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1. C

Hypoxic zones are areas in the ocean of such low oxygen concentration that animal life suffocates and dies, and as a result are sometimes called “dead zones.”

Hypoxic zones can occur naturally, but scientists are concerned about the areas created or enhanced by human activity. There are many physical, chemical, and biological factors that combine to create dead zones, but nutrient pollution is the primary cause of those zones created by humans.

NOAA: What is a dead zone?;

2. D

Th: Signs of a Persian gulf;

3. A

In India, community policing was prevalent in ancient India. In fact, the key feature of ancient police system was its community orientation. The references to police organisation and specific powers of law enforcement with preventive, investigative and prosecuting duties can be traced back to Maurya era.

During later era of Sultanate and Mughal era, the policing became secondary. The primary concerns of the government forces was militaristic and collection of revenue.

4. D

“..in the (Election) Commission’s opinion, voting or not voting as per his/her own free will at the Presidential election will not come within the ambit of disqualification under the Tenth Schedule to the Constitution of India, and the electors are at liberty to vote or not to vote at the Presidential election as per their own free will and choice..”

PIB: Clarification regarding right to vote or not to vote;

5. A

The incident began when the sepoys broke into the fort where the many sons and daughters of Tippu Sultan of Mysore and their families had been lodged since their surrender at Seringapatam (now Shrirangapattana) in 1799 during the fourth Mysore War.

The July 10 outbreak, though encouraged by the Mysore princes, was basically caused by resentment at new British regulations that ordered changes in headgear and shaving style and the prohibition of ornaments and caste marks for the Indian troops. Little effort was made by the British to reassure the men or listen to their grievances, which included the belief that the regulations were detrimental to the religious practices of both Hindus and Muslims. There were also complaints about the sepoys’ pay.

Britannica: Vellore Mutiny

6. A

Despite the decline in total fertility rates (TFR) countrywide, 12 States continue to have TFR above 2.1 children per woman, known as replacement-level fertility. However, when the TFR declines, the drop does not stop at 2.1, as seen in Kerala (1.6), Tamil Nadu (1.7) and Karnataka (1.8). This leads to faster changes in the population structure characterised by a reduction in the proportion of young people and an increase in the proportion of the elderly located in Bihar, Jharkhand, Madhya Pradesh, Rajasthan, and Uttar Pradesh... The proportion of the elderly started increasing in the southern States several years ago. Now, the phenomenon has extended to the western, extreme northern and eastern States.

TH: The Great Indian Migration;

7. A

Statement 1 is correct. Because it is straightforward – you and I won’t accept paper, in general, as currency. Page 38, Introductory Macroeconomics, Class XII, NCERT:

The value of the paper itself is negligible. Similarly, the value of the metal in a five-rupee coin is probably not worth Rs 5. Why then do people accept such notes and coins in exchange of goods which are apparently more valuable than these? The value of the currency notes and coins is derived from the guarantee provided by the issuing authority of these items. Every currency note bears on its face a promise from the Governor of RBI that if someone produces the note to RBI, or any other commercial bank, RBI will be responsible for giving the person purchasing power equal to the value printed on the note. The same is also true of coins.

The second statement is incorrect because one cannot be certain about how people will respond to such a situation. History has been witness to a situation in which fiat money (paper) continued to be used as currency despite the country becoming stateless – Somalia’s currency, the shilling, continued to be exchanged for goods in the market, even as the Somalian government broke down and the country became stateless in 1991.

TH: Why is your money worth so much?;

8. B

The inscription has been done under Criteria (ii) and (v) as defined in the UNESCO’s Operational Guidelines, 2016. Criterion (ii) refers to the important interchange of human values, over a span of time on development of architecture, monumental arts, town planning and landscape while Criterion (v) refers to being an outstanding example of human settlement and land use. Thus, the acceptance of the proposal highlights

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historic city of Ahmedabad's exemplary settlement architecture and town planning.

PIB: Declaration of historic city of Ahmadabad as a UNESCO's world heritage property;

9. A

Remove the last amount of oxygen, and the Bay of Bengal could become a major global player in nitrogen removal from the oceans.

Nitrogen performs a positive role in fertilising algae at the bottom of the food chain, but can also have negative effects if there's too much of it in the water.

One area – the Bay of Bengal – is at a tipping point which could impact on global fish stocks. At the moment, nitrogen fertilisers in the Bay of Bengal are running off farmland and over-fertilising algae. This in turn encourages bacteria, which capture oxygen. Slowly marine life in the area disappears.

But the Bay of Bengal is now on the verge of going one destructive stage more. The report says if oxygen levels decrease further as a result of run-off or increasing water temperatures, then the entire ocean basin may flip to a no-oxygen status.

In one of Nature's paradoxes, this would then lead to different bacteria actually removing nitrogen from the water. The de-nitrified water would then be carried away by ocean currents, and greatly reduce ocean productivity elsewhere.

BBC: 'Make new rules' to save oceans;

10. B

Gyre circulation: Three forces cause the circulation of a gyre:

Global wind patterns – Wind drags on the ocean surface, causing water to move in the direction the wind is blowing.

Earth's rotation – The Earth's rotation deflects, or changes the direction of, these wind-driven currents.

This deflection is a part of the Coriolis effect.

Earth's landmasses – Earth's continents and other landmasses (such as islands) also influence the creation of ocean gyres. The massive South Pacific Gyre, for instance, includes hundreds of kilometers of Open Ocean. In contrast, the northern Indian Ocean Gyre is a much smaller ocean gyre.

The Ocean Conveyor Belt: The movement of the world's major ocean gyres helps drive the "ocean conveyor belt." The ocean conveyor belt circulates ocean water around the entire planet. Also known as thermohaline circulation, the ocean conveyor belt is essential for regulating temperature, salinity and nutrient flow throughout the ocean.

Garbage Patches: Ocean gyres circle large areas of stationary, calm water. Debris drifts into these areas

and, due to the region's lack of movement, can accumulate for years. These regions are called garbage patches. The Indian Ocean, North Atlantic Ocean, and North Pacific Ocean all have significant garbage patches. NatGeo: Ocean Gyre;

11. B

The Calling Attention motion, unlike the zero hour, is mentioned in the rules of procedure. But like the zero hour, it also an Indian innovation in parliamentary procedure and has been in existence since 1954.

12. B

They revolted against the British after the later took over their rent-free land, 14 years after Odisha came under British rule in 1803.

Paikas were essentially the peasant-militias or traditional land-owning militia of the Gajapati rulers of Odisha who rendered military service to the king during times of war while taking up cultivation during times of peace. They unfurled the banner of rebellion against the British under the leadership of Baxi Jagandhu Bidyadhara as early as 1817 to throw off the British yoke.

13. D

Article 41 directs the state to secure the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement. This is classified as a Socialistic principle.

PMVVY is a Pension Scheme announced by the Government of India exclusively for the senior citizens aged 60 years and above which is available from 4th May, 2017 to 3rd May, 2018.

Scheme provides an assured return of 8% p.a. payable monthly (equivalent to 8.30% p.a. effective) for 10 years.

Pension is payable at the end of each period, during the policy term of 10 years, as per the frequency of monthly/ quarterly/ half-yearly/ yearly as chosen by the pensioner at the time of purchase

The scheme is exempted from Service Tax/GST

14. C

Regarding Statement 1: The virus has undergone point mutations, which is normal and reflects its evolution, but this has no correlation with virulence For instance, the California strain had been circulating around the world since the 2009 H1N1 pandemic. But as a result of point mutations, a new strain – the Michigan strain – emerged last year. India witnessed the circulation of both the California and Michigan strains in 2018. This year, surveillance revealed that the H1N1 virus found in India is only the Michigan strain.

Regarding Statement 2: Cold air can carry less water vapour before it reaches the "dew point" and falls as

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rain. So while the weather outside may seem wetter, the air itself is drier as it loses the moisture. Any time we splutter with a cold, we expel a mist of particles from our nose and mouths. In moist air, these particles may remain relatively large, and drop to the floor. But in dry air, they break up into smaller pieces – eventually becoming so small that they can stay aloft for hours or days. (It's a bit like the mist you get when you turn a hose pipe to its finest spray.) The result is that in winter, you are breathing a cocktail of dead cells, mucus and viruses from anyone and everyone.

15. D

“Over the years, knowledge and technology have become central to most of the bilateral agreements and strategic dialogues between the two countries. Bilateral agreements such as the Partnership to Advance Clean Energy and joint participation in mega projects in the areas of fundamental science such as the High Intensity Superconducting Proton Accelerator, the Thirty Meter Telescope, the Laser Interferometer Gravitational Observatory and the NASA-ISRO Synthetic Aperture Radar Mission will have a far-reaching impact. Going forward, we can reap higher pay-offs if collaborative engagements are focused on sector-agnostic technologies, such as information technology, nanotechnology, and gene-editing technology..”

TH: Bilateral catalyst;

16. C

Pagdi, pag, turban, topi, cap, headgear are the part of daily men's attire, sometimes women too, along with Indian traditional wear. These were specially designed for occasional and ceremonial bases.

Each phase of Indian history show some distinct or peculiar style of wearing pag. Maurya-Sunga period evidences show the tying of pag in two stages, top-knot for covering the hair bun and then covers the head.

During the medieval period also we witnessed the interesting types of headgear such as; Akbar's 'atpati turban', was famous which was like a loosely worn, carefree style turban. It is believed that Shah Jahan introduced the 'turban band', which was tied above the band to secure the turban. It is believed that Aurangzeb use to make his own cap. The last Mughal ruler Bahadurshah Zafar's 'Chugani' or 'Chaugoshia' cap has four raised points.

Jaapi is a traditional conical hat from Assam.

17. A

Among the qualifications laid down by the Constitution for a person to be chosen a member of the Parliament, one is that “he must possess other qualifications prescribed by the Parliament.”

Accordingly, The Representation of People Act lays down the following additional qualification:

He must be registered as an elector for a parliamentary constituency. This is same in the case of both, the Rajya Sabha and the Lok The requirement that a candidate contesting an election to the Rajya Sabha from a particular state should be an elector in that particular state was dispensed with in 2003. In 2006, the Supreme Court upheld the constitutional validity of this change.

18. b

For rice, high rainfall, temperature and clayey soil is required which can hold water. So, option (a) is incorrect.

For Cotton, light rainfall is needed. For Jute high rainfall and temperature is needed. So, options (c) and (d) are incorrect.

Wheat requires moderate temperature and rainfall during growing season and bright sunshine at the time of harvest. It thrives best in well drained loamy soil. Wheat is grown extensively in USA, Canada, Argentina, Russia, Ukraine, Australia and India. In India it is grown in winter.

Maize requires moderate temperature, rainfall and lots of sunshine. It needs well- drained fertile soils. Maize is grown in North America, Brazil, China, Russia, Canada, India, and Mexico.

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19. d

Organic farming excludes or strictly limits the use of various methods (including synthetic petrochemical fertilizers and pesticides; plant growth regulators such as hormones; antibiotic use in livestock; genetically modified organisms; human sewage sludge; and nanomaterials) for reasons including sustainability, openness, independence, health, and safety. So, all statements are incorrect.

Organic farming is a form of agriculture that relies on techniques such as crop rotation, green manure, compost, and biological pest control. Since 1990 the market for organic food and other products has grown rapidly, reaching \$63 billion worldwide in 2012.

Chapter 4: page 42: 8th NCERT Resource & Development

20. c

Chilka lake has been under Montreux record since 1993 and is an important Ramsar site. Offloading high amounts of industrial effluents cannot be permitted in the lake. So, statement 1 has to be incorrect. So, all statements are incorrect. Rest are correct.

Over the years, the ecosystem of the lake encountered several problems and threats such as:

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Siltation due to littoral drift and sediments from the inland river systems Shrinkage of water surface area Choking of the inlet channel as well as shifting of the mouth connecting to the sea
Decrease in salinity and fishery resources Proliferation of fresh water invasive species and
An overall loss of biodiversity with decline in productivity adversely affecting the livelihood of the community that depended on it Fights between fishermen and non-fishermen communities about fishing rights in the lake and consequent court cases
The rapid expansion of commercial aquaculture of prawn has contributed significantly to the decline of the lakes fisheries and bird population

21. d

Article 17 provides for the abolition of untouchability. Manual scavenging is a major reason behind untouchability. Article 23 provides for "Prohibition of traffic in human beings and forced labour". Manual scavenging is considered as forced labour. So, statement 1 is correct.

Protection of Civil Rights Act, 1955; Protection of Human Rights Act, 1993; Schedule Castes and the Schedule Tribes Prevention of Atrocities Act, 1989; and Schedule Castes and the Schedule Tribes Prevention of Atrocities Rules, 1995, consider practices such as manual scavenging to be a violation of human rights and have provisions to deal with the same. So, statement 2 and 3 is also correct.

Statements 4 and 5 are also correct as ELEVENTH SCHEDULE [ARTICLE 243G], Entry 23. Health and sanitation, including hospitals, primary health centres and dispensaries.
Entry 27. Welfare of the weaker sections, and in particular, of the Scheduled Castes and the Scheduled Tribes.

TWELFTH SCHEDULE [Article 243W]

Entry 6. Public health, sanitation conservancy and solid waste management.

Manual scavenging refers to the practice of removing human and animal waste/excreta using brooms, tin plates and baskets from dry latrines and carrying it on the head to disposal grounds some distance away. There are 13 lakh persons from Dalit communities who continue to be employed in this job in this country and who work in the 96 lakh private and community dry latrines managed by municipalities.

They are exposed to subhuman conditions of work and face serious health hazards. They are constantly exposed to infections that affect their eyes, skin, respiratory and gastro-intestinal systems. They get very

low wages for the work they perform Read Provisions here:

http://nhrc.nic.in/documents/LibDoc/Manual_Scavenging_A.pdf

22. c

CNG is less likely to ignite on hot surfaces, since it has a high auto ignition temperature (540 °C), and a narrow range (5–15 percent) of flammability.

So, option (a) is correct.

CNG has a higher calorific value than diesel and petrol.

Thus, option (b) is wrong.

CNG mixes well with air and disperses quickly clearing the area of fire. So, option (c) is correct.

Compressed natural gas (CNG) (methane stored at high pressure) can be used in place of gasoline (petrol), Diesel fuel and propane/LPG. CNG combustion produces fewer undesirable gases than the fuels mentioned above

CNG is made by compressing natural gas (which is mainly composed of methane, CH₄), to less than 1 percent of the volume it occupies at standard atmospheric pressure

The cost and placement of fuel storage tanks is the major barrier to wider/quicker adoption of CNG as a fuel. It is also why municipal government, public transportation vehicles were the most visible early adopters of it, as they can more quickly amortize the money invested in the new (and usually cheaper) fuel. CNG does not contain any lead, thereby eliminating fouling of spark plug.

Page 32: Chapter 3: 8th NCERT Resource & Development

23. d

In 1919 Gandhiji gave a call for a satyagraha against the Rowlatt Act that the British had just passed. The Act curbed fundamental rights such as the freedom of expression and strengthened police powers. In April 1919 there were a number of demonstrations and hartals in the country and the government used brutal measures to suppress them. The Jallianwala Bagh atrocities, inflicted by General Dyer in Amritsar on Baisakhi day were a part of this repression.

The Khilafat issue was another such cause. In 1920 the British imposed a harsh treaty on the Turkish Sultan or Khalifa. People were furious about this as they had been about the Jallianwala massacre. Also, Indian Muslims were keen that the Khalifa be allowed to retain control over Muslim sacred places in the erstwhile Ottoman Empire.

The leaders of the Khilafat agitation, Mohammad Ali and Shaukat Ali, wished to initiate a full-fledged Non-Cooperation Movement. Gandhiji supported their call

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and urged the Congress to campaign against 'Punjab wrongs'(Jallianwala massacre), the Khilafat wrong and demand swaraj.

24. c

Constitutional existence of several tiers of government is the first pre-requisite of a federal polity. So, option (a) is correct.

Under federalism, the states are not merely agents of the federal government but draw their authority from the Constitution as well. So, option (b) is also correct. The Constitution contains lists that detail the issues that each tier of government can make laws on. All persons in India are governed by laws and policies made by each of these levels of government. So, option (d) is also correct.

While each state in India enjoys autonomy in exercising powers on certain issues, subjects of national concern require that all of these states follow the laws/rules/directions/orders of the central government. This maintains unity and integrity of the administration and the nation as a whole. So, option (c) is incorrect. Chapter 1: page 12: 8th NCERT Social and Political Life 25. b

A private member is an MP who is not a minister. He enjoys similar rights to that of a minister in Parliament, except that he cannot introduce money bills and some financial bills. So, statement 1 is wrong as a private member can initiate legislation, even on a subject of national importance.

Statement 2 follows from the above. If a private member can introduce legislation, he can also get alternations passed to them.

The Rajya Sabha functions primarily as the representative of the states of India in the Parliament. The Rajya Sabha can also initiate legislation and a bill is required to pass through the Rajya Sabha in order to become a law. It, therefore, has an important role of reviewing and altering (if alterations are needed) the laws initiated by the Lok Sabha.

26. a

As far as statement 4 is concerned, a court may order the government to pay the litigation expenditure to the affected. The state does not has a duty to provide a lawyer to them as such. So, statement 4 is wrong.

A person may be wealthy, but illiterate. He is economically capable to hire a lawyer. The state does not have a 'duty' to provide a lawyer to them. So, statement 2 is also wrong.

According to Article 22 of the Constitution, every person has a Fundamental Right to be defended by a lawyer. To achieve the objectives of Article 39A, government has established the National Legal Services Authority

(NALSA) has been constituted under the Legal Services Authorities Act, 1987 to provide free Legal Services to the weaker sections of the society and to organize Lok Adalats for amicable settlement of disputes.

Q Source:Chapter 6: page 68: 8th NCERT Social and Political Life

27. d

Intercropping is a multiple cropping practices involving growing two or more crops in proximity. It is particularly important not to have crops competing with each other for physical space, nutrients, water, or sunlight. Examples of intercropping strategies are planting a deep-rooted crop with a shallow rooted crop, or planting a tall crop with a shorter crop that requires partial shade. Intercropping of compatible plants also encourages biodiversity, by providing a habitat for a variety of insects and soil organisms that would not be present in a single-crop environment. This in turn can help limit outbreaks of crop pests by increasing predator biodiversity. Additionally, reducing the homogeneity of the crop increases the barriers against biological dispersal of pest organisms through the crop. Protection of crops can also be achieved by: Lodging-prone plants, those that are prone to tip over in wind or heavy rain, may be given structural support by their companion crop. Delicate or light-sensitive plants may be given shade or protection, or otherwise wasted space can be utilized. An example is the tropical multi-tier system where coconut occupies the upper tier, banana the middle tier, and pineapple, ginger, or leguminous fodder, medicinal or aromatic plants occupy the lowest tier.

Therefore, all statements 1, 2 and 3 are correct. Chapter 2: 8th NCERT Resource & Development 28. a

There are no approved vaccines for the dengue virus. Prevention thus depends on control of and protection from the bites of the mosquito that transmits it. So, statement 2 is wrong.

Mission Indradhanush vaccinates in selected districts for Japanese Encephalitis. So, statement 5 is correct.

Rotavirus is the most common cause of severe diarrhoea among infants and young children. An indigenous Rotovac has been developed in India to counter Diarrhoea.

So, statement 3 is also correct.

Yellow fever and Cholera come under 25 vaccine-preventable disease list of WHO. So, statements 1 and 4 are correct. MoHFW has also recently issued advisory against Yellow fever: hence, the question and such options.

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Chapter 9: page 111 (Polio drop box): 8th NCERT Social and Political Life

29. a

37 per cent of natural springs, which directly contribute to the Ganga river system, are drying. Perennial streams have now become rain-fed streams, while rain-fed streams have dried up in several places. Rate of drying is about 6-7 kilometres per year. So, statement 1 is correct.

The Oak trees are native of the Himalayan region, not exotic. Exotic means introduced from outside. Though they soak nearly 60% of groundwater, they have always been there in the Ganges catchment area. So, statement 2 cannot be a possible reason.

30. b

Policy of paramountcy was designed to make all Indian states accept the suzerainty of the British. So, statement 1 is incorrect.

The Company claimed that its authority was paramount or supreme; hence its power was greater than that of Indian states. In order to protect its interests it was justified in annexing or threatening to annex any Indian kingdom.

The Carnatic wars were fought to decide the rivalry between the English and the French and were directly connected with their rivalry in Europe. So, statement 2 is correct.

The War of the Austrian Succession broke out in Europe in 1740. In this war Britain and France joined opposite camps. As a result the English and the French Companies also became engulfed in the war. Thus the First Carnatic War was started.

Chapter 2: Page 18: Our pasts-III (Part I)

31. b

Automobile and textile industries are well established one. So, they cannot be sunrise industries. Statements 1 and 2 are thus the answer.

'Sunrise industries' is a colloquial term for a sector or business that is in its infancy, but is growing at a rapid pace. A sunrise industry is typically characterized by high growth rates, numerous start-ups and an abundance of venture capital funding.

A sunrise industry is often characterized by a high degree of innovation, and its rapid emergence may threaten to push into obsolescence a competing industry sector that is already in decline. Examples of sunrise industries include alternative energy in the period from 2003 to 2007, and social media and cloud computing in 2011 and 2012.

Over a period of years or decades, as an industry grows and matures, it may pass from the sunrise phase to maturity and, finally, the sunset stage. The compact-

disc industry is a typical example of such a transition. It was a sunrise industry in the 1990s as compact discs replaced vinyl records and cassette tapes, but the rapid adoption of digital media in the 21st century could mean that the compact-disc industry's days are numbered.

32. d

From the depiction of Hindu gods, goddesses, and other mythological characters, the Kalighat paintings developed to reflect a variety of themes. The artists also chose to portray secular themes and personalities and in the process played a role in the Independence movement. They painted heroic characters like Tipu Sultan and Rani Lakshmbai. So, statement 2 is wrong.

The paintings over a period of time developed as a distinct school of Indian painting. An important achievement of the Kalighat artistes was that they made simple paintings and drawings, which could easily be reproduced by lithography.

Such prints were then hand coloured. This trend continued up to the early part of the twentieth century and these paintings ended up in museums and private collections. The charm of the Kalighat paintings lies in the fact that they captured the essence of daily life and they influence modern artistes like the late Jamini Roy even to this day.

Page 132: Our pasts-III (Part II)

33. c

It does not intend to cover developed nations. The Programme supports national REDD+ readiness efforts in partner countries spanning Africa, Asia-Pacific and Latin America. So, statement 2 is incorrect.

REDD+ provides for evaluation of the financial value for the carbon stored in the trees. This allows polluters to purchase carbon offsets. So, statement 3 is correct.

The Programme was launched in 2008 and builds on the convening role and technical expertise of the Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP). The UN-REDD Programme supports nationally-led REDD+ processes and promotes the informed and meaningful involvement of all stakeholders, including Indigenous Peoples and other forest-dependent communities, in national and international REDD+ implementation.

REDD+ is currently one of the most crucial and contested topics of the UN Framework Convention on Climate Change (UNFCCC) negotiations.

34. b

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Both Khangchendzonga and Nandadevi National park do not have tropical vegetation. They have temperate and arctic vegetation. So, statements 1 and 2 are incorrect. Balphakram National Park consists of tropical vegetation which is an ideal habitat for various species of animals like elephants, deer and so on. So, statement 3 is correct.

Balphakram National Park is a national park ranging from under 200 to over 800 meters above sea level, near the Garo Hills in Meghalaya, India. The highest peak is often referred to as the "abode of perpetual winds" as well as the "land of spirits."

It is also the home of the barking deer and the golden cat. Commonly seen animals include Wild water buffalo, Red panda, Elephant and eight species of cats including Tiger and Marbled cat.

It is also very famous for pitcher plant and many medicinal plants called 'Dik.ke'.

35. d

33% of IBAs lack any form of formal protection and a further 45% are only partially protected. Achieving adequate protection for these sites is among the most urgent of global conservation priorities. So, statement 1 is incorrect. BirdLife has documented over 12,000 Important Bird and Biodiversity Areas. These are not restricted to 'hotspots' only. Statement 2 also is incorrect.

BirdLife international is a global partnership of conservation organisations that strives to conserve birds, their habitats and global biodiversity, working with people towards sustainability in the use of natural resources. Together the BirdLife Partnership forms the leading authority on the status of birds, their habitats and the issues and problems affecting bird life.

Important Bird and Biodiversity Areas are:

Places of international significance for the conservation of birds and other biodiversity

Recognised world-wide as practical tools for conservation

Distinct areas amenable to practical conservation action

Identified using robust, standardized criteria
Sites that together form part of a wider integrated approach to the conservation and sustainable use of the natural environment

36. c

Statement 3 is incorrect as the religious meetings of the Samaj drew upon Hindu, Buddhist and Christian texts. Statement 2 is also incorrect, as securing social justice was the primary aim of the Samaj, not the promotion of spirituality to the West.

Prarthana Samaj was founded by Aatma Ram Pandurang in 1867 with an aim to make people believe

in one God and worship only one God. The main reformers were the intellectuals who advocate reforms of the social system of the Hindus.

It sought to remove caste restrictions, abolish child marriage, encourage the education of women, and end the ban on widow remarriage.

Page 120: Our pasts-III (Part II)

37. b

The Global Environment Facility (GEF) unites 183 countries in partnership with international institutions, civil society organizations (CSOs), and the private sector to address global environmental issues while supporting national sustainable development initiatives.

GEF is the largest public funder of projects to improve the global environment. It is an independently operating financial organization.

UN Convention to Combat Desertification (UNCCD) and Minamata Convention on Mercury are the other conventions to which it serves as a financial mechanism.

The GEF, although not linked formally to the Montreal Protocol on Substances that Deplete the Ozone Layer (MP), supports implementation of the Protocol in countries with economies in transition

38. b

Monetary policy does not aim at zero or ultra-low inflation, but stability of prices with a moderate rate of inflation. This is because some amount of inflation is necessary for growth. So, statement 1 is correct.

High rupee exchange ratio is not the objective of monetary policy; instead it is stability of rupee in the foreign exchange markets. The actual value of rupee exchange ratio is not desirably fixed in a managed or floating exchange rate as in India. So, statement 3 is incorrect.

Monetary policy refers to the credit control measures adopted by the central bank of a country. Other objectives are ensuring full employment, and a Balance of Payments.

This is ensured through instruments like Bank rate, CRR, SLR, Open Market operations etc.

39. b

Shallow Sea is not a requirement for producing large scale quantities of salt. So, statement 2 is wrong.

Dry and hot areas promote better evaporation of sea water and greater production of salt. So, statement 3 is correct.

The longer the coastline is, the higher is the potential for salt production. Statement 4 is also correct.

There are three main sources of salt in India: (i) sea water, along the coasts of the Peninsula, (ii) brine springs, wells and salt lakes of the arid tracts of

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Rajasthan, and (iii) rock-salt deposits of Gujarat and Himachal Pradesh.

About 75 per cent of the total salt produced in India is manufactured in marine salt works by the solar evaporation of sea water.

Dry and sunny climate is essential for salt production and the western arid region of Gujarat along with 1,600 km long coastline provides a conducive environment, making Gujarat the largest producer of salt in the country. The state contributes nearly 70% of the total salt produced in the country.

Unseasonal rainfall and an extended winter could cut down the production of salt.

40. d

Rainfall in coastal areas is not adequate, especially some of the eastern coasts. This is why coastal areas have a well-developed irrigation infrastructure.

Statement A is wrong, and so is R.

Groundwater system irrigation is the largest in India. In 2010, only about 35% of total agricultural land in India was reliably irrigated. About 2/3rd cultivated land in India is dependent on monsoons.

Riverine plains in India are well-irrigated. In contrast, plateau regions such as the Deccan plateau have low levels of irrigation.

41. c

Its world headquarters are located in Rome. It leads international efforts to defeat hunger.

Serving both developed and developing countries, FAO acts as a neutral forum where all nations meet as equals to negotiate agreements and debate policy.

FAO is also a source of knowledge and information, and helps developing countries and countries in transition modernize and improve agriculture, forestry and fisheries practices, ensuring good nutrition and food security for all.

FAO and the World Health Organization created the Codex Alimentarius Commission in 1961 to develop food standards, guidelines and texts such as codes of practice under the Joint FAO/WHO Food Standards Programme.

42. c

You should remember important constitutional articles.

Article 3 is about creation/alteration etc of states.

Hence, statement 1 is wrong.

Article 13 is about laws inconsistent with or in derogation of the fundamental rights. So, statement 2 is correct.

Article 28 is about the freedom as to attendance at religious instruction or religious worship in certain educational institutions. So, statement 3 is correct.

Article 30 is about the right of minorities to establish and administer educational institutions. So, statement 4 is also correct.

Article 51A is set of fundamental duties: one of which is to develop the scientific temper, humanism and the spirit of inquiry and reform. So, statement 5 is also correct.

Article 243G talks about the powers/authority/responsibility of Panchayats, which also covers school education. So, statement 6 is also correct.

43. a

The Clearing-House Mechanism (CHM) of the Convention on Biological Diversity has been established further to Article 18.3 of the Convention.

Expertise in managing information and technology varies enormously from country to country. For this reason, the Convention on Biological Diversity has established a "ClearingHouse Mechanism" (CHM) to ensure that all governments have access to the information and technologies they need for their work on biodiversity.

The term "clearing-house" originally referred to a financial establishment where checks and bills were exchanged among member banks so that only the net balances need to be settled in cash. Today, its meaning has been extended to include any agency that brings together seekers and providers of goods, services or information, thus matching demand with supply. A Clearing-House Mechanism serves to:

Promote and facilitate technical and scientific cooperation within and between countries;
Develop a global mechanism for exchanging and integrating information on biodiversity; and
Develop a human and technological network

44. a

The Centre and the Gujarat government have announced a Rs. 97.85 crore Asiatic Lion Conservation Project.

Key features of the project:

Key aspects of the conservation project include undertaking "habitat improvement" measures, making more sources of water available, creating a wildlife crime cell, and a task force for the Greater Gir region. 'Greater Gir' that includes, other than the existing Gir National Park, sanctuaries in Girnar, Pania and Mitiyala. It would also involve having in place a GPS-based tracking system, which would look at surveillance tracking, animal and vehicle tracking. There would also be an automated sensor grid that would have magnetic sensors, movement sensors and infra-red heat sensors.

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A key outcome of the project is to have a dedicated veterinary institute, lion ambulances and back-up stocks of vaccines that may be required.

Relocation of lions:

The Kuno-Palpur Wildlife Sanctuary in Madhya Pradesh was identified to be the most suitable for reintroducing the species, according to a Supreme Court-appointed technical expert committee, but there has been no progress on the proposal.

There is a committee of experts from both States examining the suitability of Madhya Pradesh as a potential lion reserve.

The SC in April 2013 had ordered the translocation of some lions from Gujarat to Madhya Pradesh within six months, but this hasn't happened. This was ordered after several recommendations by expert groups, including the Wildlife Institute of India.

It emphasised that the long-term survival of the lion as a species was best served if they could be present outside Gujarat, too, so that they are protected against, say, a forest fire, a disease, or calamities.

Asiatic Lions are listed as 'Endangered' under the IUCN Red List.

Its population is restricted to the state of Gujarat in India.

With serious conservation efforts of the State and the Union Government, the population of Asiatic lions have increased to over 500 which used to be around 50 by late 1890s.

As per the 2015 census, there were a total of 523 Asiatic Lions in Gir Protected Area Network.

45. c

The Intergovernmental Panel on Climate Change (IPCC) is a scientific and intergovernmental body under the auspices of the United Nations, set up at the request of member governments, dedicated to the task of providing the world with an objective, scientific view of climate change and its political and economic impacts. It was first established in 1988 by two United Nations organizations, the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP), and later endorsed by the United Nations General Assembly through Resolution 43/53. Membership of the IPCC is open to all members of the WMO and UNEP. The IPCC produces reports that support the United Nations Framework Convention on Climate Change (UNFCCC), which is the main international treaty on climate change. The ultimate objective of the UNFCCC is to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic [i.e., human-induced] interference with the climate system". IPCC reports

cover "the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation."

The IPCC developed from an international scientific body, the Advisory Group on Greenhouse Gases set up in 1985 by the International Council of Scientific Unions, the United Nations Environment Programme (UNEP), and the World Meteorological Organization (WMO) to provide recommendations based on current research.

46. d

The Parliament is authorized to extend the power to issue writs to any other court other than the SC and the HCs. But it has not extended the same to any other body in India. So, all statements are wrong.

Lok adalat and District courts thus only solve disputes and do not interfere proactively in matter of violations of fundamental rights.

National Police Commissions are constituted by government to reform the police system in the country. So, statement 2 is also wrong.

47. b

Since 2004, it is being run by Department of Food & Public Distribution. The main objective of the scheme was to provide safeguard against starvation during the period of natural calamity or during lean season when the marginalized food insecure households did not have sufficient resources to purchase rations.

Such people in need of food grains will be able to borrow food grains from the Village Grain Bank. The grain banks are to be set up in food scarce areas like the drought prone areas, the hot and cold desert areas, tribal areas and the inaccessible hilly areas which remain cut off because of natural calamities like floods, etc. These villages are to be notified by the concerned State Government/Union Territory. The scheme envisages inclusion of all willing BPL/AAY families in the villages to be identified by the State Government in food deficit areas.

The quantity to be lent and the period of repayment is to be decided by the Group themselves. Village Panchayat/Gram Sabha, Self Help Group for NGOs etc are identified by the state governments and eligible for running the Grain banks. The scheme has been discontinued w.e.f. 2014.

48. d

The Cabinet Committee has approved continuation of the nine sub-schemes of the umbrella scheme "Atmosphere & Climate Research-Modelling Observing Systems & Services (ACROSS)" during 2017-2020.

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The Ministry of Earth Sciences has a mandate to carry out research and development activities to develop and improve capability to forecast weather, climate and natural hazard related phenomena. Towards this direction, MoES has taken several initiatives to formulate specific schemes like weather and climate modelling, monsoon-research, climate change science & climate services etc.

These schemes involve multi-institutes wherein each unit has a designated role for accomplishing the aforesaid tasks. As a result, all these schemes with specific objectives and budget are implemented in an integrated manner and are put together under the umbrella scheme "ACROSS"

ACROSS Scheme:

ACROSS scheme pertains to the atmospheric science programs of the Ministry of Earth Sciences (MoES). It addresses different aspects of weather and climate services, which includes warnings for cyclone, storm surges, heat waves, thunderstorms etc.

Each of these aspects is incorporated as nine sub-schemes under the umbrella scheme "ACROSS" and is implemented in an integrated.

The ACROSS scheme consists of nine sub-programmes which are multi disciplinary and multi institutional in nature and will be implemented in an integrated manner.

As the objective of the ACROSS scheme is to provide a reliable weather and climate forecast for betterment of society, the scheme will aim at improving skill of weather and climate forecast through sustained observations, intensive R & D.

49. b

The conservation area was created in 1999 by the Indian government. It also houses Pachmarhi Sanctuary. The reserve is composed primarily of forest habitats, and is an important transition zone between the forest species of western and eastern India.

The endemic fauna includes chinkara, nilgai, wild dogs, the Indian Wolf, bison, Indian giant squirrels, and flying squirrels.

50. a

Once the Lok Sabha passes the budget of the government or any other money related law, the Rajya Sabha cannot reject it.

The Rajya Sabha can only delay it by 14 days or suggest changes in it. The Lok Sabha may or may not accept these changes. Thus, statement 1 is correct.

Council of Ministers is not appointed by the Lok Sabha. It is done by the President. Ministers can come both from Lok Sabha and Rajya Sabha. Statement 2 is incorrect.

51. b

52. d

Consider this - during winter, there is a high-pressure area north of the Himalayas. During summer, there is a low pressure trough in the Northern plains. Winds blow and fill the depression also bringing monsoon. So, clearly statement 1 is correct.

For statement 2- jet streams are an important component of upper air circulation which is dominated by westerly flow. These jet streams blow south of Himalayas, all through the year except in summer affecting India's climate and weather. So, statement 2 is also correct.

Also, the western (not eastern) cyclonic disturbances experienced in the north and north-western parts of the country are brought in by this westerly flow which affects rainfall in Northern and north-western India.

In summer, the subtropical westerly jet stream moves north of the Himalayas with the apparent movement of the sun. An easterly jet stream, called the tropical easterly jet stream blows over peninsular India, approximately over 14°N during the summer months. So, statement 3 is also correct.

53. c

Straw Burning is age-old agricultural practice followed by farmers biannually by setting fire to their fields to clear the land of residue (Straw) of one harvest and sow the next.

It is mainly carried in Northern western states in the month of November to save time under the rice-wheat crop rotation and to make the land more fertile and kill pests. The open field burning emits Carbon Dioxide (CO₂), Carbon monoxide (CO) and Nitrous Oxide (NO) along with particulate matter

Earlier, Union Government had proposed to provide incentives to farmers and promoting efficient farming practices with subsidies to stop this menace.

54. b

India's soil biodiversity is in grave peril, according to the Global Soil Biodiversity Atlas prepared by the World Wide Fund for Nature.

The WWF's 'risk index' for the globe — indicating threats from loss of above-ground diversity, pollution and nutrient over-loading, over-grazing, intensive agriculture, fire, soil erosion, desertification and climate change — shows India among countries whose soil biodiversity faces the highest level of risk. Coloured red on the Atlas, these include Pakistan, China, several countries in Africa and Europe, and most of North America.

Soil biodiversity encompasses the presence of micro-organisms, micro-fauna (nematodes and tardigrades for

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example), and macro-fauna (ants, termites and earthworms).

The findings were part of the bi-annual Living Planet Report 2018.

55. a

The Kaveri rises in the Brahmagiri range of the Western Ghats and it reaches the Bay of Bengal in south of Cuddalore, in Tamil Nadu. Total length of the river is about 760 km.

Its main tributaries are Amravati, Bhavani, Hemavati and Kabini. Its basin drains parts of Karnataka, Kerala and Tamil Nadu.

The river Kaveri makes the second biggest waterfall in India. It is known as Sivasamudram.

The Damoder, the Brahmani, the Baitarni and the Subarn rekha are major rivers flowing towards east, not tributaries.

56. d

The ECI is an independent body. It is not answerable to the government. Answerability on day to day matters and even major policy decisions can tend to erode autonomy. Its autonomy is central to the Indian democracy. Hence, statement 3 is incorrect.

ECI commissioners enjoy security of tenure, salary charged on Consolidated Fund of India, independence from government interference, difficult process of impeachment etc. Hence, they enjoy similar independence as judges do.

57. c

When moisture laden winds cause rainfall in western slopes, upon moving to eastern sides they lose much of their moisture. Rainfall is less, and thus vegetation is less thick at eastern slopes. So, statement 1 is correct. Nilgiri Biosphere Reserve extends to Eastern Slopes as well. So, statement 2 is wrong.

Eastern slopes does support vegetation, as the soil is not highly leached. It contains red as well as laterite soil. Statement 3 is incorrect

58. d

In 2016, Compensatory Afforestation Fund Act (CAMPA), 2016 was passed by Parliament to ensure expeditious and transparent utilization of compensatory levies realized in lieu of forest land diverted for non-forest purpose, which presently is of the order of about Rs. 49,000 crore.

Therefore statement 1 is correct.

Source: MoEF Report

<http://www.moef.nic.in/sites/default/files/press-releases/Final%20Printed%20Book.pdf>

Highlights of the CAMPA act:

The Bill establishes the National Compensatory Afforestation Fund under the Public Account of India,

and a State Compensatory Afforestation Fund under the Public Account of each state.

These Funds will receive payments for: (i) compensatory afforestation, (ii) net present value of forest (NPV), and (iii) other project specific payments. The National Fund will receive 10% of these funds, and the State Funds will receive the remaining 90%.

These Funds will be primarily spent on afforestation to compensate for loss of forest cover, regeneration of forest ecosystem, wildlife protection and infrastructure development.

Therefore, statement 2 is correct.

The Bill also establishes the National and State Compensatory Afforestation Fund Management and Planning Authorities to manage the National and State Funds.

Therefore, statement 3 is correct

<http://www.prsindia.org/billtrack/the-compensatory-afforestations-fund-bill-2015-3782/>

59. a

CoP-10 to the CBD in October 2010 had adopted a Strategic Plan for Biodiversity for 2011-2020, with five goals and 20 Aichi Targets, as an ambitious plan developed with the purpose of inspiring broad-based action in support of biodiversity over the decade by all countries and stakeholders. The Strategic Plan and Aichi Targets are the overarching framework on biodiversity not only for CBD and biodiversity related conventions, but for the entire UN system. The UN General Assembly vide a resolution has declared 2011-2020 as the UN Decade on Biodiversity, coinciding with the duration of the Strategic Plan.

Accordingly, India through an extensive consultative process, has developed 12 national biodiversity targets along with indicators for monitoring, using Aichi targets as a framework, and brought out a National Biodiversity Action Plan Addendum 2014 to NBAP 2008.

Therefore, statement 1 is correct.

All targets don't have 2020 as a target year.

Example:

Target 9: By 2015, Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization as per the Nagoya Protocol are operational, consistent with national legislations.

Therefore, statement 2 is incorrect.

Sources:

<http://www.moef.nic.in/division/convention-biological-diversity-cbd>

60. d

Any hydrocarbon fuel when oxidized in low presence of oxygen, it forms carbon monoxide instead of dioxide.

So, statements 1 and 3 are correct.

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Carbon dioxide (not carbon monoxide) is found naturally in groundwater, ice caps, glaciers etc. So, statement 2 is incorrect.

The principal components of volcanic gases are water vapour (H₂O), CO₂, CO, SO₂ or hydrogen sulphide, nitrogen, argon, helium, neon, methane and hydrogen. So, statement 4 is correct.

It is also generated from natural and man-made fires (such as forest and bushfires, burning of crop residues, and sugarcane fire-cleaning). Carbon monoxide occurs dissolved in molten volcanic rock at high pressures in the Earth's mantle.

Worldwide, the largest source of carbon monoxide is natural in origin, due to photochemical reactions in the troposphere.

61. b

CSIR develops Less Polluting Firecrackers named – SWAS, SAFAL and STAR

These crackers are 15-20 % cheaper than conventional ones and NEERI team involved in the project has 80 % women scientists E-crackers also being developed with products like E-Ladi, E-Anar, E-cracker show For the first time an Emission Testing Facility established in India for sound and emission testing of crackers

“CSIR scientists have developed Less Polluting Firecrackers which are not only environment friendly but 15-20 % cheaper than the conventional ones”, said Dr Harsh Vardhan, Union Minister for Science & Technology, Earth Sciences, Environment, Forest & Climate Change at a press conference here, today. These crackers have been named as safe water releaser (SWAS), safe minimal aluminium (SAFAL) and safe thermite cracker (STAR).

Highlighting that the Indian Fireworks industry is over 6000-crore worth of annual turnover and provides employment opportunities to over 5 lakh families directly or indirectly, the Minister said that this endeavour of CSIR aims at addressing the pollution concerns at the same time protecting the livelihoods of those involved in this trade.

62. b

You can apply elimination by just knowing that Greenpeace cannot contribute to a Red List. It only focuses its campaigning on worldwide issues such as climate change, deforestation.

The IUCN Red List of Threatened Species (also known as the IUCN Red List or Red Data List), founded in 1964, is the world's most comprehensive inventory of the global conservation status of biological species. The International Union for the Conservation of Nature (IUCN) is the world's main authority on the conservation status of species

Major species assessors include BirdLife International, the Institute of Zoology (the research division of the Zoological Society of London), the World Conservation Monitoring Centre, and many Specialist Groups within the IUCN Species Survival Commission (SSC). Collectively, assessments by these organizations and groups account for nearly half the species on the Red List.

63. d

Innovate in India (i3)

The first ever Industry-Academia mission to accelerate biopharmaceutical development in India will be formally launched by the Cabinet Minister for Science and Technology, Earth Sciences, Environment, Forests and Climate Change, Dr. Harsh Vardhan in New Delhi on 30th June 2017. The program named Innovate in India (i3) will witness an investment of USD 250 million with USD 125 million as a loan from world Bank and is anticipated to be a game changer for the Indian Biopharmaceutical industry. It aspires to create an enabling ecosystem to promote entrepreneurship and indigenous manufacturing in the sector.

India has been an active player in the pharmaceutical industry and has contributed globally towards making life saving drugs and low cost pharmaceutical products accessible and affordable for those in need. Be it the Rotavirus vaccine, heart valve prosthesis or affordable insulin, India has been a forerunner in these and many more. Despite, these advances Indian biopharmaceutical industry is still 10-15 years behind their counterparts in the developed countries and faces stiff competition from China, Korea and others. The lacuna primarily exists due to disconnected centers of excellence, less focus on translational research and staggered funding. There was an immediate need felt to focus on consolidated efforts to promote product discovery, translational research and early stage manufacturing in the country to ensure inclusive innovation.

i3 is committed to addressing these gaps with a Mission to make India a hub for design and development of novel, affordable and effective biopharmaceutical products and solutions. The aim of the Mission is to “Enable and nurture an ecosystem for preparing India’s technological and product development capabilities in biopharmaceuticals to a level that will be globally competitive over the next decade, and transform the health standards of India’s population through affordable product development”

64. c

Indian cavalry brigades fighting under the leadership of British General Edmund Allenby helped liberate Haifa from the clutches of the Turkish-German forces.

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The Teen Murti memorial was constructed in 1922 in the memory of the Indian soldiers from three princely states namely Jodhpur, Hyderabad and Mysore who served present day Gaza strip, Israel and Palestine during the World War I under British India Army.

The iconic Teen Murti Chowk has been renamed after the Israeli City Haifa, a year after the plan was put on hold by the NDMC. The announcement comes after the scheduled visit of Israel Prime Minister Benjamin Netanyahu to India.

65. b

66. d

67. c

68. c

The Supreme Court and the High Courts have the power to interpret the Constitution of the country. They can declare invalid any law of the legislature or the actions of the executive, whether at the Union level or at the state level, if they find such a law or action is against the Constitution. This is known as the judicial review. So, statement 1 is correct.

The powers and the independence of the Indian judiciary allow it to act as the guardian of the Fundamental Rights. In recent years the Courts have given several judgments and directives to protect public interest and human rights.

Anyone can approach the courts if public interest is hurt by the actions of government. This is called public interest litigation. The courts intervene to prevent the misuse of the government's power to make decisions. They check malpractices on the part of public officials. So, statement 2 is also correct

69. c

G20 is an international forum for the governments and central bank governors from 20 major economies.

The members include 19 individual countries— Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, South Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom and the United States—along with the European Union (EU).

70. d

The Great Barrier Reef is the world's largest coral reef system, composed of roughly 3000 individual reefs.

71. b

"A few months back, the Madras High Court mandated that Thirukkural be taught in all schools in Tamil Nadu." The Tirukkural or Thirukkural or shortly the Kural, is a classic Tamil sangam literature consisting of 1330 couplets or kurals, dealing with the everyday virtues of an individual.

Considered one of the greatest works ever written on ethics and morality, it is known for its universality and non-denominational nature. It was authored by Thiruvalluvar.

72. b

The position with respect to lapsing of bills (upon dissolution of the LS) is as follows:

A bill pending in the Lok Sabha lapses (whether originating in the Lok Sabha or transmitted to it by the Rajya Sabha).

A bill passed by the Lok Sabha but pending in the Rajya Sabha lapses.

A bill not passed by the two Houses due to disagreement and if the president has notified the holding of a joint sitting before the dissolution of Lok Sabha, does not lapse.

A bill pending in the Rajya Sabha but not passed by the Lok Sabha does not lapse.

A bill passed by both Houses but pending assent of the president does not lapse.

A bill passed by both Houses but returned by the president for reconsideration of Houses does not lapse.

73. d

Statement 1: Growth of industries and urban centres, ships and railways, created a new demand on the forests for timber and other forest products.

Statement 2: Colonial control was established over the forests, forest areas were mapped, trees were classified, and plantations were developed after clearing forests.

Statement 3: The First World War and the Second World War had a major impact on forests. In India, working plans were abandoned at this time, and the forest department cut trees freely to meet British war needs.

In Java, just before the Japanese occupied the region, the Dutch followed 'a scorched earth' policy, destroying sawmills, and burning huge piles of giant teak logs so that they would not fall into Japanese hands.

74. a

Brown dwarf, astronomical object that is intermediate between a planet and a star. Brown dwarfs usually have a mass less than 0.075 that of the Sun, or roughly 75 times that of Jupiter. (This maximum mass is a little higher for objects with fewer heavy elements than the Sun.) Many astronomers draw the line between brown dwarfs and planets at the lower fusion boundary of about 13 Jupiter masses. The difference between brown dwarfs and stars is that, unlike stars, brown dwarfs do not reach stable luminosities by thermonuclear fusion of normal hydrogen.

Hence, statement 1 and 2 is correct.

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Both stars and brown dwarfs produce energy by fusion of deuterium (a rare isotope of hydrogen) in their first few million years. The cores of stars then continue to contract and get hotter until they fuse hydrogen.

However, brown dwarfs prevent further contraction because their cores are dense enough to hold themselves up with electron degeneracy pressure. (Those brown dwarfs above 60 Jupiter masses begin to fuse hydrogen, but they then stabilize, and the fusion stops.)

Brown dwarfs are not actually brown but appear from deep red to magenta depending on their temperature. Objects below about 2,200 K, however, do actually have mineral grains in their atmospheres. The surface temperatures of brown dwarfs depend on both their mass and their age. The most massive and youngest brown dwarfs have temperatures as high as 2,800 K, which overlaps with the temperatures of very low-mass stars, or red dwarfs. (By comparison, the Sun has a surface temperature of 5,800 K.) All brown dwarfs eventually cool below the minimum main-sequence stellar temperature of about 1,800 K. The oldest and smallest can be as cool as about 300 K.

75. d

The Social Progress Index measures the extent to which countries provide for the social and environmental needs of their citizens. Fifty-four indicators in the areas of basic human needs, foundations of wellbeing, and opportunity to progress show the relative performance of nations. The index is published by the nonprofit Social Progress Imperative, and is based on the writings of Amartya Sen, Douglass North, and Joseph Stiglitz.[1] The SPI measures the well-being of a society by observing social and environmental outcomes directly rather than the economic factors. The social and environmental factors include wellness (including health, shelter and sanitation), equality, inclusion, sustainability and personal freedom and safety.

The Index combines three dimensions

1. Basic Human Needs
2. Foundations of Well-being, and
3. Opportunity

76. a

USOF is a statutory fund under Indian Telegraph Act, 2003. The objective is to extend basic telecom services to the rural areas. For this purpose National Optical Fiber Network (NOFN) is being funded by USOF. Hence, 1st and 2nd statements are correct.

USOF is maintained outside the Consolidated Fund, and is maintained by the Department of Telecommunication, Ministry of Communication. Hence, 3rd statement is incorrect.

Apart from the Levy the resources are provided by the Central Government in the form of grants and loans. Hence, 4th statement is incorrect.

77. c

The Central Government will provide interest subvention of 5 per cent per annum to all prompt payee farmers for short term crop loan upto one year for loan upto Rs. 3 lakhs borrowed by them during the year 2017-18. Farmers will thus have to effectively pay only 4% as interest. In case farmers do not repay the short term crop loan in time they would be eligible for interest subvention of 2% as against 5% available above. In order to give relief to small and marginal farmers who would have to borrow at 9% for the post harvest storage of their produce, the Central Government has approved an interest subvention of 2% i.e. an effective interest rate of 7% for loans upto 6 months.

To provide relief to the farmers affected by natural calamities, the interest subvention of 2% will be provided to Banks for the first year on the restructured amount.

The interest subvention will be given to Public Sector Banks (PSBs), Private Sector Banks, Cooperative Banks and Regional Rural Banks (RRBs) on use of own funds and to NABARD for refinance to RRBs and Cooperative Banks.

It will be implemented by NABARD and RBI.

PIB: Cabinet approves ISS to banks on Short-Term crop loans to farmers;

78. d

CSIR has created and is the custodian of Traditional Knowledge Digital Library (TKDL).

TKDL is a pioneer initiative of India to prevent misappropriation of country's traditional medicinal knowledge at International Patent Offices (hence statement 3 is correct) on which healthcare needs of more than 70% population and livelihood of millions of people in India is dependent. Its genesis dates back to the Indian effort on revocation of patent on wound healing properties of turmeric at the USPTO. Besides, in 2005, the TKDL expert group estimated that about 2000 wrong patents concerning Indian systems of medicine were being granted every year at international level, mainly due to the fact that India's traditional medicinal knowledge which exists in local languages such as Sanskrit, Hindi, Arabic, Urdu, Tamil etc. is neither accessible nor comprehensible for patent examiners at the international patent offices.

Source:

<http://www.tkdil.res.in/tkdil/LangFrench/common/Abouttkdl.asp?GL=Eng>

79. b

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Statement 1: The Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC) was launched by the United Nations Environment Programme (UNEP) and six countries—Bangladesh, Canada, Ghana, Mexico, Sweden, and the United States—in 2012.

- Statement 2: The Coalition's initial focus is on methane, black carbon, and HFCs.

80. b

The 'Eat Right India' Campaign Aims To Reduce The Burden Of Non-communicable Diseases

<https://www.indiatimes.com/health/buzz/the-eat-right-india-campaign-aims-to-reduce-the-burden-of-non-communicable-diseases-358825.html>

81. a

82. d

83. a

Sugarcane yields molasses and bagasse among other products. Bagasse is the fibrous matter that remains after sugarcane or sorghum stalks are crushed to extract their juice.

Molasses is used as an ingredient for manufacturing fertilizers, not bagasse. So, 3 is wrong.

Bagasse is often used as a primary fuel source for sugar mills; when burned in quantity, it produces sufficient heat energy to supply all the needs of a typical sugar mill. So, 1 is correct.

Bagasse is commonly used as a substitute for wood in many tropical and subtropical countries for the production of pulp, paper (even for newspapers) and board, such as India, China, Colombia, Iran, Thailand and Argentina. So, 2 is correct.

84. d

Crop diversification and also the growing of large number of crops are practiced in rainfed lands to reduce the risk factor of crop failures due to drought or less rains. Fruits, medicinal herbs, flowers, vegetables, bio-diesel crops like jatropha and jojoba need much less irrigation than rice or sugarcane. So, statement 3 is correct.

There is huge demand for cash crops abroad. For e.g. India exports 80% of the coffee it produces earning precious foreign exchange. Statement 1 is correct.

Processing of crops like tobacco, cotton, jute, cashew etc are generating large forward and backward linkages in the food processing industry. Statement 2 is correct.

85. a

Despite being a net importer of crude oil, India has become a net exporter of petroleum products by investing in refineries designed for export, particularly in Gujarat. So, statement 1 and 2 are correct.

Natural gas is priced based on a formula approved by the government which links prices to select global market prices. So, statement 3 is incorrect

The oil and gas industry is usually divided into three major sectors: upstream, midstream and downstream. The upstream oil sector is also commonly known as the exploration and production (E&P) sector, which is being done in India by companies such as Reliance and Cairn India. Statement 4 is incorrect

86. a

AEC would make ASEAN a single market with a free flow of goods, capital and skilled labour in the region.

It would thus integrate Southeast Asia's diverse 10 economies which has combine population of 620 million people and a combined gross domestic product (GDP) of 2.4 trillion US dollars.

To achieve this, it would abolish tariffs on imports within the bloc member countries and promote the liberalization of service industries such as retailing and tourism.

Hence, it calls for more free movement of and skilled labour within the region including of doctors, architects and others with special skills.

Statement 2 and 3 are not valid for ASEAN, but valid for EU

87. d

Glacial movements erode a very large portion of earth and deposit them slowly over a place where other forces of nature act on it to form soil. So, 1 contributes. Magma is responsible for formation of lava and its cooling forms igneous soil. So, 2 contributes.

Groundwater does not form soil as such but it can cause salination of soil if is withdrawn excessively. In areas of limestone, it forms landforms, but not soil. So, 3 does not contribute.

88. b

89. d

90. d

91. d

The IWT advantages are several and disadvantages are few. Among all the transport modes, it is the least capital-intensive, is environment friendly, can supplement rail and road transport, help in the decongestion of roads, is best suited to carry over-dimensional cargo (ODC), requires minimum. So, 2 is wrong.

Transportation costs are lesser than roadways. So, 3 is wrong.

Both IWT and coastal shipping are highly fuel efficient when compared to roadways. So, 1 is wrong.

Rivers, canals and lakes can be used as IWT.

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For the Twelfth Five Year Plan (2012-2017), IWT has been allocated R10,500 crore, substantially more than the previous Plan periods. A World Bank study on IWT has shown that 'in many instances, these advantages can be gained with little or no improvement to existing waterways. In others, a modest level of complementary investment can significantly increase usability'.

92. c

93. c

Dharma Sabha was formed in 1830 in Calcutta by Raja Radhakant Deb. The organization was established mainly to counter the ongoing social reform movements led by protagonists such as Raja Ram Mohun Roy and Henry Derozio. More specifically, the impetus of forming the organization came from a new law enacted by the colonial Government which banned the practice of sati in the country; the focus of the new association was to repel the law which was seen as an intrusion by the Government into the religious affairs of the indigenous people by some sections of the Hindu community.

The organization soon morphed into a 'society in defense of Hindu way of life or culture'.

94. b

Bengal Gazette

Bengal Gazette (Not Bombay) was an English newspaper published from Kolkata (then Calcutta), India. It was the first major newspaper in India, started in 1780. It was published for two years. It was founded by James Augustus Hickey.

Hicky's Bengal Gazette or the Calcutta General Advertiser was the first English-language newspaper, and indeed the first printed newspaper, to be published in the Indian subcontinent.

95. b

Narayan Malhar Joshi's, zeal for public work led him to join the Servants of India Society in 1909. In 1911, he started the Social Service League and was intimately associated with its working till 1955. Gopal Krishna Gokhale founded Servants of India Society (1905). Gradually he started taking interest in labour problems and started a number of welfare centres, night schools, medical centres and industrial classes in labour areas. He started the All India Trade Union Congress in 1921 and worked as its Secretary till 1929.

96. c

The PMKKKY fund is obtained after imposing royalty payments on the miners. So, the funds will not be used to subsidize mining company or units. It will be used exclusively for the welfare of the citizens affected by mining. So, statement 2 is incorrect.

Welfare would involve overall development, i.e. watershed development, reducing pollution, improving health indicators, education etc. So, 1 and 3 are correct
97. a

The Self-Respect Movement is a movement with the aim of achieving a society where backward castes have equal human rights, and encouraging backward castes to have self-respect in the context of a caste-based society that considered them to be a lower end of the hierarchy.

It was started by E.V. Ramaswamy (popularly known as Periyar) in Tamil Nadu (not Kerala).

Its main aim was to improve upon the socio-economic conditions of the low castes Tamils.

Later it had profound implications. The main objectives of this movement were inculcation and dissemination of knowledge of political education. Right to lead life with dignity and self-respect and do away with the exploitative system based on superstitions and beliefs. Abolition of the evil social practices and protection of women rights. Establishment and maintenance of homes for orphans and widow and opening of educational institutions for them. This movement gained popularity in no time and became a political platform.

98. c

India has hosted three IBSA (founded in 2003) summits, all in New Delhi in 2008, 2013 and 2015 (planned). So, 2 is wrong.

The main objective of the IBSA Fund (established in 2004) is to benefit other developing countries, particularly Least Developed Countries (LDCs) and Post Conflict Reconstruction and Development (PCRD) countries around the world in partnership with the UN. So, 4 is correct

99. d

Bharat stage (BS) norms are emission standards decided by the government to regulate the amount of air pollutants from vehicles.

They are not imposed on any industry as such. So, all statements are wrong

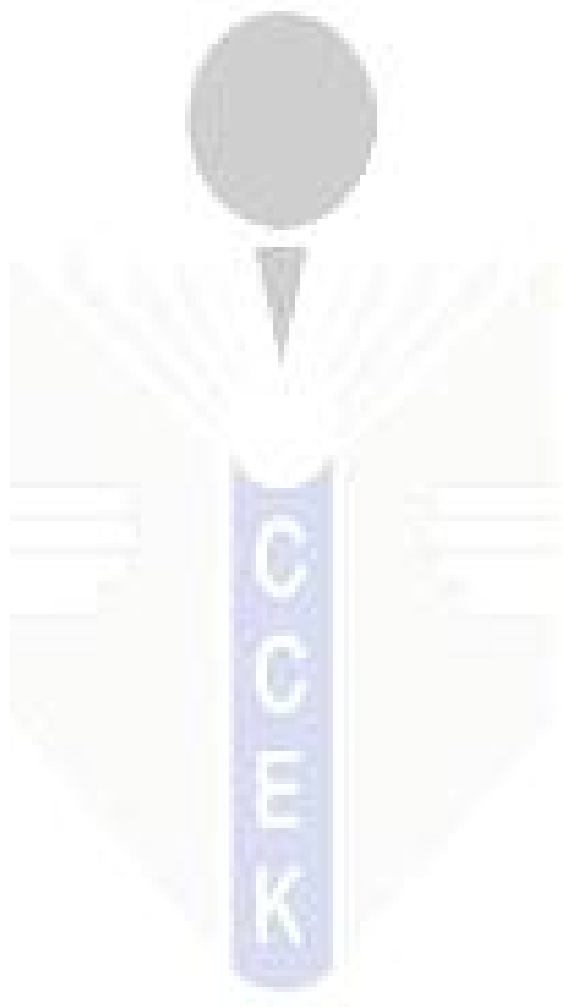
100. a

NHAI was created through the promulgation of the National Highways Authority of India Act, 1988. In February 1995, the Authority was formally made an autonomous body.

It is also a nodal agency of the Ministry of Road Transport and Highways. So, 1 and 2 both are correct.

The Cabinet Committee on Economic Affairs (CCEA) approves large PPP projects in highways. NHAI implements them. So, 3 is incorrect.

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