Solved Paper of CS Preliminary 2021 Paper I (General Study) Exam

1. With reference to the history of ancient India, Bhavabhuti, Hastimalla and Kshemeshwara were famous
a) Jain monks
b) Playwrights
c) temple architects
d) philosophers

Correct Answer is (d)

Bhavabhuti (flourished 700 CE) was an Indian dramatist and poet, whose dramas, written in Sanskrit and noted for their suspense and vivid characterization, rival the outstanding plays of the better-known playwright Kalidasa.

Hastimalla wrote 8 plays including Vikrant Kaurava and Subhadra Harana. He was a noted Kannada poet and playwright in the Hoysala Empire..

Kshemendra was an 11th-century Sanskrit polymath-poet, satirist, philosopher, historian, dramatist, translator and art-critic from Kashmir in India

2. Consider the following statements:

i) The Montague-Chelmsford Reforms of 1919 recommended granting voting rights to all women above the age of 21.
ii) The Government of India Act of 1935 gave women reserved seats in the legislature.

Which of the statements given above is/are correct?

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

Correct Answer is (b) 2 only

The Montagu–Chelmsford Reforms or more briefly known as the Mont–Ford Reforms, were introduced by the colonial government to introduce self-governing institutions gradually in British India.

The main provisions were the following:

The secretary of state would control affairs relating to Government of India.
The Imperial Legislative Council would comprise two chambers- the Council of State and the Central Legislative Assembly.
The Imperial Legislative Council was empowered to enact laws on any matter for whole of India.
The Governor General was given powers to summon, prorogue, dissolve the Chambers, and to promulgate Ordinances.
The number of Indians in Viceroy's Executive Council would be three out of eight members.
Establishment of bicameral Provincial Legislative councils.
Dyarchy in the Provinces-
Reserved subjects like Finance, Law and Order, Army, Police etc.
Transferred subjects like Public Health, Education, Agriculture, Local Self-government etc.
There would henceforth be direct election and an extension of Communal franchise.

A council of princes was also set up with 108 members to allow princes to debate matters of importance. But it had no power and some princes didn't even bother to attend what was little more than a 'talking shop'

The Women's suffrage movement in India fought for Indian women's right to political enfranchisement in Colonial India under British rule. Beyond suffrage, the movement was fighting for women's right to stand for and hold office during the colonial era. In 1918, when Britain granted limited suffrage to women property holders, the law did not apply to British citizens in other parts of the Empire. Despite petitions presented by women and men to the British commissions sent to evaluate Indian voting regulations, women's demands were ignored in the Montagu–Chelmsford Reforms. In 1919, impassioned pleas and reports indicating support for women to have the vote were presented by suffragists to the India Office and before the Joint Select Committee of the House of Lords and Commons, who were meeting to finalize the electoral regulation reforms of the Southborough Franchise Committee. Though they were not granted voting rights, nor the right to stand in elections, the Government of India Act 1919 allowed Provincial Councils to determine if women could vote, provided they met stringent property, income, or educational levels.

The Government of India Act 1935 was an Act passed by the British Parliament that originally received royal assent in August 1935. It was the longest Act that the British Parliament ever enacted until the Greater London Authority Act 1999 surpassed it. Because of its length, the Act was retroactively split by the Government of India Act, 1935 into two separate Acts:

The Government of India Act 1935, having 321 sections and 10 schedules.
The Government of Burma Act 1935, having 159 sections and 6 schedules.
The Act led to:

Separation of Burma from British India, effective from 1 April 1937.
Establishment of the Reserve Bank of India (RBI).
Establishment of the Federal Public Service Commission (FPSC), a Provincial Public Service Commission (PPSC) in each province, and the JPSC.
Creation of the Federal Court in 1937.
Bicameralism in six provinces (Bombay, Madras, Bengal, Bihar, Assam and United Provinces) out of 11 provinces.
Overview
The most significant aspects of the Act were:

The grant of a large measure of autonomy to the provinces of India (ending the system of diarchy introduced by the Government of India Act 1919)
Provision for the establishment of a "Federation of India", to be made up of both British India and some or all of the "princely states"
The introduction of direct elections, thus increasing the franchise from five million to thirty-five million people
A partial reorganization of the provinces:
Sindh was separated from Bombay
Bihar and Orissa was split into separate provinces of Bihar and Orissa
Burma was completely separated from India
Aden was also detached from India, and established as a separate Crown colony
Membership of the provincial assemblies was altered to include any number of elected Indian representatives, who were now able to form majorities and be appointed to form governments
The establishment of a Federal Court
However, the degree of autonomy introduced at the provincial level was subject to important limitations: the provincial governors retained important reserve powers, and the British authorities also retained a right to suspend responsible government.

To each Governor's Province, Chief Commissioner's Province and community specified in the first column of division (i) of the Table there shall be allotted the number of seats specified in the second column opposite to that Province or community, and of the seats so allotted to a Governor's Province or a Chief Commissioner's Province, the number specified in the third column shall be general seats, the number specified in the fourth column shall be seats for representatives of the scheduled castes, the number specified in the fifth column shall be Sikh seats, the number specified in the sixth column shall be Muhammadan seats, and the number specified in the seventh column shall be seats reserved for women.

3. With reference to 8th August 1942 in Indian History, which one of the following statements is correct?
a) The Quit India Resolution was adopted by AICC
b) The Viceroy's Executive Council was expanded to include more Indians.
c) The Congress ministries resigned in seven provinces.
d) Cripps proposed an Indian Union with full Dominion Status once the Second World War was over.

Correct Answer is (a) The Quit India Resolution was adopted by AICC

The Quit India Movement was a movement launched at the Bombay session of the All India Congress Committee by Mahatma Gandhi on 8 August 1942, during World War II, demanding an end to British rule in India.

4. Which among the following is associated with ''Songs from Prison'', a translation of ancient Indian religious lyrics in English?

a) Bal Gangadhar Tilak
b) Jawaharlal Nehru
c) Mohandas Karamchand Gandhi
d) Sarojini Naidu

Correct Answer is (c) Mohandas Karamchand Gandhi

Songs From Prison: Translations Of Indian Lyrics Made In Jail is a book by Mohandas Karamchand Gandhi, also known as Mahatma Gandhi. The book is a collection of poems and songs that were written by Indian freedom fighters who were imprisoned during the struggle for independence from British rule.

5. With reference to medieval India, which one of the following is the correct sequence in ascending order in terms of size?
a) Paragana-Sarkar-Suba
b) Sarkar-Paragana-Suba
c) Suba-Sarkar-Paragana
d) Paragana-Suba-Sarkar

Correct Answer is (a) Paragana-Sarkar-Suba

Subah was the term for a province. Subahs were divided into Sarkars, or districts. Sarkars were further divided into Parganas or Mahals.

6. Who among the following was associated as Secretary with Hindu Female School which later came to be known as Bethune Female School?
a) Annie Besant
b) Debendranath Tagore
c) Ishwar Chandra Vidyasagar
d) Sarojini Naidu

Correct Answer is (c) Ishwar Chandra Vidyasagar

A weekly newspaper, Somprakash Patrika, was started on 15 November 1858 by Dwarakanath Vidyabhusan. Dwarakanath (1819–1886) was a professor of the Sanskrit College in Calcutta , India. The original plan was mooted by Ishwar Chandra Vidyasagar (1820–1891), who continued to advise Dwarakanath in editorial matters. He was also associated as secretary with Hindu Female School which later came to be known as Bethune Female School.

7. In the context of Colonial India, Shah Nawaz Khan, Prem Kumar Sehgal and Gurbaksh Singh Dhillion are remembered as

a) Leaders of Swadeshi and Boycott Movement
b) Members of the Interim Government in 1946
c) Members of the Drafting Committee in the Constituent Assembly
d) Officers of the Indian National Army

Correct Answer is (d) Officers of the Indian National Army

Indian National Army
Commander-in-Chief Mohan Singh (1942) Subhas Chandra Bose (1943–1945)
Chief of Staff Jaganath Rao Bhonsle
Notable commanders Mohammed Zaman Kiani Shah Nawaz Khan Prem Sahgal, Gurubaksh Singh Dhillon

8. With reference to Indian History, which of the following statements is/are correct?

1. The Nizamat of Arcot emerged out of Hyderabad State
2. The Mysore Kingdom emerged out of Vijayanagara Empire
3. Rohilkhand Kingdom was formed out of the territories occupied by Ahmad Shah Durani

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

Correct Answer is (a) 1 and 2

After the Nizam of Hyderabad established his power in South-Central India, the Nawab Saadet-Allah of Arcot declared independence.

After Rama Raya's death, Tirumala Deva Raya started the Aravidu dynasty, founded a new capital of Penukonda to replace the destroyed Hampi, and attempted to reconstitute the remains of Vijayanagara Empire. Tirumala abdicated in 1572, dividing the remains of his kingdom to his three sons. The Aravidu dynasty successors ruled the region but the empire collapsed in 1614, and the final remains ended in 1646, from continued wars with the Bijapur sultanate and others. During this period, more kingdoms in South India became independent and separate from Vijayanagara, including the Nayakas of Chitradurga, Keladi Nayaka, Mysore Kingdom, Nayak Kingdom of Gingee, Nayaks of Tanjore, and Nayaks of Madurai.

The state of Rohilkhand emerged in 1721 in the declining Mughal Empire in the modern districts of Rampur, Bareilly etc. Ahmad Shah Durrani started his invasion of India in 1748.

9. Which one of the following statements is correct?
a) Ajanta Caves lie in the gorge of Waghora river.

b) Sanchi Stupa lies in the gorge of Chambal river.
c) Pandu-lena Cave Shrines lie in the gorge of Narmada River.
d) Amaravati Stupa lies in the gorge of Godavari river.

Correct Answer is (a) Ajanta Caves lie in the gorge of Waghora river.

In a far-flung river valley, about 105 kilometre northeast of Aurangabad in Maharashtra, the ancient cave temples of Ajanta are carved into the steep rock face of a horseshoe-shaped gorge along the Waghur river.

Sanchi stupa lies in the gorge of Betwa river. Pandavleni, also known as Tirthankar Leni, Panch Pandav or Pandav Leni Jain cave, is ancient rock-cut sculptures complex located at Gomai River.

Amaravati lies in the gorge of Krishna river.

10. Consider the following statements:
1. 21st February is declared to be International Mother Language Day by UNICEF.
2. The demand that Bangla has to be one of the national languages was raised in the Constituent Assembly of Pakistan.
Which of the above statements is/are correct?
a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Correct Answer is (b) 2 only

International Mother Language Day is a worldwide annual observance held on 21 February to promote awareness of linguistic and cultural diversity and to promote multilingualism. First announced by UNESCO on 17 November 1999, it was formally recognized by the United Nations General Assembly with the adoption of UN resolution 56/262 in 2002.

In Bangladesh, 21 February 1952 is the anniversary of the day when the Bengalis of the then-Pakistani province of East Bengal (which is now the independent state of Bangladesh) fought for recognition of their Bengali language.

11. With reference to Chausath Yogini Temple situated near Morena, consider the following statements:
1. It is a circular temple built during the reign of Kachchhapaghata Dynasty.
2. It is the only circular temple built in India
3. It was meant to promote the Vaishnava cult in the region.
4. Its design has given rise to a popular belief that it was the inspiration behind the Indian Parliament building.
Which of the statements given above are correct?

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

Correct Answer is (c) 1 and 4

The Chausath Yogini Temple, Mitaoli, also known as Ekattarso Mahadeva Temple, is an 11th-century temple in Morena district in the Indian state of Madhya Pradesh built by the Kachchhapaghata Dynasty. Statement 1 is correct.

It is one of the few well-preserved Yogini temples in India and one of the circular temples built in India. Statement 2 is incorrect.

The temple is formed by a circular wall with 65 chambers, apparently for 64 yoginis and the goddess Devi, and an open mandapa in the centre of a circular courtyard, sacred to Shiva. Statement 3 is incorrect.

Statement 4 is correct: The temple is on a hill about 100 feet (30 m) in height; there are 100 steps to climb up to the entrance. It is circular with a radius of 170 feet (52 m), while inside it has 65 small chambers, each with a mandapa which is open and a facia of pilasters and pillars. The roof of the ring of shrines is flat, as is that of the central shrine to Shiva; the circular courtyard is hypaethral, open to the sky, with an open porch as its entrance. The parliament building of India is said to have been based on this temple.

12. Which one of the following ancient towns is well-known for its elaborate system of water harvesting and management by building a series of dams and channelizing water into connected reservoirs?
a) Dholavira
b) Kalibangan
c) Rakhigarhi
d) Ropar

Correct Answer is (a) Dholavira

Dholavira is an outstanding example of Harappan urban planning, with its preconceived city planning, multi-layered fortifications, sophisticated water reservoirs and drainage system, and the extensive use of stone as a building material. These characteristics reflect the unique position Dholavira held in the entire gamut of Harappan Civilization.

13. In the first quarter of the seventeenth century, in which of the following was/were the factory/factories of the English East India Company located?
1. Broach
2. Chicacole
3. Trichinopoly

Select the correct answer using the code given below.
a) 1 only
b) 1 and 2
c) 3 only
d) 2 and 3

Correct Answer is (a) 1 only

By 1623, English East India Company had established factories at Surat, Broach, Ahmedabad, Agra, and Masulipatam.

Company ships docked at Surat in Gujarat in 1608. The company's first Indian factory was established in 1611 at Masulipatnam on the Andhra Coast of the Bay of Bengal, and its second in 1615 at Surat.

14. From the decline of Guptas until the rise of Harshavardhana in the early seventh century, which of the following kingdoms were holding power in Northern India?
1. The Guptas of Magadha
2. The Paramaras of Malwa
3. The Pushyabutis of Thanesar
4. The Yadavas of Devagiri
5. The Yadavas of Devagiri

6. The Maitrakas of Valabhi
Select the correct answer using the code given below.

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

Correct Answer is (b) 1, 3, 4 and 6

In the post Gupta period, a number of new political powers emerged in different parts of north India. Until the rise of Harsha in the early seventh century four kingdoms effectively held power in northern India: the Guptas of Magadha; the Maukharis of Kanauj; the Pushyabhutis of Thanesar; and the Maitrakas of Valabhi.

15. According to Portuguese writer Nuniz, the women in Vijayanagar Empire were experts in which of the following areas?
1. Wrestling
2. Astrology
3. Accounting
4. Soothsaying

Select the correct answer using the code given below

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

Correct Answer is (d) 1, 2, 3 and 4

Fernao Nuniz visited Vijayanagara Empire in the time period of 1535-1537 AD. He observed that there were women in the kingdom who wrestled, who were astrologers and soothsayers, who would write the accounts of expenses

16. With reference to Madanapalle of Andhra Pradesh, which one of the following statements is correct?

a) Pingali Venkaya designed the tricolour Indian National Flag here.
b) Pattabhi Sitaramaiah led the Quit India Movement of the Andhra region from here.
c) Rabindranath Tagore translated the National Anthem from Bengali to English here.
d) Madam Blavatsky and Colonel Olcott set up headquarters of Theosophical Society first here.

Correct Answer is (c) Rabindranath Tagore translated the National Anthem from Bengali to English here.

Madanapalle has long standing educational institutions like Besant Theosophical College,founded by Dr.Annie Besant in 1915.First Degree college in Rayalaseema Region and Rabindranath Tagore translated Jana Gana Mana from Bengali to English,Outside of Calcutta, the song was first sung by the bard himself at a session in Besant Theosophical College in Madanapalle, Andhra Pradesh on 28 February 1919 when Tagore visited the college and sung the song. The song enthralled the college students while Margaret Cousins, then vice-principal of the college (also an expert in European music and wife of Irish poet James Cousins), both requested Tagore to create an English translation of the song and set down the musical notation to the national anthem which were provided by Tagore himself.

17. Consider the following pairs:

Historical place : Well-known for

1. Burzahom : Rock-cut shrines
2. Chandra-ketugargh : Terracotta art
3. Ganeshwar : Copper artefacts
Which of the pairs given above is correctly matched?
a) 1 only
b) 1 and 2
c) 3 only
d) 2 and 3

Correct Answer is (d) 2 and 3

The Burzahom archaeological site is located in the Srinagar district of the Kashmir Valley of Jammu and Kashmir, India. Archaeological excavations have revealed four phases of cultural significance between 3000 BCE and 1000 BCE.Periods I and II represent the Neolithic era; Period III the Megalithic era (of massive stone menhirs and wheel turned red pottery); and Period IV relates to the early Historical Period (Post-megalithic period).

Asutosh Museum of Indian Art conducted excavation between 1957 and 1968, which revealed relics of several historical periods, although the chronological classification of the relics remains incomplete. Many of the Chandraketugarh items and terracottas are now in collections of museums in India and abroad; and many of them are a part of private collections.

Ganeshwar is located near the copper mines of the Sikar-Jhunjhunu area of the Khetri copper belt in Rajasthan. The Ganeshwar-Jodhpura culture has over 80 other sites currently identified. The period was estimated to be 2500–2000 BC. Historian Ratna Chandra Agrawala wrote that Ganeshwar was excavated in 1977. Excavations revealed copper objects including arrowheads, spearheads, fish hooks, bangles and chisels.

18. Consider the following statements

1. It was during the reign of Iltumish that Chengiz Khan reached the Indus in pursuit of the fugitive Khwarezm prince.
2. It was during the reign of Muhammad bin Tughlaq that Taimur occupied Multan and crossed the Indus.
3. It was during the reign of Deva Raya II of Vijayanagara Empire that Vasco da Gama reached the coast of Kerala.

Which of the statements given above is/are correct?

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

Genghis Khan had invaded Khwarazm with an army of between 75,000 and 200,000 soldiers in late 1219.[a] Shah Muhammad II, wary of Mongol skill in battle and doubtful of his commanders' loyalties, adopted a defence in depth strategy based on garrisoning his cities, especially Otrar, Samarkand and Gurganj. However, the Khan demonstrated superior strategic ability, splitting the Shah's forces to take Bukhara in February 1220 and Samarkand in March; the border town of Otrar held out for six months until it fell in April. Genghis sent a 30,000 to 40,000 strong Mongol army led by Jebe and Subutai to hunt down the Shah, who had begun to flee west with his eldest son Jalal al-Din. The Mongol army sacked

numerous cities during their long pursuit, including Tus, Qazvin and Ardabil; however, the Shah found refuge on an island in the Caspian Sea, where he died in December 1220.

Timur invaded northern India, during the reign of Sultan Nasiruddin Mahmud Shah Tughluq (who was the last ruler of the Tughlaq Dynasty) in 1398.
Timur crossed River Indus on 30 September 1398. He massacred all the people of Tulamba (the first town which he encountered in his invasion). He advanced further and captured Multan in October. Throughout his invasion Timur was not opposed by any Indian nobility.

19. Consider the following statements:

1. St.Francis Xavier was one of the founding members of the Jesuit Order
2. St.Francis Xavier died in Goa and a church is dedicated to him there
3. The Feast of St.Francis Xavier is celebrated in Goa each year.

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

20. With reference to the history of ancient India, which of the following statements is/are correct?
1. Mitakshara was the civil law for upper castes and Dayabhaga was the civil law for lower castes.
2. In the Mitakshara system, the sons can claim the right to the property during the lifetime of the father whereas, in the Dayabhaga system, it is only after the death of the father that the sons can claim the right to the property.
3. The Mitakshara system deals with the matters related to the property held by male members only of a family, whereas the Dayabhaga system deals with the matters related to the property held by both male and female members of a family.
Select the correct answer using the code given below.
a) 1 and 2
b) 2 only
c) 1 and 3
d) 3 only
Correct Answer is (b) 2 only

MITAKSHARA AND DAYABHAGA SCHOOLS OF HINDU LAW & THEIR POINTS OF DIFFERENCE
From earlier times there were 2 lines of thought putting forward father's absolute right over the property:
Mitakshara (*Janmasvatvada* or ownership arising due to birth)
Dayabhaga (*Upramasvatvada* or ownership arising due to death)
School Of Mitakshara
This school advocates that the son shall have equal rights and ownership over the father's ancestral property.
The coparcener comes into existence on the birth of a son. When it comes to female coparceners, before the 2005 amendment no female could have been a coparcener.
Mitakshara is also known as the school of aggregate ownership(survivorship or notional partition). Which means that share of each coparcener alters; when either birth or death takes place in the family.The share of coparceners is not defined. It keeps on varying when a person dies or is born.
For eg:- A is the father of the family, B,C,and D are the coparceners. Upon the death of B, his share will be equally distributed among C,D and E, where E is an additional coparcener.
This school works under the principle of propinquity;
which means closeness in blood or kinship.
According to Mitakshara law the powers of the father are limited and qualified over joint family property.

A coparcener in Mitakshara has no power to alienate his share by sale, mortgage or exchange.

School Of Dayabhaga
The concept of coparcenary in Dayabhaga is completely different from that of Mitakshara.
Under the Dayabhaga law, the son does not acquire any interest by birth in the ancestral property, but the son's right arises for the first time on the death of the father and property devolves by succession and not by survivorship. So there is no correspondence between father and son in Dayabhaga law.

21. The money multiplier in an economy increases with which one of the following?

a) Increase in the Cash Reserve Ratio in the banks.
b) Increase in the Statutory Liquidity Ratio in the banks
c) Increase in the banking habit of the people
d) Increase in the population of the country
Correct Answer is (d) Increase in the population of the country

What Is the Multiplier Effect?
The multiplier effect is an economic term, referring to the proportional amount of increase, or decrease, in final income that results from an injection, or withdrawal, of capital. In effect, Multipliers effects measure the impact that a change in economic activity—like investment or spending—will have on the total economic output of something. This amplified effect is known as the multiplier.

Understanding the Multiplier Effect
Generally, economists are most interested in how infusions of capital positively affect income or growth. Many economists believe that capital investments of any kind—whether it be at the governmental or corporate level—will have a broad snowball effect on various aspects of economic activity.
As its name suggests, the multiplier effect provides a numerical value or estimate of a magnified expected increase in income per dollar of investment. In general, the multiplier used in gauging the multiplier effect is calculated as follows:
Multiplier=Change in Income/Change in Spending

An increase in the banking habit of the population will increase the lending, thereby will lead to more deposits in the banking system, hence increasing the money multiplier. Even if there is an increase in the population of the country, the money multiplier in an economy does not necessarily increase.
22. With reference to Indian economy, demand-pull inflation can be caused/increased by which of the following?

1. Expansionary policies
2. Fiscal stimulus
3. Inflation-indexing wages
4. Higher purchasing power
5. Rising interest rates

Select the correct answer using the code given below.
a) 1, 2 and 4 only
b) 3, 4 and 5 only
c) 1, 2, 3 and 5 only
d) 1, 2, 3, 4 and 5
Correct Answer is (a) 1, 2 and 4

Demand-pull inflation occurs when there is an increase in aggregate demand, categorized by the four sections of the macroeconomy: households, businesses, governments, and foreign buyers.

When concurrent demand for output exceeds what the economy can produce, the four sectors compete to purchase a limited amount of goods and services. That means the buyers "bid prices up" again and cause inflation. This excessive demand, also referred to as "too much money chasing too few goods," usually occurs in an expanding economy.

In Keynesian economics, an increase in aggregate demand is caused by a rise in employment, as companies need to hire more people to increase their output.

The increase in aggregate demand that causes demand-pull inflation can be the result of various economic dynamics. For example, an increase in government spending can increase aggregate demand, thus raising prices.

Another factor can be the depreciation of local exchange rates, which raises the price of imports and, for foreigners, reduces the price of exports. As a result, the purchasing of imports decreases while the buying of exports by foreigners increases. This raises the overall level of aggregate demand, assuming aggregate supply cannot keep up with aggregate demand as a result of full employment in the economy.

23. With reference to India, consider the following statements:
1. Retail investors through demat account can invest in Treasury Bills and Government of India Debt Bonds in primary market
2. The ‘’Negotiated Dealing System-Ordering Matching’’ is a government securities trading platform of the Reserve Bank of India.
3. The ‘’Central Depository Services Ltd’’ is jointly promoted by the Reserve Bank of India and the Bombay Stock Exchange.
Which of the statements given above is/are correct?
a) 1 only
b) 1 and 2
c) 3 only
d) 2 and 3

Correct Answer is (b) 1 and 2

How to Buy Government Bonds?
There are a few ways in which one can buy government bonds in India:

1. Banks and Post Offices
To buy a G-Sec from a bank or post office, you will have to submit a form, your Demat account number, and relevant documents such as your Aadhaar card, PAN card, voter ID card, or some other address/identity proof. The bank or post office will process your request and then issue a bond certificate in your name.

2. Brokerage House
You can also purchase bonds through a brokerage house. You will need a Demat account as well as a trading account with that firm. They will specify the documentation required for you to start buying or selling your bonds and charge you a brokerage fee.

3. Gilt Mutual funds (MFs) and Exchange-Traded Funds (ETFs)
When you buy a G-Sec through an ETF or gilt MF, the burden of choosing the “best” bond is no longer on you. Instead, the MF or ETF provider will select the bonds for you, making it easy to invest in G-Secs and earn regular returns.

Do consider the instrument’s expense ratio before investing. This ratio changes depending on the fees that fund houses charge investors for managing their funds. If the ratio of a particularly G-Sec is higher than

you are comfortable with, it will eat into your returns. For this reason, it's important to select a G-Sec that offers a competitive and affordable expense ratio.

4. RBI Retail Direct
RBI's Retail Direct scheme, launched in November 2021, allows individual investors to invest directly in G-Secs. To use this option, register for the Retail Direct Gilt (RDG) account with the RBI. This gilt securities account will allow you to participate in the primary issuance of many kinds of G-Secs. Unlike a brokerage trading account, there is no fee for opening and maintaining the RDG account.

5. NSE goBID or BSE Direct
The RBI allows eligible investors to buy G-Secs, State Development Loans (SDLs) and Treasury Bills (T-Bills) by participating in non-competitive bidding (NCB) on the NSE's goBID or BSE's BSE Direct web portal or mobile application. These investors can be banks and NBFCs, primary dealers, mutual funds, insurance companies or retail investors. . NSE or BSE acts as facilitator of Gsec auctions conducted by RBI.

1. What is NDS-OM?

NDS-OM is a screen based electronic anonymous order matching system for secondary market trading in Government securities owned by RBI. Presently the membership of the system is open to entities like Banks, Primary Dealers, Insurance Companies, Mutual Funds etc. i.e entities who maintain SGL accounts with RBI. These are Primary Members (PM) of NDS and are permitted by RBI to become members of NDS-OM. Gilt Account Holders which have gilt account with the PMs are permitted to have indirect access to the NDS-OM system i.e they can request their Primary Members to place orders on their behalf on the NDS-OM system.

2. What is NDS-OM Web Module?

To further enhance the access of such Gilt Account Holders (herein after referred to as GAHs) to NDS-OM, an internet based web application is provided to such clients who can now have direct access to NDS –OM, the system owned by RBI. The internet based utility permits GAH to directly trade (buying and selling) in Government Securities (G-Sec) in the secondary market. The access is however, subject to controls by respective Primary Member (PM) with whom GAHs have gilt account and current account.

CDSL is not a government company. It is a public limited company that is promoted by the Bombay Stock Exchange Limited (BSE) and State Bank of India (SBI). However, it is regulated by the Securities and Exchange Board of India (SEBI).

CDSL is majority-owned by public shareholders with 85% stake, while the remaining 15% is held by promoters. Among the public shareholders, foreign portfolio investors in the Category-I held over 10% stake as of December-end, insurance companies about 8%, and mutual funds nearly 13%.

24. With reference to ''Water Credit", consider the following statements:

1. It puts microfinance tools to work in the water and sanitation sector.
2. It is a global initiative launched under the aegis of the World Health Organization and the World Bank.
3. It aims to enable the poor people to meet their water needs without depending on subsidies.
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

Correct Answer is (c) 1 and 3

Our Founders
A shared passion for ending the global water crisis brought Gary White and Matt Damon together to create Water.org in 2009.

Water.org is a global nonprofit organization working to bring water and sanitation to the world. We want to make it safe, accessible, and cost-effective.

We help people get access to safe water and sanitation through affordable financing, such as small loans. We give our everything every day to empower people in need with these life-changing resources – giving women hope, children health and families a bright future.

Small loans, big impact: the power of WaterCredit
One of the major barriers to safe water and sanitation is affordable financing. We created the WaterCredit Initiative® loan program to address this barrier head-on. WaterCredit helps bring small loans to those who need access to affordable financing and expert resources to make household water and toilet solutions a reality.

With millions affected across the world, there is not a one-size-fits-all solution to the global water crisis. Our approach is market-driven and people-driven. We have changed more than 63 million lives through our WaterCredit Initiative and with your support, we can empower even more people with safe water and sanitation solutions that last.

25. In India, the central bank's function as the ''lender of last resort'' usually refers to which of the following?

1. Lending to trade and industry bodies when they fail to borrow from other sources
2. Providing liquidity to the banks having a temporary crisis
3. Lending to governments to finance budgetary deficits

Select the correct answer using the code given below
a) 1 and 2
b) 2 only
c) 2 and 3
d) 3 only
Correct Answer is (b) 2 only

What Is Lender of Last Resort?
A lender of last resort (LoR) is an institution, usually a country's central bank, that offers loans to banks or other eligible institutions that are experiencing financial difficulty or are considered highly risky or near collapse. In the United States, the Federal Reserve acts as the lender of last resort to institutions that do not have any other means of borrowing, and whose failure to obtain credit would dramatically affect the economy.

26. ''R2 Code of Practices'' constitute a tool available for promoting the adoption of

a) Environmentally responsible practices in the electronics recycling industry
b) Ecological management of ''Wetlands of International Importance" under the Ramsar Convention
c) Sustainable practices in the cultivation of agricultural crops in degraded lands
d) ''Environmental Impact Assessment'' in the exploitation of natural resources

Correct Answer is (a) environmentally responsible practices in electronics recycling industry

27. Why is there a concern about copper smelting plants?

1. They may release lethal quantities of carbon monoxide into the environment
2. The copper slag can cause the leaching pf some heavy metals into the environment
3. They may release sulphur dioxide as a pollutant

Select the correct answer using the code given below

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

Does smelting produce carbon monoxide?
Smelting -
The oxides, in turn, are smelted into the metal. Carbon monoxide was (and is) the reducing agent of choice for smelting. It is easily produced during the heating process, and as a gas comes into intimate contact with the ore.

This paper presents the latest overview of the environmental impact of wastes from the non-ferrous metallurgical industry. Ashes, slags and dusts – by-products from mining and metal processing – are sources of toxic metals, such as Pb, Cd, Hg, As, Al, as well as particulate matter. Physical, chemical and biological processes transform industrial wastes and cause water, soil and air pollution. Improperly protected heaps are subject to wind erosion and rain water leaching. Heavy metals and particulate matter are transported over long distances, contaminating the soil, living areas, watercourses, while in combination with mist they create smog. Water erosion releases heavy metals, which are leached into groundwater or surface runoff.

What are the emissions from copper smelting?
Emissions from primary copper smelters are principally particulate matter and oxides of sulfur (SOx). Emissions are generated from the roasters, smelting furnaces, and converters. Fugitive emissions are generated during material handling operations.

28. With reference to furnace oil, consider the following statements:

1. It is a product of oil refineries
2. Some industries use it to generate power
3. Its use causes sulphur emissions into the environment

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
Correct Answer is (a) 1 and 2 only

Furnace oil is also called fuel oil, heavy oil, marine fuel, bunker, furnace oil, or gasoil. The furnace fuel primarily consists of residues from crude oil distillation. Furnace oil is obtained from the flammable liquids acquired from crude oil and is also named kerosene.

furnance oil
What is furnace oil?
Kerosene is widely used and known as home heating oil, diesel fuel, or coal oil. Then, commercial fuel oils are made, blending the oil with other petroleum fractions to achieve a required viscosity and flashpoint. Please note that the flashpoint of furnace oil is always higher than that of kerosene.

Below listed are the uses of Furnace oil:
Furnace oil is used to heat fuel trucks.
It is much used as a backup fuel for peaking power plants.
It is used to heat homes.
It is utilized to produce steam for industrial uses.
It is an integral part of generating electric energy.
It is used to light up furnaces.
Furnace oil efficiently producing steam for industrial uses
It is worn as fuel for Power Generation in DG Sets.
Furnace oil is used as fuel for bunkering.
Furnace oil is also used as a feedstock in fertilizer plants.
It can power many types of engines, lamps, heaters, stoves, and lanterns. You can use it to operate home heating devices such as stoves, furnaces, and boilers.

Benefits of Furnace Oil:
Furnace oil is light fuel oil. Furnace oil is sulphur-free, clean, and stands solid in the most demanding conditions. ‘
Furnace oil is easy to handle, handled, regulate and control.
It can be stored easily.
It is very cheap in price. Furnace oil is the most affordable liquid fuel available.

29. What is blue carbon?

a) Carbon captured by oceans and coastal ecosystems
b) Carbon sequestered in forest biomass and agricultural soils
c) Carbon contained in petroleum and natural gas
d) Carbon present in the atmosphere
Correct Answer is (a) Carbon captured by Oceans and Coastal Ecosystems

Blue carbon is any carbon stored by the ocean. Coastal blue carbon is carbon stored in the vegetation and soils of mangroves, salt marshes, and seagrasses. Protection and restoration of blue-carbon ecosystems have added benefits for wildlife, water quality, storm surge protection, and local economies.

30. In nature, which of the following is/are most likely to be found surviving on a surface without soil?
1. Fern
2. Lichen
3. Moss
4. Mushroom

Select the correct answer using the code given below

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

Lichens and mosses are the two types of organisms that can survive on a surface without soil. Lichens are interesting organisms, which are composed of a fungus and an algae living in a symbiotic relationship. This relationship allows them to survive in harsh environments, including on rocks without soil.

31. Consider the following statements:
1. The Governor of the Reserve Bank of India (RBI) is appointed by the Central Government.
2. Certain provisions in the Constitution of India give the Central Government the right to issue directions to the RBI in the public interest.
3. The Governor of the RBI draws his power from the RBI Act.

Which of the above statements are correct?

a) 1 and 2 only
b) 2 and 3 only
c) 1 and 3 only
d) 1, 2 and 3
Correct answer is (c) 1 and 3.

1. Section 8(1)(a) of the Reserve Bank of India Act, 1934, provides that there shall be one Governor and not more than four Deputy Governors to be appointed by the central government on the central board of RBI. Hence this statement is correct.

2. Section 7 of the RBI Act provides that Central Government may from time to time give such directions to the Bank as it may, after consultation with the Governor of the Bank, consider necessary in the public interest. There is no Constitutional provision for this. Hence this statement is incorrect.

3. According to the RBI Act, the Governor shall have powers of general superintendence and direction of the affairs and the business of the RBI. Hence this statement is correct.

32. With reference to the casual workers employed in India, consider the following statements:

1. All casual workers are entitled for employees Provident Fund Coverage
2. All casual workers are entitled for regular working hours and overtime payment
3. The government can by a notification specify that an establishment or industry shall pay wages only through its bank account.

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

Correct Answer is (b) 2 and 3 only

Under a casual employment contract in India, the employee is paid hourly or daily and is not entitled to leave or holiday pay. The employer is not required to provide the employee with a fixed schedule or set working hours, and the employee may be terminated at any time without notice or severance pay.

All casual workers are entitled to regular working hours and overtime payment.

GPF and pensionary benefits:
The casual labourers who had been granted temporary status under the scheme, and

had completed 3 years of continuous service after that, were entitled to contribute to the General Provident Fund. It was also decided that 50% of the service rendered under temporary status would be counted for the purpose of retirement benefits in respect of those casual labourers who have been regularised in terms of para 8 of the OM dated 10.09.1993. This was applicable to all casual labourers covered under the scheme of 1993 whether they were regularised before or after 31.12.2003.

Route all wages via bank accounts: Govt.

The Centre has asked all employers and contractors to ensure that wages are paid to all employees, including casual and contract workers, through cheques or electronic transfers into a bank account.

The Chief Labour Commissioner, under the Ministry of Labour and Employment, has also asked firms to get bank accounts opened for all those workers who do not have one already, and report on the compliance status with the details of the new bank accounts opened by December 2, 2016.

33. Which among the following steps is most likely to be taken at the time of an economic recession?
a) Cut in tax rates accompanied by increase in interest rate
b) Increase in expenditure on public projects
c) Increase in tax rates accompanied by reduction of interest rate
d) Reduction of expenditure on public projects

Correct Answer is (b) Increase in expenditue on public projects

What Happens in a Recession?
Economic output, employment, and consumer spending drop in a recession. Interest rates are also likely to decline as central banks—such as the U.S. Federal Reserve Bank—cut rates to support the economy. The government's budget deficit widens as tax revenues decline, while spending on unemployment insurance and other social programs rises.

A recession is a significant, widespread, and prolonged downturn in economic activity. Recessions are commonly characterized by two consecutive quarters of negative gross domestic product (GDP) growth, though there are more complex ways to assess and classify downturns.

Unemployment is one key feature of recessions. As demand for goods and services falls, companies need fewer workers and may lay off staff to cut costs. Laid off staff then have to cut their own spending, which in turn hurts demand, which can lead to more layoffs.

Since the Great Depression, governments around the world have adopted fiscal and monetary policies to prevent recessions from deepening into depressions, such as unemployment insurance or cutting interest rates.

What Is Fiscal Policy?
Fiscal policy refers to the use of government spending and tax policies to influence economic conditions, especially macroeconomic conditions. These include aggregate demand for goods and services, employment, inflation, and economic growth.

During a recession, the government may lower tax rates or increase spending to encourage demand and spur economic activity. Conversely, to combat inflation, it may raise rates or cut spending to cool down the economy.

Fiscal policy is often contrasted with monetary policy, which is enacted by central bankers and not elected government officials.

34. Consider the following statements
Other things remaining unchanged, market demand for a good might increase if

1. Price of its substitute increases
2. Price of its complement increases
3. The good is an inferior good and income of the consumers increases
4. Its price falls

Which of the above statements are correct?
a) 1 and 4 only
b) 2, 3 and 4
c) 1, 3 and 4
d) 1, 2 and 3
Correct Answer is (a) 1 and 4 only.

What Is Change in Demand?
A change in demand describes a shift in consumer desire to purchase a particular good or service, irrespective of a variation in its price. The change could be triggered by a shift in income levels, consumer tastes, or a different price being charged for a related product.

Understanding Change In Demand
Demand is an economic principle referring to a consumer's desire to buy things. There are a number of factors that influence market demand for a particularly good or service. The main determinants are:

Income: How much consumers have to spend.
Consumer preferences: What types of products are popular at any given moment.
Buyer expectations: Does the consumer expect the price to rise in the future, perhaps due to limited supply?
Price: How much does the good or service cost?
Prices of related items: Are there any substitute goods or services of similar value that cost a lot less?

35. With reference to Urban Cooperative Banks in India, consider the following statements:

1. They are supervised and regulated by local boards set up by the State Governments.
2. They can issue equity shares and preference shares.
3. They were brought under the purview of the Banking Regulation Act, 1949 through an Amendment in 1996
Which of the statements given above is/are correct?
a) 1 only
b) 2 and 3 only
c) 1 and 3 only
d) 1, 2 and 3
Correct Answer is (a) 1 only.

Urban Cooperative Banks
Urban Cooperative Banks (UCBs) are financial institutions that operate in urban and semi-urban areas in India. They are registered under the Cooperative Societies Act and function as cooperative entities owned and operated by their members.

UCBs provide a wide range of banking services to their members and customers, including deposit accounts, loans, remittances, and other financial products and services. They primarily serve the banking needs of small businesses, individuals, and communities in urban areas.

Urban Cooperative Banks in India
UCBs are governed by a board of directors elected by their members and operate on a cooperative principle, where each member has equal voting rights. They are regulated and supervised by the Reserve Bank of India (RBI) under the Banking Regulation Act, of 1949, and are subject to various prudential norms, regulations, and guidelines issued by the RBI to ensure their stability and soundness.

The Banking Regulation Act, 1949 is a legislation in India that regulates all banking firms in India. Passed as the Banking Companies Act 1949, it came into force from 16 March 1949 and changed to Banking Regulation Act 1949 from 1 March 1966. It is applicable in Jammu and Kashmir from 1956. Initially, the law was applicable only to banking companies. But, in 1965 it was amended to make it applicable to cooperative banks and to introduce other changes. In 2020 it was amended to bring the cooperative banks under the supervision of the Reserve Bank of India.

Read about: Banking System in India

Urban Cooperative Banks History
Urban Cooperative Banks (UCBs) in India have a history that dates back to the early 20th century. Here is a brief overview of the history of UCBs in India:

Early Development (1904-1966)
The first urban cooperative bank, The Cooperative Credit Society of Haryana, was established in 1904 in Haryana.
The Cooperative Credit Movement gained momentum in the 1920s, with the formation of various cooperative credit societies across the country.
The cooperative banking sector witnessed significant growth during the 1950s and 1960s, primarily driven by rural and agricultural credit needs.

Regulation and Expansion (1966-1991)
The Banking Regulation Act, 1949 was amended in 1965 to bring cooperative banks under the regulatory purview of the Reserve Bank of India (RBI).
The Banking Laws (Application to Cooperative Societies) Act was enacted in 1965, granting regulatory powers to the RBI over UCBs.
The UCBs started expanding their operations, offering various banking services to urban areas, including deposit-taking, lending, and other financial services.

36. Indian Government Bond yields are influenced by which of the following?

1. Actions of the United States Federal Reserve
2. Actions of the Reserve Bank of India
3. Inflation and short-term interest rates.

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

Rising foreign interest in long-duration India bonds nudges yields down

Indian government bond yields trended down on Wednesday, led by recent foreign buying, while no fresh supply for the rest of the financial year also aided sentiment.

Rising yields on government securities or bonds in the United States and India have triggered concern over the negative impact on other asset classes, especially stock markets, and even gold. The yield on 10-year bonds in India moved up from the recent low of 5.76% to 6.20% in line with the rise in US yields, sending jitters through the stock market, where the benchmark Sensex fell 2,300 points last week.

37. Consider the following:

1. Foreign currency convertible bonds
2. Foreign institutional investment with certain conditions
3. Global depository receipts
4. Non-resident external deposits

Which of the above can be included in Foreign Direct Investments?

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

A foreign currency convertible bond (FCCB) is a type of convertible bond issued in a currency different than the issuer's domestic currency. In other words, the money being raised by the issuing company is in the form of foreign currency.

Foreign Direct Investment (FDI) involves long-term investments in physical assets, contributing to economic development and job creation. Foreign Institutional Investor (FII) represents short-term investments in financial markets, focused on earning financial returns and portfolio diversification.

A global depositary receipt (GDR) is a negotiable financial instrument issued by a depositary bank. It represents shares in a foreign company and trades on the local stock exchanges in investors' countries. GDRs make it possible for a company (the issuer) to access investors in capital markets beyond the borders of its own country.

GDRs are commonly used by issuers to raise capital from international investors through private placement or public stock offerings.

An NRE (Non-Resident External) account is a banking facility provided in India for Non-Resident Indians (NRIs) to deposit their earnings from abroad.

38. Consider the following statements:

The effect of devaluation of a currency is that it necessarily

1. Improves the competitiveness of the domestic exports in the foreign markets
2. Increase the foreign value of domestic currency
3. Improves the trade balance
Which of the above statements is/are

a) 1 only
b) 1 and 2
c) 3 only
d) 2 and 3
Correct Answer is (c) Only 3

Devaluing a currency reduces the cost of a country's exports and makes imports less attractive. As exports increase and imports decrease, there is typically a better balance of payments as the trade deficit shrinks.

39. Which one of the following effects of creation of black money in India has been the main cause of worry to the Government of India?

a) Diversion of resources to the purchase of real estate and investment in luxury housing
b) Investment in unproductive activities and purchase of precious stones, jewellery, gold etc.
c) Large donations to political parties and growth of regionalism
d) Loss of revenue to the State Exchequer due to tax evasion

Correct Answer is (d) Loss of revenue to the State Exchequer due to tax evasion

Black Money refers to funds earned on the books but concealed from the tax authorities. The generation and circulation of black money is a serious problem for the economy. It deprives the government of tax revenue and generates inflationary pressures. It fosters corruption and illegal activities.

40. Which one of the following is likely to be one of the most inflationary in its effects?

a) Repayment of public debt
b) Borrowing from the public to finance a budget deficit
c) Borrowing from the banks to finance a budget deficit
d) Creation of new money to finance a budget deficit
Correct Answer is (d) Creating new money to finance a budget deficit.

41. Which one of the following is used in preparing a natural mosquito repellent?

a) Congress grass
b) Elephant grass
c) Lemon grass
d) Nut grass
Correct Answer is (c) Lemongrass

Citronella Grass (Lemon Grass)
Known for its distinct smell, citronella grass (or lemon grass) is the most commonly used natural ingredient in mosquito repellants. In fact, the Brooklyn Botanic Garden recommends lemon-scented plants such as citronella grass to keep mosquitoes at bay.

42. Consider the following kinds of organisms:
1. Copepods
2. Cyanobacteria
3. Diatoms
4. Foraminifera

Which of the above are primary producers in the food chains of oceans?
a) 1 and 2
b) 2 and 3
c) 3 and 4
d) 1 and 4
Correct Answer is (b) 2 and 3

The primary producers of the ocean are microscopic phytoplankton, including protists like algae and diatoms.

In aquatic environments, cyanobacteria are important primary producers and form a part of the phytoplankton. They may also form biofilms and mats (benthic cyanobacteria). In eutrophic water, cyanobacteria frequently form mass occurrences, so-called water blooms. Cyanobacteria were formerly called blue-green algae.

Foraminifera: They are single-celled organisms that are not primary producers as they do not produce their food.

43. Consider the following animals
1. Hedgehog
2. Marmot
3. Pangolin
To reduce the chance of being captured by predators, which of the above organisms rolls up/roll up and protects/protect its/their vulnerable parts?
a) 1 and 2
b) 2 only
c) 3 only
d) 1 and 3
Correct Answer is (d) 1 and 3 only.

Hedgehogs crouch, hiss, and erect their spines at the slightest danger, but their best defense is to curl into a protective ball. “Rolling up” is made possible primarily by a muscle that encircles the body from neck to rump along the sides of the body just beneath the skin and within which the peripheral spines are embedded.

What is a pangolin, really?
Though many think of them as reptiles, pangolins are actually mammals. They are the only mammals wholly-covered in scales and they use those scales to protect themselves from predators in the wild. If under threat, a pangolin will immediately curl into a tight ball and will use their sharp-scaled tails to defend themselves.

44. With reference to the ‘’New York Declaration on Forests’’, which of the following statements are correct?

1. It was first endorsed at the United Nations Climate Summit in 2014
2. It endorses a global timeline to end the loss of forests
3. It is a legally binding international declaration
4. It is endorsed by governments, big companies and indigenous communities.
5. India was one of the signatories at its inception

Select the correct answer using the code given below
a) 1, 2 and 4
b) 1, 3 and 5
c) 3 and 4
d) 2 and 5
Correct Answer is (a) 1, 2 and 4

The New York Declaration on Forests is a voluntary and non-legally binding political declaration which grew out of dialogue among governments, companies and civil society, spurred by the United Nations Secretary-General’s Climate Summit held in New York in 2014.

The Declaration pledges to halve the rate of deforestation by 2020, to end it by 2030, and to restore hundreds of millions of acres of degraded land. The proposed land restoration is described as covering "an area larger than India".

India is not a signatory of the declaration.

A voluntary Action Agenda accompanies the Declaration, providing "a guide to governments, companies, and organizations regarding the diverse set of actions that can achieve [the Declaration's] transformational goals"

45. Magnetite particles, suspected to cause neurodegenerative problems are generated as environmental pollutants from which of the following?

1. Brakes of motor vehicles
2. Engines of motor vehicles
3. Microwave stoves within homes
4. Power plants
5. Telephone lines

Select the correct answer using the code given below
a) 1, 2, 3 and 5only
b) 1, 2 and 4 only
c) 3, 4 and 5 only
d) 1, 2, 3, 4 and 5
Correct Answer is (b) 1, 2 and 4 only

Particulate matter (PM) concentration levels in the London Underground (LU) are higher than London background levels and beyond World Health Organization (WHO) defined limits. Wheel, track, and brake abrasion are the primary sources of particulate matter, producing predominantly Fe-rich particles.

Reduction of magnetite in air by use of microwave heating

2007 IEEE International Vacuum Electronics Conference
Microwave technology is not a mere substitute for conventional heating, but it resides in the new domain of materials science, namely, microscopic and strong thermal non-equilibrium systems. The key factor for application of microwaves in the iron industry, is its high potential for an essential reduction of carbon dioxide emission. Iron ore refinement by means of blast furnaces was realized with the same basic furnace structure based on the same principle for two centuries. We have conducted a series of experiments to prove effectiveness of rapid and high purity refinement under low temperature and oxygen-containing environment by means of microwave application, and achieved highly positive results.

Power plants, like this one in Tyumen, Russia, let off air pollution that contains many nanoparticles, including magnetite. A new study finds this magnetite can make its way into human brains.

Vehicle brake systems are the major source of airborne magnetite at the roadside.

Magnetite concentration is similar in diesel- and petrol-engine exhaust PM.

High magnetite content of vehicle brake wear might constitute a risk to human health.

46. Which one of the following is a filter feeder?

a) Catfish
b) Octopus

c) Oyster
d) Pelican
Correct Answer is (c) Oyster

An aquatic animal that feeds on particles or small organisms strained out of water by circulating them through its system: includes most of the stationary feeders, as clams, oysters, barnacles, corals, sea squirts, and sponges.

47. In the case of which of the following biogeochemical cycles, the weathering of rocks is the main source of release of nutrients to enter the cycle?
a) Carbon cycle
b) Nitrogen cycle
c) Phosphorus cycle
d) Sulphur cycle
Correct Answer is (d) Sulphur Cycle

48. Which of the following are detritivores?

1. Earthworms
2. Jellyfish
3. Seahorse
4. Woodlice
Select the correct answer using the code given below
a) 1, 2 and 4 only
b) 2, 3, 4 and 4 only
c) 1, 3 and 5 only
d) 1, 2, 3, 4 and 5
Correct Answer is (c) 1, 3 and 5

Detrivores are different from decomposers because decomposers cannot consume solid objects; instead, they release enzymes to break down and assimilate their meal on a molecular level. Earthworms, woodlice, sea stars, and millipedes are a few detrivores.

Detritivores are often invertebrate insects such as mites, beetles, butterflies and flies; mollusks such as slugs and snails; or soil-dwelling earthworms, millipedes and woodlice. Examples of detritivores in marine environments are crustaceans such as crabs and lobsters, echinoderms such as sea stars or sea cucumbers.

49. The ‘’Common Carbon Metric’’ supported by UNEP, has been developed for

a) Assessing the carbon footprint of building operations around the world
b) Enabling commercial farming entities around the world to enter carbon emission trading
c) Enabling governments to assess the overall carbon footprint caused by their countries
d) Assessing the overall carbon foot-print caused by the use of fossil fuels by the world in a unit time
Correct Answer is (a) assessing the carbon footprint of building operations around the world.

The Common Carbon Metric is the calculation used to define measurement, reporting, and verification for GHG emissions associated with the operation of buildings types of particular climate regions.

50. Which of the following have species that can establish a symbiotic relationship with other organisms?

1. Cnidarians
2. Fungi

3. Protozoa

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

The relationship between cnidarians and dinoflagellate algae is termed as "symbiotic", because both the animal host and the algae are benefiting from the association.

Fungi have several mutualistic relationships with other organisms. In mutualism, both organisms benefit from the relationship. Two common mutualistic relationships involving fungi are mycorrhiza and lichen. A mycorrhiza is a mutualistic relationship between a fungus and a plant.

Symbiosis in protozoa mostly represents a close mutualistic association between a protozoan and unicellular symbionts (bacteria, cyanobacteria or/and unicellular algae) or protozoans and a multicellular organism (ruminants, lower termites, wood-eating cockroaches, plants).

51. Under the Indian constitution concentration of wealth violates
(a) The right to equality
(b) The Directive Principles of State Policy
(C) The Right to freedom
(d) the Concept of Welfare

Correct Answer is (b) The Directive Principles of State Policy

Article 39 in Constitution of India
39. Certain principles of policy to be followed by the State
The State shall, in particular, direct its policy towards securing--(a)that the citizens, men and women equally, have the right to an adequate means to livelihood;(b)that the ownership and control of the material resources of the community are so distributed as best to sub serve the common good;(c)that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment;(d)that there is equal pay for equal work for both men and women;(e)that the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength;*[In article 39 of the Constitution, for clause (f), the following clause shall be substituted through Constitution (Forty-Second Amendment) Act, 1976]*(f)that children are given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth are protected against exploitation and against moral and material abandonment.
52. What is the position of the Right to Property in India?
(a) Legal right available to citizens only
(b) Legal right available to any person
(C) Fundamental Right available to citizens only
(d) Neither fundamental Right nor legal right.
Correct Answer is (b) Legal right available to any person

Article 300A in Constitution of India
300A. Persons not to be deprived of property save by authority of law
No person shall be deprived of his property save by authority of law.
The Constitution (Forty-fourth Amendment) Act, 1978
3. In view of the special position sought to be given to fundamental rights, the right to property, which has been the occasion for more than one amendment of the Constitution, would cease to be a fundamental

right and become only a legal right. Necessary amendments for this purpose are being made to article 19 and article 31 is being deleted. It would, however, be ensured that the removal of property from the list of fundamental rights would not affect the right of minorities to establish and administer educational institutions of their choice.
4. Similarly, the right of persons holding land for personal cultivation and within the ceiling limit to receive compensation at the market value would not be affected.
5. Property, while ceasing to be a fundamental right, would, however, be given express recognition as a legal right, provision being made that no person shall be deprived of his property save in accordance with law.

53. What was the exact constitutional status of India on 26th January, 1950?
(a) A democratic Republic
(b) A Sovereign Democratic Republic
(C) A Sovereign Secular Democratic Republic
(d) A Sovereign Socialist Secular Democratic Republic
Correct Answer is (C) A Sovereign Secular Democratic Republic

Though India became a free nation on August 15, 1947, it declared itself a Sovereign, Democratic and Republic state with the adoption of the Constitution on January 26, 1950.
With the Forty-second Amendment of the Constitution of India enacted in 1976, the Preamble to the Constitution asserted that India is a secular nation. However, the Supreme Court of India in the 1994 case S. R. Bommai v. Union of India established the fact that India was secular since the formation of the republic.

54. Constitutional government means.
(a) a representative government of a nation with federal structure
(b) a government whose Head enjoys nominal powers
(C) a government whose Head enjoys real powers
(d) a government limited by the terms of the Constitution
Correct Answer is (d) a government limited by the terms of the Constitution

Constitutional government is by definition limited government. It means government conducted according to rules and principles, which are binding on all political actors, and which therefore help to constrain the unfettered exercise of power by separating or dividing it.

55. With reference to India, the terms ‘halbi, Ho and Kui” pertain to
(a) dance forms of Northwest India
(b) musical Instruments
(C) pre-historic cave paintings
(d) tribal languages
Correct Answer is (d) tribal languages

Halbi is an Eastern Indo-Aryan language, transitional between Odia and Marathi. It is spoken by at least 766,297 people across the central part of India.
Ho is a Munda language of the Austroasiatic language family spoken primarily in India by about 2.2 million people (0.202% of India's population) per the 2001 census. It is spoken by the Ho, Munda, Kolha and Kol tribal communities of Odisha.
Kui (also Kandh, Khondi, Khond, Khondo, Kanda, Kodu (Kōdu), Kodulu, Kuinga (Kūinga), Kuy) is a South-Central Dravidian language spoken by the Kandhas, eastern Indian state of Odisha. It is mostly spoken in Odisha, and written in the Odia script.

56. Consider the following statements in respect of Bharat Ratna and Padma Awards.

(1) Bharat Ratna and Padma Awards are titles under the Article 18(1) of the Constitution of India.
(2) Padma Awards, which were instituted in the year 1954, were suspended only once.
(3) The number of Bharat Ratna Awards is restricted to a maximum of five in a particular year.
Which of the above statements are not correct?
(a) 1 and 2 only
(b) 2 and 3 only
(C) 1 and 3 only
(d) 1, 2 and 3
Correct Answer is (d) 1, 2 and 3

Article 18 in Constitution of India
18. Abolition of titles
No title, not being a military or academic distinction, shall be conferred by the State. No citizen of India shall accept any title from any foreign State. No person who is not a citizen of India shall, while he holds any office of profit or trust under the State, accept without the consent of the President any title from any foreign State. No person holding any office of profit or trust under the State shall, without the consent of the President, accept any present, emolument, or office of any kind from or under any foreign State.

BHARAT RATNA 'Bharat Ratna', the highest civilian Award of the country, was instituted in the year 1954. Any person without distinction of race, occupation, position or sex is eligible for these awards. It is awarded in recognition of exceptional service/performance of the highest order in any field of human endeavour. The recommendations for Bharat Ratna are made by the Prime Minister himself to the President. No formal recommendations for this are necessary. The number of annual awards is restricted to a maximum of three in a particular year. On conferment of the award, the recipient receives a Sanad (certificate) signed by the President and a medallion. The Award does not carry any monetary grant. In terms of Article 18 (1) of the Constitution, the award cannot be used as a prefix or suffix to the recipient's name. However, should an award winner consider it necessary, he/she may use the following expression in their biodata/letterhead/visiting card etc. to indicate that he/she is a recipient of the award: 'Awarded Bharat Ratna by the President' or 'Recipient of Bharat Ratna Award'

Padma Awards - one of the highest civilian Awards of the country, are conferred in three categories, namely, Padma Vibhushan, Padma Bhushan and Padma Shri. The Awards are given in various disciplines / fields of activities, viz.- art, social work, public affairs, science and engineering, trade and industry, medicine, literature and education, sports, civil service, etc. 'Padma Vibhushan' is awarded for exceptional and distinguished service; 'Padma Bhushan' for distinguished service of high order and 'Padma Shri' for distinguished service in any field. The awards are announced on the occasion of Republic Day every year. 2. These Awards are conferred by the President of India at ceremonial functions which are held at Rashtrapati Bhawan usually around March / April every year. For the year 2024, the President has approved conferment of 132 Padma Awards including 2 duo cases (in a duo case, the Award is counted as one) as per list below. The list comprises 5 Padma Vibhushan, 17 Padma Bhushan and 110 Padma Shri Awards. 30 of the awardees are women and the list also includes 8 persons from the category of Foreigners / NRI / PIO / OCI and 9 Posthumous awardees.

Padma Awards, which were instituted in the year 1954, is announced every year on the occasion of Republic Day except for brief interruption(s) during the years 1978 and 1979 and 1993 to 1997.

57. Consider the following statements:
Statement 1:
The United Nations Capital Development Fund (UNCDF) and the Arbor Day Foundation have recently recognized Hyderabad as 2020 Tree City of the World
Statement 2:
Hyderabad was selected for the recognition for a year following its commitment to grow and maintain the Urban forests.
Which one of the following is correct in respect of the above statements?

(a) Both Statement 1 and Statement 2 are correct and Statement 2 is the correct explanation for Statement 1
(b) Both Statement 1 and Statement 2 are correct but Statement 2 is not the correct explanation for Statement 1.
(C) Statement 1 is correct but Statement 2 is not correct.
(d) Statement 1 is not correct but Statement 2 is correct.
Correct Answer is (d) Statement 1 is not correct but Statement 2 is correct.
Hyderabad city (Telangana's Capital) has been recognised as a '2020 Tree City of the World' by the Arbor Day Foundation and the Food and Agriculture Organisation of the United Nations (FAO).

In a unique distinction, Hyderabad has become the only city in India to be recognised as a 'Tree City of the World' by the Arbor Day Foundation and the Food and Agriculture Organization (FAO) of the United Nations. Hyderabad is placed alongside 119 other cities from 63 countries.
The United States, Canada and the United Kingdom are the countries with the maximum cities featured on the list, with 38, 15 and 11 cities, respectively. The countries have been recognised for their commitment to growing and maintaining urban forests in building healthy, resilient and happy cities.

58. Consider the following statements in respect of the Laureus World Sports Award which was instituted in the year 2000:
1. American golfer Tiger Woods was the first winner of this award.
2. The award was received mostly by 'Formula One 'Players so far.
3. Roger Federer received this award maximum number of times compared to others.
Which of the above statements are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3
Correct Answer is (c) 1 and 3 only

The **Laureus World Sports Awards** is an annual award ceremony honouring individuals and teams from the world of sports along with sporting achievements throughout the year. It was established in 1999 by Laureus Sport for Good Foundation founding patrons Daimler and Richemont. It is supported by its global partners Mercedes-Benz, IWC Schaffhausen and Mitsubishi UFJ Financial Group. The awards support the work of Laureus Sport for Good, which supports over 160 community projects in more than 40 countries. These programmes aim to use the power of sport to end violence, discrimination and disadvantage, and prove that sport has the power to change the world. The name "Laureus" is derived from the Greek word for laurel, considered a traditional symbol of victory in athletics.

Swiss tennis player Roger Federer holds the record for the most awards with six, five for Sportsman of the Year and one for Comeback of the Year.

Serena Williams holds the record for most awards held by a female with five, four for Sportswoman of the Year and one for Comeback of the Year.

59. Consider the following statements in respect of the 32nd Summer Olympics:
1. The official motto for the Olympics is 'A New World'
2. Sport Climbing, Surfing, Skateboarding, Karate and Baseball are included in this Olympics.
Which of the above statements is/are correct?
(a) 1 only
(b) 2 only

(c) Both 1 and 2
(d) Neither 1 nor 2
Correct Answer is (b) 2 only

The **2020 Summer Olympics**, officially the **Games of the XXXII Olympiad** and officially branded as **Tokyo 2020**, were an international multi-sport event held from 23 July to 8 August 2021 in Tokyo, Japan, with some preliminary events that began on 21 July 2021.

Tokyo hosted the 32nd Summer Olympics in"United by Emotion" which served as the official Games motto for Tokyo 2020.

On 3 August 2016, the IOC voted to add baseball/softball, karate, sport climbing, surfing, and skateboarding as optional sports for the 2020 Summer Olympics.

60. Consider the following statements in respect of the ICC World Test Championship:
1. The finalists were decided by the number of matches they won.
2. New Zealand was ranked ahead of England because it won more matches than England.
Which of the above statements is/are correct?
(a) 1 only
(b) 2 only
(C) Both 1 and 2
(d) Neither 1 nor 2
Correct Answer is (d) Neither 1 nor 2

The ICC World Test Championship is a two-year tournament with nine teams competing for two spots in the WTC Final. Teams are ranked on percentage of WTC points won in eligible Test matches.

New Zealand was ranked ahead of England not just because it won more matches, but because it had a higher percentage of points. The ranking was not based on the number of matches won alone but on the points percentage as explained above. New Zealand qualified for the final due to their higher points percentage compared to other teams, including England.

61. Consider the following statements:
1. 'Right to the City' is an agreed human right and the UN-Habitat monitors the commitments made by each country in this regard.
2. 'Right to the City' gives every occupant of the city the right to reclaim public spaces and public participation in the city.
3. 'Right to the City' means that the State cannot deny any public service or facility to the unauthorised colonies in the city.
Which of the statements given above is/are correct?
(a) 1 only
(b) 3 only
(c) 1 and 2
(d) 2 and 3
Correct Answer is (a) 1 only

The **Right to the City** is a concept and slogan that emphasizes the need for inclusivity, accessibility, and democracy in urban spaces. The idea was first articulated by French philosopher Henri Lefebvre in his 1968 book *Le Droit à la Ville*,[1][2] in which he argued that urban space should not be solely controlled by market forces, such as commodification and capitalism but should be shaped and governed by the citizens who inhabit it.
The concept of the Right to the City has been taken up by a variety of social movements and urban activists around the world, who use it as a rallying cry for greater social justice and democracy in the urban environment. The Right to the City can encompass a variety of demands, including demands for

government subsidized housing, access to public space, participation in urban governance, and laws against displacement and gentrification, all of which aim to address spatial inequalities in urban areas. The movement for the *right to the city* has developed as a response of social groups and civil society organizations in an attempt to ensure better access to and opportunities for everyone living in cities, especially the most marginalized and deprived sections. Social movements and organizations from across the world worked together to develop a *World Charter on the Right to the City* that is also supported by UNESCO and UN Habitat, among other agencies. This global movement has also led to mayors in different cities, independently and collectively, adopting charters to promote human rights in cities.

62. With reference to India, consider the following statements:
1. Judicial custody means an accused is in the custody of the concerned magistrate and such accused is locked up in police station, not in jail.
2. During judicial custody, the police officer in charge of the case is not allowed to interrogate the suspect without the approval of the court.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
Correct Answer is (b) 2 only

Custodial interrogation	Police Custody: The accused can be interrogated by the police or the investigating agency.	Judicial Custody: No interrogation of the accused can be done in judicial custody without the permission of the Court.

63. With reference to India, consider the following statements:
1. When a prisoner makes out a sufficient case, parole cannot be denied to such prisoner because it becomes a matter of his/her right.
2. State Governments have their own Prisoners Release on Parole Rules.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
Correct Answer is (b) 2 only

Tihar Jail: Parole is granted to the convicts whose appeal against conviction has been decided by the appellate court. There is no restriction on a convict about the number of times he applied for parole. The parole is generally granted on the grounds of sickness, death, marriage, property dispute, education or any other sufficient reasons. This is granted by the Hon'ble Lt.Governor, Govt. of National Capital Territory of Delhi. The parole is not admissible to the convict undergoing sentence in the NDPS cases. The period of parole is counted towards the total sentence of a prisoner.
Parole is not a right and is given to a prisoner for a specific reason, such as a death in the family or a wedding of a blood relative. If the competent authority is satisfied on valid grounds the release of a prisoner on parole would not be in the interest of society or the prison administration.

64. At the national level, which ministry is the nodal agency to ensure effective implementation of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006?
(a) Ministry of Environment, Forest and Climatic change.
(b) Ministry of Panchayat Raj

(C) Ministry of Rural Development
(d) Ministry of Tribal Affairs.
Correct Answer is (d) Ministry of Tribal Affairs

Ministry of Tribal Affairs
The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 has resulted in enhancing the income basket of the beneficiaries
Posted On: 20 JUL 2022 5:02PM by PIB Delhi
Ministry of Tribal Affairs has provided funds to various State Tribal Research Institutes (TRIs) to conduct studies on post implementation of "The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (in short FRA)".
The study reports, inter alia, indicate that provisions of rights under FRA have resulted in enhancing the income basket of the beneficiaries and consequently their quality of life; Sizable number of women title holders have enabled the tribal women to be empowered; CFR rights have enabled Gram Sabhas in managing and conserving their own forest resources along with sale of Minor Forest Produces leading to enhanced size of income kitty; Need of Capacity building of Gram Sabha members in the context of their empowerment for forest governance, preparation of micro plans for the sustainable management of forest resource, improving livelihood opportunities, assessment of the biomass stock and biodiversity conservation; The Infrastructure in interior forest areas needs to be improved.

65. A legislation which confers on the executive or administrative authority an unguided and uncontrolled discretionary power in the matter of the application of law violates which one of the following Articles of the Constitution of India?
(a) Article 14
(b) Article 28
(C) Article 32
(d) Article 44
Correct Answer is (a) Article 14

Article 14. The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India, on grounds of religion, race, caste, sex or place of birth.

66. Which one of the following in Indian polity is an essential feature that indicates that it is federal in character?
(a) The independence of the judiciary is safeguarded
(b) The Union Legislature has elected representatives from constituent units.
(C) The Union cabinet can have elected representatives from regional parties
(d) The Fundamental rights are enforceable by Courts of Law.
Correct Answer is (a) The independence of the judiciary is safeguarded

Key features of Federalism in India
Federalism in India is an essential feature of the constitution that limits the government. The Supreme court of India put down conditions that are necessary to be fulfilled for the constitution to be federal. This was through a ruling in the case of State of West Bengal vs Union of India. These conditions are:
A contract with the princely states to cede to the Union. The powers are generally shared between the states and the centre.
The constitution is said to be supreme, and only the Parliament has the authority to alter it.
Distribution of the powers between the centre and the state in their respective areas.
Courts have the final authority in interpreting the constitution, and they would invalidate any action that would violate it.

67. Which one of the following best defines the term "State"?

(a) A community of persons permanently occupying a definite territory independent of external control and possessing an organized government.
(b) A politically organized people of a definite territory and possessing an authority to govern them, maintain law and order, protect their natural rights and safeguard their means of sustenance.
(C) A number of persons who have been living in a definite territory for a very long time with their own culture, tradition and government.
(d) A society permanently living in a definite with a central authority, an executive responsible to the central authority and an independent judiciary.
Correct Answer is (b) A politically organized people of a definite territory and possessing an authority to govern them, maintain law and order, protect their natural rights and safeguard their means of sustenance.
What is a simple definition of state?
A politically organized body of people usually occupying a definite territory. especially : one that is sovereign. b. : the political organization of such a body of people.

68. With reference to Indian Judiciary, consider the following statements.
1. Any retired judge of the Supreme Court of India can be called back to sit by the Chief Justice of India with prior permission of the President of India.
2. A High court in India has the power to review its own judgement as the Supreme Court does.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(C) Both 1 and 2
(d) Neither 1 nor 2
Correct Answer is (C) Both 1 and 2
What is Article 128 attendance of retired Judge at sitting of the Supreme Court?
Notwithstanding anything in this Chapter, the Chief Justice of India may at any time, with the previous consent of the President, request any person who has held the office of a Judge of the Supreme Court or of the Federal Court or who has held the office of a Judge of a High Court and is duly qualified for appointment ...

What is the Judgement on Article 215 of the Constitution of India?
The Court held the High Courts, as Courts of record under Article 215 of the Constitution of India, have inherent powers to correct records, including the power to review their own judgments and orders. This power includes the correction of errors apparent on the face of the records.

69. With reference to India, consider the following statements:
1. There is only one citizenship and one domicile.
2. A citizen by birth only can become the Head of State.
3. A foreigner once granted citizenship cannot be deprived of it under any circumstances.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(C) 1 and 3
(d) 2 and 3
Correct Answer is (a) 1 only

The Constitution of India does not allow the holding of Indian citizenship with that of a foreign country simultaneously. However, the Government of India has decided to grant Overseas Citizenship of India (OCI). The Parliament of India approved the relevant bill in this connection in August, 2005.
Domicile refers to the place you call home permanently. Your domicile is important for legal purposes such as paying taxes, voting, and claiming benefits. Residence and domicile have different legal definitions and are differentiated primarily by the length of time you plan to live in a specific location.

A person cannot have more than one domicile. Domicile plays an important role in the writing of Will, intestate succession, and succession planning.

Qualifications for election as President
(1) No person shall be eligible for election as President unless he—
(a) is a citizen of India, (Citizenship by birth not compulsory)
(b) has completed the age of thirty-five years, and
(c) is qualified for election as a member of the House of the People.
(2) A person shall not be eligible for election as President if he holds any office of profit under the Government of India or the Government of any State or under any local or other authority subject to the control of any of the said Governments.
Explanation.—For the purposes of this article, a person shall not be deemed to hold any office of profit by reason only that he is the President or Vice-President of the Union or the Governor of any State or is a Minister either for the Union or for any State.

Citizenship once acquired can be lost on many grounds depending on the action of a citizen.
Grounds on which citizens can be lost are-
By renunciation- If a person makes a declaration to the central government that he/she wants to give up the status of the citizenship of the residing country.
By Termination- If a person voluntarily takes citizenship of another country, his/her automatically ceases to be an Indian citizen.
By Deprivation- A person can lose his/her citizenship if involved in any anti-national activities like money laundering, terrorism or being disloyal ot the constitution.

70. Which of the following factors constitutes the best safeguard of liberty in a liberal democracy?
(a) A committed judiciary
(b) Centralization of powers
(C) Elected government
(d) Separation of powers.
Correct Answer is (d) Separation of powers

The **best safeguard** of liberty in a **liberal democracy** is the **separation of powers**. This principle divides the government into different branches, each with its own powers and responsibilities. The purpose of this separation is to prevent any one branch from gaining too much power and to create a system of **checks and balances** where each branch can limit the powers of the others. This helps to protect individual liberties by ensuring that power is not concentrated in the hands of a few and that government remains responsive to the will of the people.

Q71. The vegetation of savannah consists of grassland with scattered small trees. The forest development in such areas is generally kept in check by one or more or a combination of some conditions.
Which of the following are such conditions?
1. Burrowing animals and termites.
2. Fire
3. Grazing herbivores
4. Seasonal rainfall
5. Soil properties
Select the correct answer using the code given below.
(a) 1 and2
(b) 4 and 5
(c) 2, 3 and 4
(d) 1, 3 and 5
Correct Answer is (c) 2, 3 and 4

Savannas are dynamic ecosystems influenced by a variety of factors that prevent the establishment of dense forests. Among these, fire, grazing herbivores, and seasonal rainfall play pivotal roles in maintaining the characteristic grasslands with scattered trees.

Q72. With reference to the water on the planet Earth, consider the following statements:
1. The amount of water in the rivers and lakes is more than the amount of groundwater.
2. The amount of water in polar ice caps and glaciers is more than the amount of groundwater.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
Correct Answer is (b) 2 only

A Guide to the World's Fresh Water Resources. (Numbers are rounded).

Q73. Consider the following statements:
1. Moringa (drumstick tree) is a leguminous evergreen tree.
2. Tamarind tree is endemic to south Asia.
3. In India, most of the tamarind is collected as minor forest produce.
4. India exports tamarind and seeds of moringa.
5. Seeds of moringa and tamarind can be used in the production of biofuels.
Which of the statements given above are correct?
(a) 1, 2, 4 and 5
(b) 3, 4 and 5
(c) 1, 3 and 4
(d) 1,2, 3 and 5
Correct Answer is (c) 1, 3 and 4
Moringa oleifera is a fast-growing, drought-resistant tree of the family Moringaceae, native to the Indian subcontinent and used extensively in South and Southeast Asia.
A medium sized , graceful, deciduous tree with sparse foliage, Often resembling a leguminous species at a distance, especially when in Flower, but immediately recognized when in fruiting season. The tree is indigenous to northwest India .It is widely distributed in India Egypt, Celon. Burma, Pakistan and Nigeria.
Tamarind (***Tamarindus indica***) is a leguminous tree bearing edible fruit that is indigenous to tropical Africa and naturalized in Asia.
Further following 9 items available in forest areas across India have also been included in this notification with Minimum Support Price :

Van Tulsi seeds (Ocimumgratissimum)
Van Jeera (Vernonia anthelmintica)
Tamarind Seed (Tamarindusindica)
Bamboo Brooms (Thysanolaena maxima
Dry Anola (Phyllnthusemblica) (Dry)
KachriBaheda (Terminalia bellerica)
KachriHarra (Terminalia chebula)
Seed lac (Kerria lacca)
India commences exports of Moringa powder, keeping in mind the rising global demand, because of its nutritional properties.
India exports most of it's Tamarind to United Arab Emirates, United States and Australiaand is the 2nd largest exporter of Tamarind in the World.
Biodiesel Crops & Ethanol SourcesPlants including oilseeds, Pongamia, and jatropha are used to make biodiesel. By generating oil that can be converted into environmentally beneficial diesel, these facilities

are powerful. Conversely, sugarcane, corn, and other cereals are the sources of the trendy companion, ethanol.

Q74. The black cotton soil of India has been formed due to the weathering of
(a) Brown forest soil
(b) Fissure volcanic rock
(c) Granite and schist
(d) Shale and limestone
Correct Answer is (b) Fissure volcanic rock
Black soils
Among the in situ soils of India, the black soils found in the lava-covered areas are the most conspicuous. Those soils are often referred to as *regur* but are popularly known as "black cotton soils," since cotton has been the most common traditional crop in areas where they are found. Black soils are derivatives of trap lava and are spread mostly across interior Gujarat, Maharashtra, Karnataka, and Madhya Pradesh on the Deccan lava plateau and the Malwa Plateau, where there is both moderate rainfall and underlying basaltic rock.

Q75. With reference to recent developments regarding 'Recombinant vector Vaccines', consider the following statements:
1. Genetic engineering is applied in the development of these vaccines.
2. Bacteria and viruses are used as vectors.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
Correct Answer is (c) Both 1 and 2
Live Recombinant (Vectored) Vaccines. Live recombinant vaccines are made of a live viral or bacterial vector that is engineered to express a variety of exogenous antigens in the cytoplasm of targeted T cells, in this case HIV-1 genes.

Q76. In the context of hereditary diseases, consider the following statements:
1. Passing on mitochondrial diseases from parent to child can be prevented by mitochondrial replacement therapy either before or after in vitro fertilization of egg.
2. A child inherits mitochondrial diseases entirely from mother and not from father.
Which of the statements given above is'/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
Correct Answer is (c) Both 1 and 2
Mitochondrial replacement therapy (MRT) is a new form of reproductive invitro fertilization (IVF) which works on the principle of replacing a women's abnormal mitochondrial DNA (mt-DNA) with the donor's healthy one.
Maternal spindle transfer (MST) technique
The technique, executed before fertilization is a form of selective reproduction similar to prenatal diagnosis and pre-implantation genetic diagnosis (PGD).
Pronuclear transfer technique
It is a significant approach of MRT administered after fertilization, in which two zygotes are raised in vitro (Figure 1). One of zygote belongs to the biological parents with pronuclei and defective mitochondria and the other one to the donor with pronuclei and healthy mitochondria.
It's well known that the transfer of mitochondrial DNA from mother to offspring, often called maternal inheritance, occurs in humans and most multicellular organisms. Maternal inheritance is what allows

genetic testing services to trace our maternal ancestries. You inherited your mitochondrial DNA from your mother, who inherited hers from her mother and so forth.

Q77. Bollgard I and Bollgard II technologies are mentioned in the context of
(a) Clonal propagation of crop plants
(b) Developing genetically modified crop plants
(c) Production of plant growth substances
(d) Production of biofertilizers
Correct Answer is (b) Developing genetically modified crop plants
Bollgard® Bt cotton (single-gene technology) is India's first biotech crop technology approved for commercialization in India in 2002, followed by Bollgard® II – double-gene technology in mid-2006, by the Genetic Engineering Approval Committee (GEAC), the Indian regulatory body for biotech crops. Bollgard® cotton provides in-built protection for cotton against destructive American Bollworm Heliothis Armigera infestations, and contains an insecticidal protein from a naturally occurring soil microorganism, Bacillus thuringiensis (Bt). Bollgard® II technology contains a superior double-gene technology - Cry1Ac and Cry 2Ab which provides protection against bollworms and Spodoptera caterpillar, leading to better boll retention, maximum yield, lower pesticides costs, and protection against insect resistance. Both, Bollgard® II and Bollgard® insect-protected cotton are widely planted around the world as an environmentally friendly way of controlling bollworms.
Q78. In a pressure cooker, the temperature at which the food is cooked depends mainly upon which of the following?
1. Area of the hole in the lid
2. Temperature of the flame
3. Weight of the lid
Select the correct answer using the code given below.
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1,2 and 3
Correct Answer is (c) 1 and 3 only
The larger hole will lead to an increase in steam going out. The weight of the lid increases the pressure in the cooker. Temperature of the flame will effect only time taken for cooking as the in a pressure cooker, the temperature can rise to 121 degree Celsius only.

Q79. Consider the following:
1. Bacteria
2. Fungi
3. Virus
Which of the above can be cultured in an artificial/ synthetic medium?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1,2 and 3
Correct Answer is (a) 1 and 2 only

Microbiology has been largely developed thanks to the discovery and optimization of culture media. The first liquid artificial culture medium was created by Louis Pasteur in 1860. Previously, bacterial growth on daily materials such as some foods had been observed. These observations highlighted the importance of the bacteria's natural environment and their nutritional needs in the development of culture media for their isolation. A culture medium is essentially composed of basic elements (water, nutrients), to which must be added different growth factors that will be specific to each bacterium and necessary for their growth.

Four allergologically important fungi, viz. Aspergillus fumigatus, Alternaria Penicillium notatum, and Cladosporium herbarum, were cultured in a pure synthetic medium and the patterns of growth as characterized by the pH, protein and carbohydrate concentration of the culture fluid, were studied. A fumigatus and P. notatum showed a similar growth pattern, characterized by a rapid decrease in the pH of the culture medium (pH 7.4----4.0), while proteins were slowly released and saccharose poorly consumed.

Viruses replicate only within living cells. Some viruses are restricted in the kinds of cells in which they replicate, and a few have not yet been cultivated at all under laboratory conditions. However, most viruses are grown in cultured cells, embryonated hen's eggs, or laboratory animals. In veterinary virology, the natural host animal is used for the cultivation of viruses; indeed the earliest viral assay has been carried out with foot-and-mouth disease virus in cattle. The natural host is still useful for the studies of pathogenesis and immunology, experiments in chemotherapy, and occasionally for diaglostic purposes.

Q80. Consider the following statements:
1. Adenoviruses have single-stranded DNA genomes whereas retroviruses have double-stranded DNA genomes.
2. Common cold is sometimes caused by an adenovirus whereas AIDS is caused by a retrovirus.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
Correct Answer is (b) 2 only
Adenovirus is a double-stranded DNA virus that does not go through an RNA intermediate, and thus inserted sequences need not be compatible with transcription of the complete viral genome and its subsequent reverse transcription as for retroviral vectors.

Adenoviruses most often infect the airways leading to cold-like symptoms, including sore throat, sneezing, runny nose, cough, headache, chills, or symptoms of croup or bronchitis. Some people might also get a fever. Illness usually lasts three to five days, but serious infections can last for weeks.
HIV is classified as a retrovirus because it contains reverse transcriptase. It is a D-type virus in the Lentivirus family. Infection of cultured T4 cells with HIV usually results in cell death.

Q81. How is permaculture farming different from conventional chemical farming?
1. Permaculture farming discourages monocultural practices but in conventional chemical farming, monoculture practices are predominant.
2. Conventional chemical farming can cause increase in soil salinity but the occurrence of such phenomenon is not observed in permaculture farming.
3. Conventional chemical farming is easily possible in such regions.
4. Practice of mulching is very important in permaculture farming but not necessarily so in conventional chemical farming.
Select the correct answer using the code given below.
(a) 1 and 3
(b) 1, 2 and 4
(c) 4 only
(d) 2 and 3
Correct Answer is (b) 1, 2 and 4
Key principles and techniques of permaculture include:
Observing and mimicking natural systems: The core idea here is to learn from nature and incorporate natural principles into the design of agricultural systems.

Creating polycultures: Instead of growing a single crop over a large area of land (monoculture), permaculture encourages diversification by cultivating a variety of plants together. This reduces susceptibility to pests or diseases.
Developing resilient systems: Permaculture promotes the creation of self-sustaining and resilient systems that can weather disturbances. This is achieved through diversification, redundancy, and the use of renewable sources of energy.
Recycling energy and materials: Permaculture systems are designed to minimize waste by recycling resources within the system. This can be achieved through composting, mulching, and creating closed-loop systems.
Valuing the marginal: In permaculture, marginal or underutilized areas are seen as opportunities for increasing productivity and biodiversity.
The success of applying these principles largely relies on careful observation, planning, and design of agricultural spaces for maximum efficiency and sustainability.
Process and Impact of Conventional Chemical Farming
Conventional chemical farming generally relies on the extensive use of synthetic fertilizers, pesticides, and herbicides to ensure high crop yields. This type of farming can require significant amounts of energy, frequently from non-renewable sources and contribute to nutrient runoff, resulting in bodies of water's eutrophication.
The key impacts of this style of farming include:
Soil Degradation: Over-reliance on synthetic fertilizers can degrade soil quality over time, reducing its ability to support crop growth. Such degradation leads to increased dependence on these fertilizers, creating a cycle of declining soil health.
Biodiversity Loss: Pesticides and herbicides used in conventional farming can have a detrimental effect on local ecosystems, killing off beneficial insects and other organisms and reducing biodiversity.
Environmental Pollution: Through runoff, the heavy use of synthetic inputs can end up in our water systems, spreading toxicity and contributing to problems like algal blooms.
Energy Intensive: As stated earlier, conventional chemical farming relies on synthetic inputs that are derived from non-renewable sources such as petroleum products, making this form of agriculture highly energy-intensive.

Q82 With reference to 'palm oil', consider the following statements:
(1) The palm oil tree is native to Southeast Asia.
(2) The palm oil is a raw material for some industries producing lipstick and perfumes.
(3) The palm oil can be used to produce biodiesel.
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
Correct Answer is (b) 2 and 3 only
History of palm oil
Native to Africa and brought to southeast Asia during colonial times, palm oil plantations now cover huge areas of Malaysia and Indonesia. Together, the two countries produce more than 85 per cent of the world's palm oil.
Humans have been using palm oil as far back as 5,000 years. In the nineteenth century, archaeologists discovered palm oil in a tomb in Egypt. The oil dated back to 3000 Before Common Era and is believed to have been spread across the globe primarily by traders.
In Africa, palm oil is used as a cooking oil from ancient times. European merchants carried palm oil from Africa back to their lands. The British started using palm oil as an industrial lubricant during the Industrial Revolution. By 1870, palm oil became the primary export item of many west African countries. Benin is believed to be the place of origin of palm oil production in Africa.
Palm oil contains various phytonutrients that can be separated out prior to biodiesel production. These phytonutrients have a high market value and can thus offset the overall palm biodiesel production cost. Indeed, this benefit has not been foreseen for other edible oil crops. To date, palm biodiesel conversion

technologies have been well researched, especially the catalysis method. Homogeneous base catalysts are the most common but pose severe problems when high FFA (free fatty acid) appears in CPO (crude palm oil).
Palm oil is an edible vegetable oil derived from the mesocarp (reddish pulp) of the fruit of oil palms. The oil is used in food manufacturing, in beauty products, and as biofuel.

Q83. With reference to the Indus River system, of the following four rivers, three of them pour into one which joins the Indus direct. Among the following, which one is such river that joins the Indus direct?
(a) Chenab
(b) Jhelum
(c) Ravi
(d) Sutlej
Correct Answer is (a) Chenab
The Chenab River is formed by the confluence of two rivers, the Chandra and the Bhaga, at Tandi in Himachal Pradesh. It flows through Jammu and Kashmir and Punjab before joining the Indus River in Pakistan. The other three rivers, Jhelum, Ravi, and Sutlej, join the Chenab River before it meets the Indus River.

Q84. With references to India, Didwana, Kuchaman, Sargol and khatu are the names of
(a) Glaciers
(b) Mangrove areas
(c) Ramsar sites
(d) Saline lakes
Correct Answer is (d) Saline lakes

Playas are small lakes with flat floors and undrained basins in which water collects after rains and evaporates quickly are called playas. Didwana is a playa. Other such playas are the Kuchaman, the Sargol and the Khatu lakes.

Q85. Consider the following Rivers:
1. Brahmani
2. Nagavali
3. Subarnarekha
4. Vamsadhara
Which of the above rise from the Eastern Ghats?
(a) 1 and 2
(b) 2 and 4
(c) 3 and 4
(d) 1 and 3
Correct Answer is (b) 2 and 4

Rivers originating on the Eastern Ghats include:
Baitarani River
Budhabalanga River
Rushikulya River
Vamsadhara River
Palar River
Nagavali River
Champavathi River
Gosthani River
Sarada River
Sabari River
Sileru River
Tammileru

Gundlakamma River
Pennai Yaru River
Swarnamukhi
Kundu River
Vellar River
Penna River

Q86. Consider the following statements:
1. The Global Ocean Commission grants licenses for seabed exploration and mining in international waters.
2. India has received licenses for seabed mineral exploration in international waters.
3. 'Rare earth minerals' are present on the seafloor in international waters.
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
Correct Answer is (d) 1, 2 and 3
The Global Ocean Commission is concerned with the conservation and sustainable management of high seas marine biodiversity and resources.
The Global Ocean Commission engages with governments and stakeholders at all levels to seek sustainable management and conservation of ocean marine resources. This includes combatting illegal (IUU fishing), establishing marine protected areas (mpas) in the high seas and seeking an equitable use and distribution of global marine resources.
India is taking another step in its quest to find valuable minerals hidden in the depths of the ocean which could hold the key to a cleaner future.
The country, which already has two deep-sea exploration licences in the Indian Ocean, has applied for two more amid increasing competition between major global powers to secure critical minerals.
Cobalt crusts accumulate at water depths of between 400 and 7,000 metres on the flanks and tops of seamounts. They are formed through the precipitation of minerals from seawater and contain iron, manganese, nickel, cobalt, copper and various rare metals, including rare earth elements. Globally, it is estimated that there may be as many as 100,000 seamounts higher than 1,000 metres, although relatively few of these will he found suitable for cobalt crust extraction. The most prospective area for cobalt crusts is located in the Magellan Seamounts in the Pacific Ocean, east of Japan and the Mariana Islands.

Q87. Among the following, which one is the least water-efficient crop?
(a) Sugarcane
(b) Sunflower
(c) Pearl millet
(d) Red gram
Correct Answer is (a) Sugarcane
Crops such as rice and sugarcane require large and regular amounts of water to produce agricultural yield. So, to mitigate this issue, the expansion of irrigation has been a key strategy in the development of the agricultural sector in our country.

Q88. Consider the following statements:
1. In the tropical zone, the western sections of the oceans are warmer than the eastern sections owing to the influence of trade winds.
2. In the temperate Zone, westerlies make the eastern sections of oceans warmer than the western sections
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2

(d) Neither 1 and 2
Correct Answer is (c) Both 1 and 2

Warmer water is transported westward in the ocean by the Northeast trade winds in the Northern hemisphere of the tropical zone. So, in tropical zones, the western section of the ocean is warmer than the eastern sections due to trade winds.
In the temperate zone, the westerlies contribute to making the eastern sections of oceans warmer than the western sections.

Q89. In the context of India's preparation for Climate-smart Agriculture, consider the following statements :
1. The 'Climate-Smart village' approach in India is a part of a project led by climate change, Agriculture and food security (CCAFS), an international research programme.
2. The project of CCAFS is carried out under Consultative Group on International Agricultural Research (CGIAR) headquartered in France.
3. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India is one of the CGIAR'S research centers.
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
Correct Answer is (d) 1,2 and 3
The research was implemented in collaboration with the International Maize and Wheat Improvement Center (CIMMYT) and the International Food Policy Research Institute (IFPRI).
CCAFS Climate-Smart Villages (CSVs) have successfully combined global knowledge with local action to help farmers sustainably produce more food, while curbing greenhouse gas emissions and increasing resilience to climate change. In CSVs farmers and researchers test and implement portfolios of climate-smart agricultural practices, technologies, and services, which can be combined together to make the best out of an increasingly difficult situation. In the Indian state of Haryana, farmers have implemented climate-smart practices such as laser-land levelling and alternate wetting and drying of rice, reducing water use, improving soil health and bringing economic rewards. Farmers have also been receiving agro-advisories on their mobile phones, with inputs from met departments, scientists, input dealers and farmers, which allow them to make timely decisions.
The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) marshals the science and expertise of CGIAR and its partners to catalyse positive change for climate-smart agriculture (CSA). CCAFS positions CGIAR - the world's largest agricultural research partnership - in play a major role to bring to scale the practices, technologies and institutions that enable agriculture to meet triple goals of food security, adaptation and mitigation. CCAFS' work is carried out with the kind support of the CGIAR Trust Fund donors, as well as through bilateral funding agreements
The CGIAR System Management Office, hosted in Montpellier, France, is responsible for the day-to-day operations of the CGIAR System Organization, an international organization governed by the Charter of the CGIAR System Organization.
ICRISAT was established under a Memorandum of Agreement between the Government of India and the CGIAR on the 28 March 1972. In accordance with the Headquarters Agreement, the Government of India has extended the status of a specified "International Organisation" to ICRISAT under section 3 of the United Nations (Privileges and Immunities) Act, 1947 of the Republic of India through Extraordinary Gazette Notification No. UI/222(66)/71, dated 28 October 1972, issued by the Ministry of External Affairs, Government of India.
ICRISAT is a research center of **the CGIAR consortium**

Q90. "Leaf litter decomposes faster than in any other biome and as a result the soil surface is often almost bare. Apart from trees, the vegetation is largely composed of plant forms that reach up into the canopy

vicariously, by climbing the trees or growing as epiphytes, rooted on the upper branches of trees." This is the most likely descriptions of
(a) Coniferous forest
(b) Dry deciduous forest
(c) Mangrove forest
(d) Tropical rain forest
Correct Answer is (d) Tropical rain forest
The hot and humid conditions make tropical rainforests an ideal environment for bacteria and other microorganisms. Because these organisms remain active throughout the year, they quickly decompose matter on the forest floor.

91. Water can dissolve more substances than any other liquid because.
(a) It is dipolar in nature
(b) It is a good conductor of heat
(c) It has high value of specific heat
(d) It is an oxide of hydrogen
Correct Answer is (a) It is dipolar in nature
Water is called the "universal solvent" because it is capable of dissolving more substances than any other liquid. This is important to every living thing on earth. It means that wherever water goes, either through the air, the ground, or through our bodies, it takes along valuable chemicals, minerals, and nutrients.
It is water's chemical composition and physical attributes that make it such an excellent solvent. Water molecules have a polar arrangement of oxygen and hydrogen atoms—one side (hydrogen) has a positive electrical charge and the other side (oxygen) had a negative charge. This allows the water molecule to become **attracted to many other different types of molecules**. Water can become so heavily attracted to a different compound, like salt (NaCl), that it can disrupt the attractive forces that hold the sodium and chloride in the salt compound together and, thus, dissolve it.

92. With reference to street-lighting, how do sodium lamps differ from LED lamps?
1. Sodium lamps produce light in 360 degrees but it is not so in the case of LED lamps.
2. As street-lights, sodium lamps have longer life span than LED lamps.
3.The spectrum of visible light from sodium lamps is almost monochromatic while LED lamps offer significant colour advantages in street-lighting.
Select the correct answer using the code given below.
(a) 3 only
(b) 2 only
(c) 1 and 3 only
(d) 1, 2 and 3
Correct Answer is (c) 1 and 3 only
Advantages of LED vs. High Pressure Sodium Area Lights
Although LED and High-Pressure Sodium are both popular options for area lights and outdoor fixtures, let's explore the difference between the two and why you should consider LED lighting.

High Pressure Sodium Area Lights

High Pressure Sodium area lights are most commonly seen on the road and in parking lots.
Color Temperature: Average 2000K, known for their warm yellow glow.
CRI: Disconcerting color rendering (CRI) that can inhibit vision at night and create darker shadows.
Bulb Failure: Prone to flickering and activation failure. At the end of the bulbs' lives, they are more susceptible to turning on and off without input until they inevitably fail entirely.
Lumen: Maintain their luminance for 90% of their life span, and still maintain 80% emission at the end of their life.
Lifespan: High Pressure Sodium lights tend to have a lifespan averaging 24,000 hours.
Bulb Angle: 360-degree bulb angle

Efficacy: High efficacy that is easily comparable to LED lights.
Price: High Pressure Sodium lights range between $5-$10.

LED Area Lights

LED area lights are top of the line bulbs. They are more efficient and have longer lifespans than High-Pressure Sodium lights.
Color Temperature: Variety of color temperature options providing better lighting solutions including cooler lights than High Pressure Sodium counterpart.
CRI: Higher CRIs for better color vision at night.
On/Off: Responds instantaneously to on/off input without any delays and can produce a steady non-flicker light throughout their entire lifespan.
Bulb Failure: LED lights slowly dim over time instead of flickering or turning on/off sporadically.
Lifespan: Range of 25,000 to 200,000 hours.
Bulb Angle: 180-degree bulb angle to preserve light efficiency and allow for target lighting over areas.
Efficacy: The most efficiency lights on the market with high efficacy averaging about 50 lumens/watt.
Price: LED lights are slightly more expensive than High Pressure Sodium lights at $10-$20.

LED Advantages

The biggest differences between LED and High-Pressure Sodium lights are color temperature and CRI. LED lights have a wider variety of color temperatures along with higher CRIs.
LED Area Lights have a much easier immanence than High Pressure Sodium lights. LED lights have essentially no maintenance cost and must be changed rarely with infrequent monitoring. High Pressure Sodium lights have a high maintenance cost, because they require monitoring and more frequent replacement of both bulbs and parts.

93. The term ‘ACE2” is talked about in the context of
(a) genes introduced in the genetically modified plants
(b) development of India’s own satellite navigation system
(c) radio collars for wildlife tracking
(d) spread of viral diseases
Correct Answer is (d) spread of viral diseases
ACE2 shedding produces soluble ACE2 (sACE2), resulting in loss of the membrane-bound form. Whether ACE2 shedding and increasing sACE2 are physiological or pathological has not been clearly elucidated. Recently, sACE2 has been found to facilitate SARS-COV-2 infection in cells.

94. Bisphenol A (BPA), a cause of concern, is a structural/key component in the manufacture of which of the following kinds of plastics?
(a) Low-density polyethylene
(b) Polycarbonate
(c) Polyethylene terephthalate
(d) Polyvinyl Chloride.
Correct Answer is (b) Polycarbonate
Bisphenol A (BPA) is a chemical produced in large quantities for use primarily in the production of polycarbonate plastics. It is found in various products including shatterproof windows, eyewear, water bottles, and epoxy resins that coat some metal food cans, bottle tops, and water supply pipes.

95. ‘Triclosan” considered harmful when exposed to high levels for a long time, is most likely present in which of the following?
(a) Food preservatives
(b) Fruit ripening substances
(c) reused plastic containers
(d) Toiletries
Correct Answer is (d) Toiletries

Triclosan (TCS) is an antimicrobial that, since its original use in hospital settings in 1972, has been incorporated into a variety of consumer products including soaps, hand sanitizers, toothpaste, and mouthwash.

Q96. Which one of the following is a reason why astronomical distance are measured in light-years?
(a) Distance among stellar bodies do not change.
(b) Gravity of stellar bodies does not change.
(c) Light always travels in straight line.
(d) Speed of light is always same
Correct Answer is (d) Speed of light is always same

A light-year is a measurement of distance in space. The astronomical distances are measured in light-years because, the speed of light is constant throughout the universe and is known to high precision.

Q97. We adopted parliamentary democracy based on the British model, but how does our model differ from that model?
1. As regards legislation, the British Parliament is supreme or sovereign but in India, the power of the parliament to legislate is limited.
2. In India, matters related to the constitutionality of the Amendment of an Act of the Parliament are referred to the Constitution Bench by the Supreme Court.
Select the correct answer using the code given below.
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
Correct Answer is (c) Both 1 and 2
Legislative Powers and Sovereignty
In the UK, the **British Parliament** is recognized as supreme or sovereign, adhering to the doctrine of parliamentary sovereignty. This means that the Parliament has the ultimate authority to create or repeal any law without legal restraint. In contrast, the Indian Parliament operates within the constraints of a written **constitution**, which limits its legislative capabilities and ensures that laws do not contravene constitutional provisions. Additionally, India's federal structure divides legislative authority between the Union and state governments.
Constitutionality and Judicial Review
Another key difference is the role of the judiciary in reviewing the constitutionality of legislation. The Indian **Supreme Court** has the power of judicial review and can convene a Constitution Bench to address substantial questions of constitutional law. On the other hand, the UK Supreme Court does not have the authority to declare an Act of Parliament unconstitutional due to the absence of a codified constitution and the principle of parliamentary sovereignty.

Q98 With reference to the Union Government, consider the following statements:
1. N. Gopalaswamy Iyenger Committee suggested that a minister and a secretary be designated solely for pursuing the subject of administrative reform and promoting it.
2. In 1970, the Department of personnel was constituted on the recommendation of the Administrative Reforms Commission, 1966, and this was placed under the Prime Minister's charge.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
Correct Answer is (d) Neither 1 nor 2
Gopalaswamy Ayyangar, in his Report namely *Reorganization of the Machinery of Central Government' in 1950 recommended the grouping of ministries, improvement in the capabilities of the personnel, and also in the working of the O&M Division. 1st ARC Suggested that a minister and a secretary be

designated solely for pursuing the Subject of administrative reform and promoting it. So Statement I is incorrect. The Department of Personnel was constituted in 1970 on the recommendation of the Administrative Reforms Commission, 1966, and this was placed under the cabinet Secretary. Currently it is placed under PMO.

Q99. 'Right to Privacy' is protected under which Article of the constitution of India?
(a) Article 15
(b) Article 19
(c) Article 21
(d) Article 29
Correct Answer is (c) Article 21
Ambit of R2P: the jurisprudence
R2P is implicit in Article 21 – "the right to be let alone"
"A citizen has a right to safeguard the privacy of his own, his family, marriage, procreation, motherhood, child bearing and education among other matters. None can publish anything concerning the above matters without his consent - whether truthful or otherwise and whether laudatory or critical. If he does so, he would be violating the right to privacy of the person concerned and would be liable in an action for damages." (2 judge bench)

Q100. Consider the following statements:
1. In India, there is no law restricting the candidates from contesting in one Lok Sabha election from three constituencies.
2. In 1991 Lok Sabha Election, Shri Devi Lal contested from three Lok Sabha constituencies.
3. As per the existing rules, if a candidate contests in one Lok Sabha election from many constituencies, his/her party should bear the cost of bye-elections to the constituencies vacated by him/her in the event of him/her winning in all the constituencies.
Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) 1 and 3
(d) 2 and 3
Correct Answer is (b) 2 only

Can a person contest election to Lok Sabha (House of People)/Vidhan Sabha (Legislative Assembly) from as many constituencies as he likes?
Ans. No A person cannot contest from more than two constituencies at a general election for Lok Sabha (House of People)/Vidhan Sabha (Legislative Assembly) (Refer: Section 33 (7) of Representation of People Act, 1951)
(more constituencies were allowed until 1996 when the RPA was amended to set the cap at two constituencies)
I n 1991, Haryana deputy chief minister Devi Lal contested three Lok Sabha seats — Sikar, Rohtak and Ferozepur — as well as the Ghirai assembly seat.

The cost is borne by Election Commission.