an annual temperature range of 43°F. Away from the maritime influence, the cold increases. The mean January temperatures for Quebec, Ottawa and Montreal are 10°F., 12°F. and 14°F respectively. The temperature ranges widen accordingly.

#### ii. The Asiatic Region:

In contrast, the rainfall distribution of the Asiatic region is far less uniform. Winters are cold and very dry while summers are very warm and exceptionally wet. Peking, a typical station of the Laurentian Climate in northern China will bring out these facts very clearly.

It has seven dry months from October to April with a total rainfall of less than 2.1 inches which is only one- twelfth of the annual total of 25 inches. The remaining five months receive more than an inch a month, with 9.4 inches in July alone.

The rainfall regime is, in fact, similar to that of the tropical monsoon type in India, where the whole year's rainfall is concentrated in the three summer months. The mountainous interior of China has such pronounced continental effects that the intense heating in summer creates a region of extreme low pressure, and moisture-laden winds from the Pacific Ocean and the Sea of Japan blow in as the South-East Monsoon.

The Laurentian type of climate here is often described as the Cool Temperate Monsoon Climate. It has a very long, cold winter, and a big annual range of temperature. The July mean for Peking is 79°F. while that of January is only 24°F.

The temperature range is therefore more than 55°F. The dry, cold wind that blows out from the heart of Asia in winter carries fine, yellowish dust and deposits it as a thick mantle of loess in Shansi, Shensi and other neighbouring provinces at the bend of the Hwang Ho.

Much of the winter precipitation in northern China, Korea and Hokkaido, Japan, is in the form of snow. In the mountainous districts, the snow piles to a depth of 5 to 10 feet. The climate of Japan is modified by its insularity, and also by the meeting of warm and cold ocean currents. It receives adequate rainfall from both the South-East Monsoon in summer and the North- West Monsoon in winter.

The latter is the dry, cold wind from mainland Asia, but after crossing the Sea of Japan it has gathered sufficient moisture to give heavy relief rain or snow on the western coasts of Japan. The rainfall is more evenly distributed, as in Tokyo, with two maxima, one in June, the Plum Rain (6.5 inches), and the other in September, the Typhoon Rain (9 inches).

On the windward slopes of the Japanese Alps on the west, some stations, e.g. Kanazawa, have more than 102 inches of rain, much of it falling as snow. The maritime influence also effectively moderates the temperature range.

Tokyo has a range of 40°F. (79°F. in August and 39°F. in January) with none of the months below freezing-point. The warm Kuroshio has played an important part in making the climate of Japan less extreme. In meeting the cold Oyashio from the north, it also produces fog and mist, making north Japan a 'second Newfoundland'. Fishing replaces agriculture as the main occupation in many of the indented coastlands.

#### Natural Vegetation of Laurentian Type of Climate:

The predominant vegetation of the Laurentian type of climate is cool temperate forest. The heavy rainfall, the warm summers and the damp air from fogs, all favour the growth of trees. Generally speaking, the forest-tend to be coniferous north the 50°N. parallel of latitude.

The increase in the length and severity of the winter excludes those that are not adaptable to cold conditions. In the Asiatic region (eastern Siberia and Korea), the coniferous forests are, in fact, a continuation of the great coniferous belt of the taiga. Lumbering has always been a major occupation of this sparsely populated part of eastern Asia and timber is a leading export item.

Much of the original coniferous forest of fir, spruce and larch has been cleared as a result of lumbering rather than agriculture. Eastern Canada, along the banks of the St. Lawrence River is the heart of the Canadian timber and wood pulp industry.

South of latitude 50°N., the coniferous forest give way to deciduous forests. Oak, beech, maple and birch are the principal trees. Like their counterparts on the western margins, the deciduous forests are fairly open. A long growing season of over six months and an adequate supply of moisture from maritime sources encourage rapid growth of ferns and other temperate undergrowth.

The occurrence of trees in almost pure stands, and the predominance of only a handful of species greatly enhance the commercial value of these forests. As a result, they have been extensively felled for the extraction of temperate hardwood.

In many parts of Manchuria, Korea and Japan, the forests have made way for the plough. Both food and cash crops are raised. In Canada, due to the greater reserves of coniferous softwoods and their overriding importance in industrial uses, the annual production of deciduous hardwood is much less significant

### Siberian climate

- Siberian type climate is typified by bitterly cold winters of long duration & cool brief summer; lies across 60° N of equator.
- Spring & autumn are merely brief transitional periods
- Annual range of temperature is quite high due to extremes of temperature observed in this type of climate, as temp. well below freezing point in winters & approx. 15° in summers.
- With low temperatures in cold season, heavy snowfall can be expected, with frost occurring as early as August
- By September, most of the lakes & ponds are icebound; with the number of days in which the rivers are frozen, increases from south to north.
- The interiors of Eurasian continent are so remote from maritime influence that annual precipitation cannot be high.

- Generally, a total of 40 – 60 cm of rainfall is typified in this sub-arctic type of climate.
- Rainfall is quite well distributed throughout the year, with a summer maximum from the convectional rain, when the continental interiors are greatly heated approx. 20° C.
- The total precipitation of Siberian climate is marked by many factors viz. altitude, latitude, proximity to the poles, amount of exposure to influences by westerlies (on western part of the continent), temperate monsoon (on eastern part of the continent) & penetration of cyclones.
- Snow falls nearly everywhere in USSR in long, cold winter, but the amount varies from place to place; with heaviest in northern tundra & Siberian taiga.
- Permanent snowfields like of Alps or the Himalayas are absent, because any accumulation of snow is melted with the return of spring & the warm summer.
- Frozen rivers are thawed, causing a rise in the water level, sometimes resulting in extensive floods.
- Being a poor conductor of heat, the presence of thick mantle of snow protects the soil of ground from severe cold above, which may be approx. 5° – 10° C colder.
- It also provides moisture for the vegetation when the snow melts in spring

#### Natural Vegetation

- No other trees are as well adapted as the conifers, to withstand such a severe inhospitable environment as Siberian type of climate.
- Coniferous belts of Eurasia & North America are the richest sources of softwood; Used in construction, furniture, matches, paper & pulp, rayon & other chemical products.
- The world's greatest softwood producers are USSR, USA, Canada & Fenoscandian countries (Finland, Sweden & Norway).
- USA is the leading producer in the production of wood pulp & Canada in newsprint, accounting for almost half of the world's production.

#### **SOURCE:**

G C Leong

**97. The term “Kr00k”, sometimes seen in the news recently, is a**

- (a) method to avoid train collision during extreme fog accumulation
- (b) vulnerability that impacts Wi-Fi communications**

- (c) zoonotic disease that got widely spread in the Asian countries
- (d) large scale air purifier that was developed by CSIR

**EXPLANATION:**

Kr00k is a security vulnerability that allows some WPA2 encrypted WiFi traffic to be decrypted. The vulnerability was originally discovered by security company ESET in 2019. ESET estimates that this vulnerability affects over a billion devices. **So, option (b) is correct.**

**ADDITIONAL INFORMATION:**

- ESET, a Slovak cybersecurity firm, has for the last one year been working in collaboration with manufacturers of two specific WiFi chips, which were found to have been vulnerable to attack by hostile parties.
- The manufacturers have since released for all the vulnerable devices security patches that users can install to address the vulnerability.
- According to a report released by ESET, the vulnerability named Kr00k was discovered while the firm was conducting research into KRACK, a series of attacks on WiFi devices that was detected last year.
- In subsequent investigations, ESET discovered that WiFi chips manufactured by Broadcom and Cypress had the Kr00k vulnerability. Chips from both these companies have a high market share and are used in a wide range of WiFi-enabled devices.

**SOURCE:**

<https://www.thehindu.com/sci-tech/technology/slovak-firm-spots-vulnerability-in-16-devices/article30965469.ece>

**98. With reference to the Constitution of India, consider the following statements about the “Fundamental Duties” of an Indian citizen:**

- 1. Fundamental Duties can be enforced only through writs.**
- 2. The original constitution of India did not contain fundamental duties.**

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only

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

**EXPLANATION:**

Fundamental Duties can be enforced by through legislations. **So statement 1 is not correct.**

As of now, there are 11 Fundamental duties. Originally, the Constitution of India did not contain these duties. Fundamental duties were added by 42nd and 86th Constitutional Amendment acts. **So statement 2 is correct.**

**ADDITIONAL INFORMATION:**

Article 51A: Fundamental duties

It shall be the duty of every citizen of India –

- (a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- (b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
- (c) to uphold and protect the sovereignty, unity and integrity of India;
- (d) to defend the country and render national service when called upon to do so;
- (e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
- (f) to value and preserve the rich heritage of our composite culture;
- (g) to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures;
- (h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
- (i) to safeguard public property and to abjure violence;
- (j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.
- (k) to provide opportunities for education by the parent the guardian, to his child, or a ward between the age of 6-14 years as the case may be

**SOURCE:**

Indian Polity – Laxmikanth

**99. Consider the following statements:**

- 1. Sikkim does not have mica mine.**
- 2. Ladakh and Jammu and Kashmir does not have copper mine.**
- 3. Silver mines are only found in Jharkhand and Odisha.**

Which of the statements given above is/are correct?

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

**100. Recently, the Ministry of External Affairs had announced for the setting up of New Emerging and Strategic Technologies (NEST) division to collaborate with the foreign partners. Which of the following technologies will be covered under “NEST”?**

- 1. Artificial Intelligence**
- 2. Internet of Things**
- 3. 5G mobile generation**
- 4. Quantum computing**
- 5. Block Chain Technology**

**Select the correct answer using the code given below.**

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

**EXPLANATION:**

The External affairs ministry announced the setting up of new emerging and strategic technologies (NEST) division. The division will work to increase investment coordination among the states of the country and also with the foreign countries.

NEST will act as the nodal division within the ministry for issues pertaining to new and emerging technologies. It will help in collaboration with foreign partners in the field of 5G and artificial intelligence. Quantum computing and Block Chain Technology are different

technologies that are not covered under NEST. **So, option (a) is correct.**

**ADDITIONAL INFORMATION:**

NEST and its functions:

- The division will act as the nodal point in India's foreign ministry for all matters connected to new and emerging technologies including exchange of views with foreign governments and coordination with domestic ministries and departments.
- It will also help assess foreign policy and international legal implications of emerging technology and technology-based resources.
- The desk will also be involved in negotiations to safeguard Indian interests at multilateral fora like the United Nations or the G20 where rules governing the use and access to such technologies could be decided.

**SOURCE:**

**<https://economictimes.indiatimes.com/news/politics-and-nation/mea-sets-up-emerging-technologies-division/articleshow/73063773.cms>**