Que-01
Which of the following Mobile app has been launched by the Ministry of Tourism through which any Indian citizen can file complaints about unclean area around tourist destinations?

a) Prawasi Pahera
b) Saaf Mukam
c) Swachh Paryatan
d) Sundar Smarak

Answer: C

Solution & Enrich Your Learning:
Swachh Paryatan Mobile App
Swachh Paryatan Mobile App is operated by the Ministry of Tourism for 25 Adarsh Smarak Monuments. This mobile app is being monitored by the Project Monitoring Unit of Swachh Bharat Mission in Ministry of Tourism.
This mobile app enables a citizen to take a photograph of garbage at the monument and upload the same along with his/her remarks. The application then sends an SMS to the ASI Nodal Officer concerned with the monument upon receipt of which the Nodal Officer gets the garbage cleared/removed.

The Ministry has launched an initiative for providing pre-loaded Sim Cards to foreign tourists arriving in India on e-Visa.

This initiative was launched in 2017 in association with Bharat Sanchar Nigam Ltd., (BSNL), wherein BSNL would distribute pre-loaded SIM cards to foreign tourists on e-Visa. This initiative is aimed at providing connectivity to foreign tourists to enable them to stay in touch with their family and friends and also help them to contact with the 24x7 multi-lingual toll free helpline of the Ministry for any assistance and guidance during times of distress/medical emergency, etc.

Que-02
Incredible India is a campaign of which of the following Ministry of Indian government?

a) Ministry of Culture
b) Ministry of Tourism
c) Ministry of Science and Technology
d) Ministry of External Affairs

Answer: B

Solution & Enrich Your Learning:

Incredible India

- Incredible India is the name of an international tourism campaign maintained by the Government of India since 2002, to promote tourism in India.
- The campaign portrayed India as an attractive tourist destination by showcasing different aspects of Indian culture and history like yoga, spirituality, etc.
- In 2009, Minister of tourism unveiled plans to extend the Incredible India campaign to the domestic tourism sector as well.

Que-03
Consider the following statements with reference to State Emblem:

1. The State Emblem of India depicts only the four animals namely elephant, horse, bull and lion.
2. The words ‘Satyameva Jayate’, as seen in National emblem, are taken from Prasna Upanishads.

Which of the above statements is/are correct?

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

Answer: A

Solution:
- The words Satyameva Jayate from Mundaka Upanishad, meaning 'Truth Alone Triumphs', are inscribed below the abacus in Devanagari script.
The State Emblem of India is an adaptation of the Lion Capital of Ashoka at Sarnath. In the original, the Lion Capital has four lions mounted back to back, on a circular abacus. The frieze of the abacus is adorned with sculptures in high relief of an elephant, a galloping horse, a bull and a lion separated by intervening Dharma Chakras. The abacus rests on a bell shaped lotus.

The profile of the Lion Capital showing three lions mounted on the abacus with a Dharma Chakra in the centre, a bull on the right and a galloping horse on the left, and outlines of Dharma Chakras on the extreme right and left was adopted as the State Emblem of India on January 26, 1950. The bell-shaped lotus was omitted. The motto “Satyameva Jayate”—Truth alone Triumphs —written in Devanagari script below the profile of the Lion Capital is part of the State Emblem of India.

The words Satyameva Jayate from Mundaka Upanishad, meaning 'Truth Alone Triumphs', are inscribed below the abacus in Devanagari script. In the State Emblem lies the official seal of the Government of India. Its use is regulated by the State Emblem of India (Prohibition of Improper Use) Act, 2005 and The State Emblem of India (Regulation of Use) Rules, 2007 [read with State Emblem of India (Regulation of Use) Amendment Rules, 2010].

Que-04
With reference to Montane forests, consider the following statements:

1. The Alpine vegetation gets progressively stunted as they approach snow-line.
2. The Evergreen oaks and chestnut are part of Tundra vegetation.
3. The wet temperate type of forests are found between a height of 1000 and 2000 metres.

Which of the statements given above is/are correct?

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

Answer: C

Solution:

- The Evergreen oaks and chestnut are part of Wet Temperate Forests. Mosses and Lichens forms part of Tundra vegetation.

Enrich Your Learning:

Montane Forests

- In mountainous areas, the decrease in temperature with increasing altitude leads to the corresponding change in natural vegetation. As such, there is a succession of natural vegetation belts in the same order as we see from the tropical to the tundra region.
- The **wet temperate type of forests are found between a height of 1000 and 2000 metres**. Evergreen broad-leaf trees, such as oaks and chestnuts predominate.
- Between 1500 and 3000 metres, temperate forests containing coniferous trees, like pine, deodar, silver fir, spruce and cedar, are found. These forests cover mostly the southern slopes of the Himalayas, places having high altitude in southern and north-east India.
- At higher elevations, temperate grasslands are common.
- At high altitudes, generally, **more than 3,600 metres** above the sea level, temperate forests and grasslands give way to the Alpine vegetation. Silver fir, junipers, pines and birches are the common trees of these forests. However, they get progressively stunted as they approach the snow-
line. Ultimately, through shrubs and scrubs, they merge into the Alpine grasslands. These are used extensively for grazing by nomadic tribes, like the Gujjars and the Bakarwals.

- At higher altitudes, **mosses and lichens form part of tundra vegetation**. The common animals found in these forests are Kashmir stag, spotted dear, wild sheep, jack rabbit, Tibetan antelope, yak, snow leopard, squirrels, Shaggy horn wild ibex, bear and rare red panda, sheep and goats with thick hair.

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**Que-05**

Consider the following pairs:

<table>
<thead>
<tr>
<th>Medicinal Plants</th>
<th>Their use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amla</td>
<td>cure asthma and ulcers</td>
</tr>
<tr>
<td>Jamun</td>
<td>controlling diabetes</td>
</tr>
<tr>
<td>Tulsi</td>
<td>cure cough and cold</td>
</tr>
<tr>
<td>Kachnar</td>
<td>cure hyper acidity</td>
</tr>
</tbody>
</table>

Which of the pairs given above is/are correct?

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

**Answer:** D

**Solution:**

- **Amla** – cure hyper acidity  
- **Kachnar** – cure asthma and ulcers

**Enrich Your Learning:**

**Medicinal Plants in India:**

- India is known for its herbs and spices from ancient times. Some 2,000 plants have been described in Ayurveda and at least 500 are in regular use.
  - The World Conservation Union’s Red List has named 352 medicinal plants of which 52 are critically threatened and 49 endangered.

The commonly used plants in India are:

- **Sarpagandha**: Used to treat blood pressure; it is found only in India.
- **Jamun**: The juice from ripe fruit is used to prepare vinegar, which is carminative and diuretic, and has digestive properties. The powder of the seed is used for controlling diabetes.
- **Arjun**: The fresh juice of leaves is a cure for earache. It is also used to regulate blood pressure. **Babool**: Leaves are used as a cure for eye sores. Its gum is used as a tonic.
- **Neem**: Has high antibiotic and antibacterial properties.
- **Tulsi**: Is used to cure cough and cold.
- **Kachnar**: Is used to cure asthma and ulcers. The buds and roots are good for digestive problems

- **Amla** – Vitamin C source, Cough, Diabetes, cold, Laxativ and hyper acidity
- **Brahmi** – Memory enhancer, Mental disorder
- **Ashwagandha** - Restorative tonic, used for stress, nervous disorder
- **Sandal Wood** – Used for skin disorder, Burning sensation, jaundice and cough
- **Henna** – Used for cure of burn, taken as steam and work as anti inflammatory
- **Cardomom and coriander** – These are renowned for their appetizing qualities.
- **Honey and turmeric** – It can effectively treat a fresh cut and wound. They are termed as vulnerary herbs.
Gritkumari or aloe vera – Major solution for Wound healing, Skin burns & care, can be used against Ulcer.

Que-06
Which of the following bodies are the quasi-judicial body in India?
1. Central Information Commission
2. National Human Rights Commission
3. Competition Commission of India
Select the correct answer using the codes given below:
a) 1 and 2 only
b) 2 and 3 only
c) 1 and 3 only
d) 1, 2 and 3
Answer: B

Solution & Enrich Your Learning:
What is non Constitutional body?
Non Constitutional are established after passing an act of Parliament, means these institutions are not mentioned in constitution.
Important Non Constitutional Bodies:
- NITI Aayog (National Institution for Transforming India)
- National Development Council
- National Human Right Commission
- Central Information Commission
- Central Bureau of Investigation
- Lokpal and Lokayuktas
- Central Information Commission
- State Information Commission
- State Human Right Commission
- Central Vigilance Commission
- National Human Rights Commission

What is a quasi-judicial body?
- A quasi-judicial body is a non-judicial body which can interpret law. It is an entity such as an arbitrator or tribunal board, generally of a public administrative agency, which has powers and procedures resembling those of a court of law or judge.
- Quasi-judicial body is different from judicial bodies in that their field is limited compared to a court.

Examples of quasi-judicial bodies:
- National Human Rights Commission,
- National Consumer Disputes Redressal Commission,
- Competition Commission of India,
- Income Tax Appellate Tribunal,
- Appellate Tribunal for Electricity,
- Railway Claims Tribunal,
- Intellectual Property Appellate Tribunal,
- Banking Ombudsman, etc.

Que-07
Which of the following constitutional amendment introduces 10% reservation quota for Economically Weaker Sections (EWS)
a) 103rd constitutional amendment
b) 104th constitutional amendment
c) 99th constitutional amendment
d) 100th constitutional amendment
Answer: A

Solution & Enrich Your Learning:
Constitutional (103rd Amendment) Act, 2019:
Why in news?
- Several petitions had challenged the validity of the 103rd Constitutional Amendment, saying the 50% quota limit was part of the Basic Structure of the Constitution.
About 103rd Amendment Act:

- The 103rd constitutional amendment introduces 10% reservation quota for Economically Weaker Sections (EWS) for admission to Central Government-run and Private educational institutions (except for minority educational institutions), and for employment in Central Government jobs.
- It was introduced in the Constitution by amending Articles 15 and 16 and adding clauses empowering the State governments to provide reservation on the basis of economic backwardness.
- The Supreme Court of India in Indra Sawhney case (1992) said that reservations could not exceed 50%. However, there are state laws that exceed this 50% limit. For example, in Tamil Nadu, caste-based reservation stands at 69%.
- The Supreme Court Bench said the primary question for the Constitution Bench to decide whether “economic backwardness” can be the sole criterion for granting quota in government jobs and educational institutions for those who would otherwise have to compete in the general category.

Que-08
Consider the following statements:

1. Eminent domain refers to the power of the government to take private property.
2. Eminent domain refers to land acquisition in India.

Which of the above statements is/are correct?

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

Answer: C

Solution: Both the above statements are correct.

Enrich Your Learning:

Doctrine of Eminent Domain:

- Doctrine of Eminent Domain is a concept in the American Constitution. It is the acquisition of private property by the state for a public purpose with paying a certain amount of compensation.
- In the case of State of Bihar v. Kameshwar Singh, the Supreme Court defined eminent Domain as “the power of a sovereign to take property for public use without the owner’s consent upon making just compensation.”
- Essentials of the Doctrine of Eminent Domain:
  - Property is taken for public use.
  - Compensation is paid for the property taken.
- This power is limited by the federal Constitution and state constitutions—the government must fairly compensate the owner when it takes private property.
- Sometimes the government’s use of eminent domain is a straightforward matter: the government offers the homeowner a fair price, perhaps after some negotiating, and the homeowner gives up the property.
- However, the government and the landowner may disagree over whether a taking has occurred or how much compensation is due.
- In any event, landowners have options for challenging eminent domain. Eminent domain attorneys
can assist with such challenges or help negotiate a fair price.

===================================== Que-09

Which of the following statements is/are correct in terms of the definition of ‘logistics infrastructure’ in India?

1. A multimodal logistics Park comprising an Inland Container Depot (ICD) with a minimum investment of Rs50 crore
2. A cold chain facility with a minimum investment of Rs15 crore
3. A warehousing facility with a minimum investment of Rs25 crore

Consider the following statements:
Which of the above statements is/are correct?

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

Answer: D

Solution: All of the above statements are correct.

Enrich Your Learning:
Logistics Sector granted Infrastructure Status

- The Union government has granted infrastructure status to the logistics sector, enabling the industry to access cheaper finances.

Need for Infrastructure status:

- The need for integrated Logistics sector development has been felt for quite some time in view of the fact that the logistics cost in India is very high compared to developed countries. High logistics cost reduces the competitiveness of Indian goods both in domestic as well as export market.

- Development of logistics would give a boost to both domestic and external demand thereby encouraging manufacturing and ‘job creation’. This will in turn be instrumental in improving country’s GDP.

What is the definition of ‘logistics infrastructure’?

The government has defined “logistics infrastructure” to include:

- A multimodal logistics Park comprising an Inland Container Depot (ICD) with a minimum investment of Rs50 crore and minimum area of 10 acre,
- A cold chain facility with a minimum investment of Rs15 crore and minimum area of 20,000 sq. ft and
- A warehousing facility with a minimum investment of Rs25 crore and a minimum area of 100,000 sq ft.

By getting infrastructure status, what advantages the logistics sector will get?

- Infrastructure status will enable the Logistics Sector to avail infrastructure lending at easier terms with enhanced limits, access to larger amounts of funds as External Commercial Borrowings (ECB), access to longer tenor funds from insurance companies and pension funds and be eligible to borrow from India Infrastructure Financing Company Limited (IIFCL).

- Infrastructure status for cold chains and warehousing facilities will provide a big boost to attracting private investment in this sector.

Background:
The inclusion of “Logistics Sector” in the Harmonized Master List of Infrastructure Sub-sectors was considered in the 14th Institutional Mechanism (IM) Meeting held in a recent past.

In 2017, India’s logistics performance improved from 54 to 35 under World Bank Logistics Performance Index (LPI).

The government expects the Indian logistics sector to grow to $360 billion by 2032 from the current $115 billion.

Que-10
Which of the following statements is correct with reference to Head Count Ratio?

a) When the number of poor is estimated as the proportion of people below the poverty line, it is known as 'head count ratio'.

b) When the number of poor is estimated as the proportion of people above the poverty line, it is known as 'head count ratio'.

c) When the number of rich is estimated as the proportion of people below the poverty line, it is known as 'head count ratio'.

d) When the number of rich is estimated as the proportion of people above the poverty line, it is known as 'head count ratio'.

Answer: A
Solution & Enrich Your Learning:

Head Count Ratio:

- The Head count ratio (HCR) is the proportion of a population that exists, or lives, below the poverty line.
- When the number of poor is estimated as the proportion of people below the poverty line, it is known as 'head count ratio'.
- Poverty headcount ratio at $1.90 a day is the percentage of the population living on less than $1.90 a day at 2011 international prices.
- As a result of revisions in PPP exchange rates, poverty rates for individual countries cannot be compared with poverty rates reported in earlier editions.
- National poverty headcount ratio is the percentage of the population living below the national poverty lines.
- National estimates are based on population-weighted subgroup estimates from household surveys.

Que-11
Pachmarhi Biosphere Reserve is located in which of the following states of India?

a) Assam
b) Madhya Pradesh
c) Tamil Nadu
d) Gujarat

Answer: B

Solution: Pachmarhi Biosphere Reserve is located in Madhya Pradesh.

Enrich Your Learning:

Ranganathittu Bird Sanctuary:
It is a bird sanctuary in the state of Karnataka in India.

It is the largest bird sanctuary in the state and comprises six islets on the banks of the Kaveri river.

Vaduvoor Bird Sanctuary:
- The Bird Sanctuary is located in Vaduvoor lake, Tamil Nadu, India.
- It was created in the year 1999 and attracts a numerous foreign birds from Europe and America.
- It is a favourite spot for the migratory birds and during the months of November and December more than 20000 winged visitors reach this area.

Pachmarhi Biosphere Reserve:
- The Biosphere Reserve is located in the Deccan Peninsula in Madhya Pradesh.
- The Satpura mountain ranges cross India from west to east and Pachmarhi lies directly in its centre.
- Pachmarhi comprises three protection sites: Bori Sanctuary, Satpura National Park and Pachmarhi Sanctuary – otherwise known as the Satpura Tiger Reserve.
- UNESCO designated it a biosphere reserve in 2002.

Great Nicobar Biosphere Reserve:
- The Biosphere Reserve encompasses a large part (85%) of the island of Great Nicobar Islands.
- Great Nicobar is the largest of the Nicobar Islands in the UT of Andaman and Nicobar Islands.
- The Nicobar Islands lie in the Bay of Bengal, eastern Indian Ocean, 190 km to the north of the Indonesian island of Sumatra.
- It was included in the list of Man and Biosphere program of UNESCO to promote sustainable development based on local community effort and sound science in 2013.

The Reserve incorporates two National parks of India: Campbell Bay National Park on the northern part of the island, and Galatea National Park in the southern interior.

It is home to many species of plants and animals, often endemic to the Andaman and Nicobar biogeographic region.

Que-12
Point Calimere Wildlife and Bird Sanctuary is located in which of the following states of India?

a) Tamil Nadu
b) Kerala
c) Goa
d) Andhra Pradesh

Answer: A

Solution: Point Calimere Wildlife and Bird Sanctuary is located in Tamil Nadu.
Enrich Your Learning:

Point Calimere Wildlife and Bird Sanctuary (PCWBS):

- It is a protected area in Tamil Nadu, South India.
- Point Calimere is the spot inside the sanctuary where the coast takes a 90 degree turn from the Bay of Bengal towards Palk Strait.
- The sanctuary harbours the single largest stretch of the unique dry evergreen forest in the country.
- The sanctuary and the surrounding wetlands are important wintering grounds for water birds from the North.
- Blackbuck is the flagship species of the sanctuary.
- Other important animals are the spotted deer, black-napped hare, wild boar, Indian jackal, feral horses, palm civet, short-nosed fruit bat, jungle cat and monitor lizard.

Que-13

Consider the following statements:

1. Carrying capacity can be defined as a species’ average population size in a particular habitat.
2. Allee effect is positive density dependence, or the positive correlation between population density and individual fitness.
3. Negative density-dependence describes a situation of under-crowding.

Which of the above statements is/are correct?

a) 1 and 2 only
b) 2 and 3 only
c) 1 and 3 only
d) All of the above

Answer: A

Solution: Negative density-dependence describes a situation in which population growth is curtailed by crowding, predators and competition.

Enrich Your Learning:

Carrying Capacity:

- Carrying capacity can be defined as a species’ average population size in a particular habitat.
- The species population size is limited by environmental factors like adequate food, shelter, water, and mates.
- If these needs are not met, the population will decrease until the resource rebounds.
- The carrying capacity is different for each species in a habitat because of that species’ particular food, shelter, and social requirements.

Biotic Potential:

- The maximum reproductive capacity of an organism under optimum environmental conditions.
- It is often expressed as a proportional or percentage increase per year.
- It can also be expressed as the time it takes for a population to double in size (doubling time).
- Full expression of the biotic potential is restricted by environmental resistance, any factor that inhibits the increase in number of the population.
• These factors include unfavourable climatic conditions: lack of space, light, or a suitable substrate; deficiencies of necessary chemical compounds or minerals; and the inhibiting effects of predators, parasites, disease organisms, or unfavourable genetic changes.

Positive density-dependence or Allee effect:

• Allee effect is positive density dependence, or the positive correlation between population density and individual fitness.

• It is referred to as undercrowding and it is analogous to depensation in the field of fishery sciences.

• It is a feature of small populations whereby low density limits population growth.

Negative density-dependence:

• It describes a situation in which population growth is curtailed by crowding, predators and competition.

• In cell biology, it describes the reduction in cell division. When a cell population reaches a certain density, the amount of required growth factors and nutrients available to each cell becomes insufficient to allow continued cell growth.

• Greater competition means an individual has a decreased contribution to the next generation i.e. offspring.

• An example of a density-dependent variable is crowding and competition.

2. The incomplete combustion releases carbon dioxide.
3. Spontaneous combustion requires no external energy to get started.
4. The complete combustion leaves only one by product water.

Choose the correct answer using the codes given below:

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

Answer: C

Solution:

• Combustion is a chemical process
• The incomplete combustion releases carbon monoxide.
• The complete combustion leaves only two by product i.e. water and carbon dioxide.

Enrich Your Learning:

Combustion

• Combustion is a chemical process or it is a reaction between the fuel and oxygen. Fuel are hydrocarbons.

• When fuel and oxygen react it releases the heat and light energy.

• Heat and light energy then result in the flame.

• Formula for combustion reaction is Hydrocarbon + Oxygen = Heat Energy

There are 5 different types of combustion

1. Complete Combustion: Complete combustion occurs in an unlimited supply of air, oxygen in particular. Also, complete combustion is also known as clean combustion. Here the hydrocarbon will burn out completely
with the oxygen and leave only two by products, water and carbon dioxide.
2. **Incomplete Combustion**: takes place when the air is in limited supply. The burn produces carbon monoxide and soot instead of carbon dioxide.
3. **Rapid Combustion**: The combustion produces a large amount of heat and light energy and does so rapidly.
4. **Spontaneous Combustion**: it requires no external energy for the combustion to start. It happens due to self-heating.
5. **Explosive Combustion**: It occurs when something ignites to produce heat, light and sound energy. Examples are firecrackers or blowing up of dynamite.

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**Que-15**

Consider the following statements about “Wolf Warrior” diplomacy:

1. Originally, it is a series of patriotic action films in China.

2. tag line of the diplomacy is “Even though a thousand miles away, anyone who affronts China will pay.”

3. China’s diplomats were compared as they began to hit back against US government on a social media platform.

Which of the above statements is/are correct?

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

**Answer: D**

**Solution:**
Correct statement

- Enrich Your Learning:
  
  **“Wolf Warrior” diplomacy**

  “Wolf Warrior” is actually the title of a hugely-successful series of patriotic action films in China, featuring Rambo-like protagonists who fight enemies at home and abroad to defend Chinese interests.

  The first film was released in 2015 and made more than $76 million at the box office.

  It quickly spawned a sequel that became China’s highest grossing film at the time when it was released in 2017.

  “Wolf Warrior 2” was based around a squad of People’s Liberation Army soldiers sent into an African country to rescue Chinese civilians.

  The film’s tagline was, “Even though a thousand miles away, anyone who affronts China will pay.”

  An early comparison between the film series and China’s diplomats came in July 2019, when a counsellor at the Chinese embassy in Pakistan, began to hit back hard against the US government on Twitter.

  He claimed the US had no right to criticize China on human rights abuses when it had problems with racism, income inequality and gun violence. He alleged there were places in Washington DC where “the white (people)” never go.

  It provoked a furious reaction from US. Now, Chinese diplomats across the world have begun to mirror this Chinese aggressive tactics on Twitter, a platform long banned in China.

  

  

  

**Que-16**

Consider the following statements with reference to the ‘PM SVANIDHI’:

1. The scheme was launched by Ministry of Housing and Urban Affairs.
2. The scheme provides loans of up to ₹100,000 to street vendors.

3. Small Industries Development Bank of India (SIDBI) is the technical partner for implementation of this scheme.

Which of the above statements is/are correct?

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

Answer: C

Solution:
Correct statement

- **PM SVANIDHI** provides affordable loans of up to ₹10,000 to more than 50 lakh street vendors.

Enrich Your Learning:

**PM SVANIDHI**

PM Svanidhi or Pradhan Mantri Street Vendor’s Atma Nirbhar Nidhi scheme was recently launched by Ministry of Housing and Urban Affairs, a special micro-credit facility scheme for providing affordable loan to street vendors.

**Objective**

To provide affordable loans of up to ₹10,000 to more than 50 lakh street vendors, who had their businesses operational on or before 24 March.

**Major Highlights**

The special micro-credit facility plan aims to enable street vendors to resume their livelihoods, which have been hit hard due to COVID-19 lockdown.

Under the scheme, vendors can avail working capital loan of up to ₹10,000, which is repayable in monthly instalments within one year.

On timely/early repayment of the loan, an interest subsidy of 7% per annum will be credited to the bank accounts of beneficiaries through Direct Benefit Transfer on six-months basis.

The scheme is applicable to vendors, hawkers, thelewalas etc. in different areas contexts who supply goods and services.

Street vendors belonging to the surrounding peri-urban/rural areas are also included.

Small Industries Development Bank of India (SIDBI) is the technical partner for implementation of this scheme and will manage the credit guarantee to the lending institutions through Credit Guarantee Fund Trust for Micro and Small Enterprises.

The scheme is valid until March 2022.

**Significance**

These small vendors usually work with a small capital base taken on very high interest rates from informal sources.

Further, they might have consumed their savings and high cost capital during the lockdown.

Hence, the scheme provides affordable credit for working capital through formal banking channels to help them resume the business.

Que-17

Consider the following statements regarding mass extinction of species:

1. It refers to more than three-quarters of any species in a geologically short period of time.
2. Highest species found on the brink of extinction are from Africa.
3. The sixth mass extinction is referred to as the Anthropocene extinction.

Which of the above statements is/are correct?

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

c) 1 and 3 only

d) 1, 2 and 3

Answer: C

Solution:

Correct statement

- Over 515 species which found on the brink of extinction are from South America (30 percent), followed by Oceania (21 percent), Asia (21 percent) and Africa (16 percent) among others.

Enrich Your Learning:

Mass extinction of species

Mass extinction refers to a substantial increase in the degree of extinction or when the Earth loses more than three-quarters of its species in a geologically short period of time.

So far, during the entire history of the Earth, there have been five mass extinctions.

The sixth, which is ongoing, is referred to as the Anthropocene extinction.

The five mass extinctions that took place in the last 450 million years have led to the destruction of 70-95 per cent of the species of plants, animals and microorganisms that existed earlier.

These extinctions were caused by catastrophic alterations to the environment, such as massive volcanic eruptions, depletion of oceanic oxygen or collision with an asteroid.

Anthropocene extinction

The research claims that this extinction is human-caused and is more immediate than climate destruction and the loss of species will be permanent.

29,400 species of terrestrial vertebrates were analysed and determined which of these are on the brink of extinction because they have fewer than 1000 individuals.

Over 515 of them are near extinction, and the current loss of species has been occurring since the 1800s.

Most of these 515 species are from South America (30 percent), followed by Oceania (21 percent), Asia (21 percent) and Africa (16 percent) among others.

The loss of species has been occurring since human ancestors developed agriculture over 11,000 years ago.

Since then, the human population has increased from about 1 million to 7.7 billion.

More than 400 vertebrate species went extinct in the last century, extinctions that would have taken over 10,000 years in the normal course of evolution.

What happens when species go extinct?

When species go extinct, the impact can be tangible such as in the form of a loss in crop pollination and water purification.

Further, if a species has a specific function in an ecosystem, the loss can lead to consequences for other species by impacting the food chain.

The study warns that the effects of extinction will worsen in the coming decades as the resulting genetic and cultural variability will change entire ecosystems.

Que-18

Consider the following statements about a craft famous in a country:

1. A fibre, extracted from the banana plant, is used to weave a dress called Kimono.

2. The craft is highly valued in one of its islands located in the East China Sea.
Which of the following country fulfils the above statements?

a) Japan  
b) Philippines  
c) China  
d) South Korea  

Answer: A

Solution & Enrich Your Learning:

Bashofu: What is it?

A fibre is extracted from the edible banana plant. It is used in weaving a fibre cloth in Japan. This is called Bashofu.

Features of Bashofu:

- It is a highly valued craft in the Okinawa Islands, located near the Miyako Strait, East China Sea.
- The cloth is smooth and stiff.
- It is used to make the traditional Japanese Dress Kimono.

Why did the craft decline?

- World War 2
- Rapid industrialisation
- Urbanisation
- Younger generations are not interested in this craft form.

Measures:

- Japanese Government started honouring artists who excel.
- Scholars, visitors and students are encouraged to explore, research and study with these masters.
- This is a wonderful example of how today the Japanese value their craft traditions and honour the great practitioners of crafts.

Que-19

With reference to social and religious practices in Vedic period, which of the following statements is/are correct?

1. The rajan was assisted by members of sabha and samiti.
2. A number of villages formed a tribe known as kula.
3. The ultimate aim of life was to attain salvation.
4. Yajna was performed along with chanting of Vedic hymns.

Select the correct answer using the codes given below:

a) 1, 3 and 4  
b) 2 and 3  
c) 1, 2 and 3  
d) All of the above

Answer: A

Solution:

- A number of villages formed a tribe known as jana. The kula was the group of families.

Enrich Your Learning:

Society and religion (VEDIC PERIOD)

Though Aryan society was patriarchal, women were treated with dignity and honour. The family was the smallest social unit. Several families (kula) made a village (grama) and several villages formed a vis.

A number of villages formed a tribe or jana which was ruled by a chief called rajan. His chief function was to protect the tribe from external attack and maintain law and order. He was assisted by the members of two councils.
called sabha and samiti. The Purohita performed religious functions while the senani looked after military activities. There was no concept of the state or kingdom at this stage. Although the post of Rajan had become hereditary, he could be removed from power if found weak and inefficient or cruel.

The early Vedic people worshipped forces of nature and personified them as gods and goddesses. Indra, Agni, Varuna, Marut were some of their gods while Usha: Aditi, Prithvi were some of their goddesses. Some of the solar Gods and goddesses referred to in the Rig Veda are Surya, Savitri and Pushau.

Women were respected by the society, enjoyed freedom, had access to education and were often free to choose their partners through swayamvara. Purdah and sati was not prevalent.

The ultimate aim of life was to attain moksha or salvation through the pursuit of dharma, artha and kama. Karma or performance of duty without any expectation or return was preached in the Bhagavad Gita.

Yajna (sacrifice) was performed along with chanting of Vedic hymns. People poured ghee (clarified butter) and other ingredients into the fire to invoke the blessings of gods. Agni or fire was looked upon as an intermediary between Gods and humans.

Another important social institution of the time was the system of chaturashrama or the division of life span into four distinct stages i.e. brahmacharya (period of celibacy, education and disciplined life in guru’s ashram), grihastha (a period of family life), vanaprastha (a stage of gradual detachment and sanyasa (a life dedicated to spiritual pursuit away from worldly. It should be noted that these stages were not applicable to women or to the people of lower varnas. The vedic people prayed individually as well as collectively for the welfare of the jana.

Que-20

Koderma Gaya – Hazaribagh belt of Jharkhand is the leading producer of which of the following mineral?

a) Limestone
b) Mica
c) Iron
d) Bauxite

Answer: B

Solution & Enrich Your Learning:

Non-Metallic Minerals

Mica is a mineral made up of a series of plates or leaves. It splits easily into thin sheets. These sheets can be so thin that a thousand can be layered into a mica sheet of a few centimeters high. Mica can be clear, black, green, red yellow or brown.

Due to its excellent di-electric strength, low power loss factor, insulating properties and resistance to high voltage, mica is one of the most indispensable minerals used in electric and electronic industries.

Mica deposits are found in the northern edge of the Chota Nagpur plateau. Koderma Gaya – Hazaribagh belt of Jharkhand is the leading producer. In Rajasthan, the major mica producing area is around Ajmer. Nellore mica belt of Andhra Pradesh is also an important producer in the country.

Que-21

In context of environment, which of the following protected area is threatened by the dolomite ore mining?

a) Jaldapara National Park
b) Buxa Tiger Reserve
c) Pobitora Wildlife Sanctuary
d) Namrei National Park
Answer: B

Solution & Enrich Your Learning:

- The Buxa Tiger Reserve in West Bengal is seriously threatened by the ongoing dolomite mining. In Sariska Tiger Reserve, Rajasthan, villagers have fought against mining by citing the Wildlife Protection Act.

Hazards of Mining

The water sources in the region get contaminated due to mining. Dumping of waste and slurry leads to degradation of land, soil, and increase in stream and river pollution.

Physical Hazards

- Noise is ubiquitous in mining. It is generated by powerful machines, fans, blasting and transportation of the ore.
- The dust and noxious fumes inhaled by miners make them vulnerable to pulmonary diseases.
- The risk of collapsing mine roofs, inundation and fires in coalmines are a constant threat to miners.
- Ionizing radiation is a hazard in the mining industry. Radon gas can be liberated from stone while it is loosened by blasting, but it may also enter a mine through underground streams. Radon and its decay products emit ionizing radiation, some of which have enough energy to produce cancer cells in the lung.
- Heat is a hazard for both underground and surface miners. In underground mines, the principal source of heat is from the rock itself. Very deep mines can pose significant heat problems, with the temperature of mine ribs about 40 °C.
- Many mines operate at high altitudes and because of this, miners may experience altitude sickness. This can be aggravated if they travel back and forth between a mine at a high altitude and a more normal atmospheric pressure.

Que-22

Consider the following statements:

1. Petroleum is usually found above the Natural gas deposits.
2. Assam is the oldest oil producing state in India.
3. In India, the imports of petroleum products during 2017-18 were lower than the imports during 2016-17.

Which of the above statements is/are not correct?

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

Answer: C

Solution:

- Inside the soil rocks, Petroleum is usually found below the natural gas.
- In India, the imports of petroleum products during 2017-18 were higher than the imports during 2016-17 (20% higher).

Enrich Your Learning:

Petroleum

Petroleum or mineral oil provides fuel for heat and lighting, lubricants for machinery and raw materials for a number of manufacturing industries.

Petroleum refineries act as a “nodal industry” for synthetic textile, fertiliser and numerous chemical industries. Most of the petroleum occurrences in India are associated with anticlines and fault traps in the rock formations of the tertiary age.
In regions of folding, anticlines or domes, Petroleum occurs where oil is trapped in the crest of the upfold. The oil bearing layer is a porous limestone or sandstone through which oil may flow. The oil is prevented from rising or sinking by intervening non-porous layers.

Petroleum is also found in fault traps between porous and non-porous rocks. Gas, being lighter usually occurs above the oil.

About 63 per cent of India’s petroleum production is from Mumbai High, 18 per cent from Gujarat and 16 per cent from Assam. Ankeleshwar is the most important field of Gujarat. Assam is the oldest oil producing state of India. Digboi, Naharkatiya and Moran-Hugrijan are the important oil fields in Assam.

Que-23

Model Tenancy Act, 2019 is the initiative of which of the following union Ministry?

a) Ministry of Home Affairs
b) Ministry of Finance
c) Ministry of Housing and Urban Affairs
d) Ministry of Corporate Affairs

Answer: C

Solution & Enrich Your Learning:

Model Tenancy Act, 2019:

- Model Tenancy Act, 2019 is the initiative of the Ministry of Housing and Urban Affairs, envisages to balance the interest and rights of both the owner and tenant and to create an accountable and transparent ecosystem for renting the premises in disciplined and efficient manner.

Important points of the Act:

- MTA stipulates a robust grievance redressal mechanism comprising of Rent Authority, Rent Court and Rent Tribunal.

- It proposes to cap the security deposit equal to a maximum of two month’s rent in case of residential properties and, minimum of one month’s rent in case of non-residential property.

- It also proposes that no person shall let or take on rent any premises except by an agreement in writing.

- The Model Act provides for its applicability for the whole of the State i.e. urban as well as rural areas in the State.

- Within two months of executing rental agreement both landowner and tenant are required to intimate to the Rent Authority about the agreement.

- A digital platform will be set up in the local vernacular language of the State for submitting tenancy agreement and other documents.

Significance of the Act:

- Enable creation of adequate rental housing stock for various income segments of society including migrants, formal and informal sector workers, professionals, students etc.

- Increase access to quality rented accommodation.

- Enable gradual formalization of rental housing market.

- Help overhaul the legal framework vis-à-vis rental housing across the country.

- Give fillip to private participation in rental housing for addressing the huge housing shortage across the country.

Key Fact:

- As per Census 2011, nearly 1.1 crore houses were lying vacant in the country and making these houses available on rent will complement the vision of ‘Housing for All’ by 2022.
Que-24

Consider the following statements with reference to the disqualifications of Membership of Parliament:

1. One must not have been in any detention under a preventive detention law is not a disqualification.
2. One must not be a director or managing agent in a corporation in which the government has at least 25 per cent share.
3. One must not have been punished for preaching and practising social crimes.

Which of the above statements is/are correct?

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

Answer: A

Solution:

Correct statement

- For disqualifications of Membership of Parliament, one must not have been convicted for any offence resulting in imprisonment for two or more years.
- The detention of a person under a preventive detention law is not a disqualification.

Enrich Your Learning:

Disqualifications of Membership of Parliament

The Constitution has following provisions for disqualification of being elected as a member of Parliament:

- If he holds any office of profit under the Union or state government (except that of a minister or any other office exempted by Parliament).
- If he is of unsound mind and stands so declared by a court.
- If he is an undischarged insolvent.
- If he is not a citizen of India or has voluntarily acquired the citizenship of a foreign state or is under any acknowledgement of allegiance to a foreign state.
- If he is so disqualified under any law made by Parliament.

Additional disqualifications as per Representation of People Act (1951):

- He must not have been found guilty of certain election offences or corrupt practices in the elections.
- He must not have been convicted for any offence resulting in imprisonment for two or more years. But, the detention of a person under a preventive detention law is not a disqualification.
- He must not have failed to lodge an account of his election expenses within the time.
- He must not have any interest in government contracts, works or services.
- He must not be a director or managing agent nor hold an office of profit in a corporation in which the government has at least 25 per cent share.
- He must not have been dismissed from government service for corruption or disloyalty to the State.
- He must not have been convicted for promoting enmity between different groups or for the offence of bribery.
- He must not have been punished for preaching and practising social crimes such as untouchability, dowry and sati.
Consider the following statements regarding eligibility criteria for Startup recognition in India:

1. Incorporated as a private limited company
2. Approval from the Department of Industrial Policy and Promotion (DIPP)
3. An entity formed by splitting up or reconstruction of an existing business

Which of the above statements is/are correct?

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

Answer: A

Solution:

Correct statement

- An entity formed by splitting up or reconstruction of an existing business shall not be considered a “Startup”.

Enrich Your Learning:

Startup in India

Ever since the Government of India launched the Startup India program, there has been an incredible surge in the number of startups coming up.

Eligibility Criteria for Startup Recognition

The Startup should be incorporated as a private limited company or registered as a partnership firm or a limited liability partnership.

An entity shall be considered as a startup up to 10 years from the date of its incorporation.

Turnover should be less than INR 100 Crores in any of the previous financial years.

The company remains a startup if the turnover per year does not cross the Rs 100 crore mark in any of the 10 years. Once the company crosses the mark, it no longer remains eligible to be called a startup.

The mark of Rs 100 crore has been improved by the Indian government in the recent past from Rs 25 crore.

The firm should have approval from the Department of Industrial Policy and Promotion (DIPP).

The Startup should be working towards innovation/ improvement of existing products, services and processes and should have the potential to generate employment/ create wealth.

An entity formed by splitting up or reconstruction of an existing business shall not be considered a “Startup”.

Benefits available to an eligible Start-up

Exemption from levy of angel tax under section 56(2) (viib)

Deductions under section 80-IAC of the income tax Act

Liberalized regime of section 79 to carry forward and set-off the losses

Exemption under section 54GB to the shareholder for making investment in a startup

Access to the dedicated cell created by the CBDT to address the problems of startups

Tax Exemption for Startup under Section 80 IAC of the income Tax Act, 1961

Post getting clearance for Tax exemption, the Startup can avail tax holiday for 3 consecutive financial years out of its first 10 years since incorporation.

Eligibility Criteria:

A recognized Startup

Only Private limited or a Limited Liability Partnership is eligible

Incorporated after 1st April, 2016 but before April 1, 2021
Profit Exemption:

Deduction at the rate of 100% of its profits and gains is allowed to an eligible startup for 3 consecutive assessment years out of the 7 years (10 years from 01.04.2020) beginning from the year of incorporation.

Tax Exemption under Section 56 of the Income Tax Act (Angel Tax)

Post getting recognition a Startup may apply for Angel Tax Exemption.

Eligibility Criteria:

A recognized Startup

Aggregate amount of paid up share capital and share premium of the Startup after the proposed issue of share does not exceed INR 25 Crore.

Background

The Startup India campaign was launched in 2016 in order to increase entrepreneurship and build a strong and inclusive ecosystem for innovation in India.

Through this campaign, various aspects of running a startup, such as bank financing, tax exemptions, simplifying the process of registering the business and other benefits were targeted, in order to make running a business more appealing to India’s youth.

Que-26

Consider the following statements regarding Uniform Recall Period (URP) and Mixed Recall Period (MRP):

1. URP measures data from consumption expenditure across a 30-day recall period.
2. MRP measures all consumption expenditure over the previous year.
3. The data ascertain how many people surveyed fall below that poverty line.

Which of the above statements is/are correct?

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

Answer: C

Solution:

Correct statement

- The MRP measures consumption of five low-frequency items (clothing, footwear, durables, education and institutional health expenditure) over the previous year, and the remaining items are asked about consumption in the previous 30 days.

Enrich Your Learning:

It is important to understand that a poverty line is essentially a monetary value.

The idea is to collect data on people’s consumption expenditure, and to ascertain how many people surveyed fall below that poverty line.

In India, there were two main ways of collecting data: Uniform Reference Period (URP) and Mixed Reference Period (MRP).

Uniform Recall Period (URP)

Up until 1993-94, consumption information collected by the NSSO was based on the Uniform Reference Period (URP).

This involved asking people about their consumption expenditure across a 30-day recall period. The information was based on the recall of consumption expenditure over the last month alone.

Mixed Recall Period (MRP)

From 1999-2000 onwards, the NSSO switched to a method known as the Mixed Reference Period (MRP).
The MRP measures **consumption of five low-frequency items** (clothing, footwear, durables, education and institutional health expenditure) over the previous year, and the remaining items are asked about consumption in the previous 30 days.

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Que-27

Consider the following statements regarding Rights Offering (Issue):

1. Cash-strapped companies cannot offer rights issues.
2. Rights acquired as ‘issue’ are transferable to other person.
3. The backstop purchasers agree to the purchase prior to the rights offering.

Which of the above statements is/are correct?

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

**Answer:** B  
**Solution:**

Correct statement

- Cash-strapped companies can turn to rights issues to raise money when they really need it.

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**Enrich Your Learning:**

**Rights Offering (Issue)**

A rights offering (rights issue) is a group of rights offered to existing shareholders to purchase additional stock shares, known as **subscription warrants**, in proportion to their existing holdings.

These are considered to be a type of option since it gives a company’s stockholders the right, but not the obligation, to purchase additional shares in the company.

In a rights offering, the subscription price at which each share may be purchased is generally discounted relative to the current market price.

Rights are often **transferable**, allowing the holder to sell them in the open market.

In a rights offering, each shareholder receives the **right to purchase a pro-rata allocation of additional shares** at a specific price and within a specific period (usually 16 to 30 days).

Shareholders are not obligated to exercise this right.

Cash-strapped companies can turn to rights issues to raise money when they really need it.

**Types of Rights Offerings**

**Direct rights offerings:** no standby/backstop purchasers (purchasers willing to purchase unexercised rights) as the issuer only sells the number of exercised shares. If not subscribed properly, the issuer may be undercapitalized.

**Insured/standby rights offerings:** usually the more expensive type, allow third-parties/backstop purchasers (e.g. investment banks) to purchase unexercised rights.

The **backstop purchasers** agree to the purchase prior to the rights offering. This type of agreement ensures the issuing company that their capital requirements will be met.

**Advantages**

Companies generally offer rights when they need to raise money. For example, when there is a need to pay off debt, purchase equipment, or acquire another company.

In some cases, a company may use a rights offering to raise money when there are no other viable financing alternatives.

The issuing company can bypass underwriting fees, there is no shareholder approval needed,
and market interest in the issuer's common stock generally peaks.

For existing shareholders, rights offerings present the opportunity to purchase additional shares at a discount.

Que-28
Consider the following statements with reference to the animal ‘Dhole’:
1. Dholes is the only Indian carnivores that is under the International Union for Conservation of Nature’s ‘endangered’ category.
2. Dhole plays an important role as apex predators in forest ecosystems.

Which of the above given statements is/are correct?

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

Answer: B
Solution:

- Dhole is not the only Indian carnivore in IUCN endangered category. TIGER is another animal in endangered category of IUCN.

Que-29
The ‘Blue Mormon’ is the state butterfly of which of the following Indian state?

a) Meghalaya
b) Andhra Pradesh
c) Maharashtra
d) Himachal Pradesh

Answer: C
Solution:

Blue Mormon: Maharashtra’s State Butterfly

- 'Blue Mormon' (Papilio polymnestor) is the second largest by size, only behind the southern birdwing.
- It has velvet, black wings with bright blue spots.
- The lower end of the wings are black while the body has some red spots on one side.
- Interestingly, it is only found in Sri Lanka, western ghats of Maharashtra, South India and coastal belts of the country.
- Occasionally, this butterfly is also spotted from Vidharbha to Western Maharashtra.
• Maharashtra already has Indian Giant Squirrel (Shekru) as its state animal, Yellow Footed Green Pigeon (Hariyal) as state bird, mango as state tree, and Lagerststroemia (Jarul) as state flower.
• The state is also the first in the country to make announcement for state butterfly.

Que-30
Consider the following statements with reference to ‘FAITH’:
1. It is a clinical trial announced by Glenmark Pharmaceuticals Ltd.
2. It is an open-label study to test the combined efficacy of two antiviral drugs.
3. Remdesivir is the drug to be studied under the trial.

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

Answer: A

Solution:
Correct statement
• Favipiravir and Umifenovir are the drugs to be studied under the trial.

Enrich Your Learning:
FAITH – FA vipiravir plus Um I fenovir (efficacy and safety) Trial in Indian Hospital setting
It is a new combination clinical trial announced by Glenmark Pharmaceuticals Ltd.

It is a new randomised, open-label study to test the combined efficacy of two antiviral drugs — Favipiravir and Umifenovir — as a potential COVID-19 treatment strategy.

Favipiravir is an oral antiviral drug approved in Japan in 2014 for the treatment of novel or re-emerging influenza virus infections.

Umifenovir is another oral antiviral drug licensed for the treatment and prophylaxis of influenza A and B infections in Russia and China.

A combined use of Favipiravir and Umifenovir acting on different mechanisms offers a comprehensive antiviral cover on pre-entry and post-entry life-cycle of the SARS-CoV-2 virus.

Que-31
Consider the following statements regarding Information Technology Act, 2000:
1. The government cannot ask provider to take down these apps from their online stores under this Act.
2. Section 69A of the Act gives the Central government the power to block public access to any information online.
3. The Department of Telecommunications is authorised to issue directions for blocking information online.

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

Answer: B

Solution:
Correct statement
• The government can ask Apple and Google to take down these apps from their online stores so that nobody can
download the apps from now on in order to block any application in the country.

**Enrich Your Learning:**

**Section 69A of Information Technology Act, 2000**

Section 69A was introduced by an amendment to the Act in 2008.

It gives the Central government the power to block public access to any information online — whether on websites or mobile apps.

Under Section 69A, if a website threatens India’s defence, its sovereignty and integrity, friendly relations with foreign countries and public order, the government can ban it.

This provision has been relied on by government agencies in the past to take down online content.

The grounds on which such a step can be taken are: in the interest of sovereignty and integrity of India, defence of India, the security, friendly relations with foreign states or public order or for preventing incitement to the commission of any offence relating to above.

Apart from this, a court may also issue directions for blocking information online. The Department of Telecommunications, too, can issue blocking orders to internet service providers, to enforce licensing conditions.

**How will the blocking be implemented?**

The government will ask Apple and Google to take down these apps from their online stores so that nobody can download the apps from now on.

It can ask Internet Service Providers to block traffic to the apps to ensure that continued use of the App is not possible.

**Why in news?**

on June 29, the Ministry of Electronics and Information Technology banned 59 mobile apps for safety, security, defence, sovereignty & integrity of India and to protect data & privacy of people of India.

The government has banned mainly Chinese mobile applications such as Tik-Tok invoking its powers under section 69A of the Information Technology Act of 2000 and provisions of the Information Technology (Procedure and Safeguards for Blocking of Access of Information by Public) Rules of 2009.

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**Que-32**

The reason for goldsmith using the non-luminous zone of the flame for melting gold is/are:

1. The non-luminous zone emits very little light.
2. The non-luminous zone is the hottest zone of the flame.
3. This zone does not leave any mark on the object when it is placed on it.
4. The zone has vapours deep inside which are not burnt.

Choose the correct answer using the codes given below:

a) 2 and 3 only
b) 2, 3 and 4
c) All of the above
d) None of the above

**Answer: A**

**Solution:**

- The non-luminous zone emits very little light – It is the characteristic of non-luminous zone but it has not relation with the melting of gold.
- The zone has vapours deep inside which are not burnt – This is the characteristic of Dark zone, so clearly not an answer.

**Enrich Your Learning:**
Structure of a flame

The substances which vapourise during burning, give flames. For example, kerosene oil and molten wax rise through the wick and are vapourised during burning and form flames.

A candle flame can be divided into 3 zones. The formation of each zone depends on the amount of air available. Each zone demonstrates a different colour.

Non-luminous zone: This is the zone of complete combustion and the flame is blue in colour. It is the outer part of the flame. This is the hottest zone and does not leave any mark on the object when it is placed on it. Goldsmiths use the outermost zone of the flame with the metallic blowpipe for melting gold and silver. This zone emits very little light.

Luminous zone: This is the zone of incomplete combustion. This is the middle zone of a flame. This is a moderately hot zone. It leaves behind black soot and other residue. This zone emits more light.

Dark zone: this the coolest part of the flame and no combustion takes place here. It is the innermost zone of the flame. It covers the area surrounding the wick. Being, deep inside it has vapours which are not burnt as they do not come in contact with oxygen. It emits no light.

Que-33

Recently, which of the following butterflies were found in Arunachal Pradesh?

1. Common Lineblue
2. Striped Hairstreak
3. Elusive Prince
4. Small Woodbrown

Choose the correct answer using the codes given below:

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

Answer: B

Solution & Enrich Your Learning:

Two more species added to India’s list of butterflies

- Lepidopterists in Arunachal Pradesh have helped add two species to India’s expanding list of butterflies.
- One of them, the Striped Hairstreak, was first recorded by Japanese entomologists in Hainan province of China.
- The other, Elusive Prince, has a Vietnamese connection and was thought to be the more familiar Black Prince found in the Eastern Himalayas.
- India now has 1,327 species, up from 1,318 in 2015.
- The Striped Hairstreak was located in Vijaynagar bordering Myanmar while the Elusive Prince was found in Miao on the periphery of the Namdapha National Park.
- The scientific name of the Elusive Prince is Rohana tonkiniana, named after Tonkin in north Vietnam, where it was first recorded. It was believed to exist in Bhutan, but studies of the specimen found there have not been conclusive.
- The recording of the two butterflies follows the “rediscovery” of the Assam Keelback, a non-venomous snake from the Gelling area of Arunachal Pradesh after 129 years.
Que-34

With reference to social and religious life of later Vedic period, consider the following statements:

1. The society was divided into four varnas.
2. The kings performed Ashvamedha and Rajasuya to establish their position.
3. The religion became extremely liberal with minimal rituals.
4. The people can move easily from one occupation to another.

Which of the statements given above is/are correct?

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

Answer: A

Solution

- The religion became **extremely ritualistic**.
- The people **cannot move easily** from one occupation to another. It became difficult.

Enrich Your Learning

Later Vedic Period

The **society was divided into four varnas** - Brahmans, Kshatriyas, Vaishyas and Shudras. This was also called the Varna-Vyavastha. It denoted categories of people doing different kinds of functions but with the passage of time this division became hereditary and rigid. The teachers were called Brahmans, the ruling class was called Kshatriyas, farmers, merchants and bankers were called Vaishyas while the artisans, craftsmen, labourers were called Shudras.

Moving from one occupation to another became **difficult**. Simultaneously, the Brahmans also occupied a dominant position in the society.

The prominent Gods of the early Vedic period like Indra, Agni and Varuna lost their prominence and popularity. Their place was taken by a new **trinity of Gods** where Brahma enjoyed the supreme position, while Vishnu became the preserver and Shiva completed the trinity. The **religion became extremely ritualistic**. Sanskrit mantras, which were the monopoly of Brahmans, became an essential part of all religious functions. This made the Brahmans **very powerful** and the **Yajnas expensive**. Participation in them was restricted to the upper three classes.

The kings performed Ashvamedha, Rajasuya and Vajapeya sacrifices to establish their position.

By the end of the latter Vedic age changes started occurring in the society. For the first time people started discussing certain beliefs such as creation of the universe, life after death and essence of life.

Que-35

With reference to Harappan civilization, which of the following statements is/are **not** correct?

1. The people believed in charm and spells.
2. The Harappan people were ignorant about the cotton cultivation.
3. The technical knowledge of metals and alloying was known.
4. The Peepal leaf has been found depicted in many potteries of the period.

Select the correct answer using the codes given below:

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

d) 1 and 4 only

Answer: B

Solution:

- The Harappan people were knowing about the cotton cultivation. It proves from the fact that people knew the art of spinning and weaving
- The Peepal leaf has been found depicted in many SEALS of the period.

Enrich Your Learning:

ANCIENT INDIA (Harappan Civilization)

- The first notable civilization flourished in India around 2700 BC in the north western part of the Indian subcontinent. The civilization is referred to as the Harappan civilization. Most of the sites of this civilization developed on the banks of Indus, Ghaggar and its tributaries.
- The culture associated with the Harappan civilization is the first known urban culture in India.
- The Harappans built the earliest cities complete with town planning, sanitation, drainage system and broad well-laid roads.
- They built double storied houses of burntbricks each one of which had a bathroom, a kitchen and a well.
- The walled cities had other important buildings such as the Great Bath, Grannaries and Assembly Halls.
- Agriculture was the main occupation of the Harappans who were living in rural areas.
- Those living in the cities carried on internal and external trade and developed contacts with other civilizations such as Mesopotamia.
- They were excellent potters. Various types of utensils, toys, seals, figurines have been excavated from different sites.
- Harappans also had the technical knowledge of metals and the process of alloying. The bronze sculpture of a dancing girl found in Mohenjodaro testifies the sculptural skills and aesthetic sense of the Harappans.
- Shell, ivory, bone and faience were used as material for different crafts and objects.
- Lothal was a dockyard situated in Dholaka Taluk of Ahmedabad in Gujarat. It was also a well planned wall city. It was an important centre of sea trade with the western world. Another important town in Gujarat was Dhaulavira while Kalibangam was in Rajasthan.
- Numerous seals carrying the images of the one-horned rhinocerous known as unicorn, peepal leaves and a male god throw light on the religious beliefs of the Harappans.
- They worshipped plants and animals and the forces of nature. They worshipped a male god resembling Lord Shiva of later times and a mother goddess among others. They believed in life after death and also in charms and spells.
- Seals engraved with animal figures like the humped bull, elephant and rhinocerous suggest that these animals were considered sacred. ‘Peepal’ has been found depicted on many seals.
- Harappans knew how to write and most of their seals contain some form of script. But unfortunately no one has yet been able to decipher that script. As a result, our knowledge of the Harappan civilization is based on the archaeological evidence alone.
- The people knew the art of spinning and weaving. They were perhaps the first people to cultivate cotton. A large number of Indus seals found in Mesopotamia which indicated of a
possible trade between the Indus valley and Mesopotamian civilization.

- By 1800 BC the Harappan civilization began declining. However, we do not know the exact reasons why this happened.

Que-36
With reference to ancient India, consider the following statements:

1. The Chola rulers had a strong navy which conducted raids across the sea.
2. Fa Hien visited India during the reign of Emperor Harsha.
3. India had trade relations with Egypt and Rome.

Which of the statements given above is/are correct?

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

Answer: B

Solution:

- Hsuan-tsang visited India during the reign of Emperor Harsha whereas Fa Hien visited India in the reign of Chandragupta II.

Enrich Your Learning:

THE SHIPS AND FOREIGN TRADE (Spread of Indian Culture Abroad)

Trade became a very important mode that helped in the spread of Indian culture abroad. Even in very ancient times Indian ships could sail across the vast open seas and reach foreign shores to establish commercial ties with several countries.

The literature, art and sculpture of the neighbouring countries clearly shows the influence of Indian culture and civilization. Even in places like Surinam and the Caribbean Islands that are as far as the American coast, there is evidence of ancient Indian culture.

Samudra Gupta (AD 340-380) not only had a powerful army but also had a strong navy. Some inscriptions discovered in the Trans-Gangetic Peninsula and the Malaya Archipelago testify to the activities of Indian navigators in the Gupta age.

Hsuan-tsang, who visited India during the reign of Emperor Harsha (AD 606-647), has also written a detailed description of India during those times.

The Chola rulers had built a strong navy and conducted raids across the sea.

The Portuguese have noted that some merchants in India owned as many as fifty ships. According to them, it was a usual practice for the merchants to have their own ships.

Certain objects belonging to the Indus Civilization found at various sites in the West prove that there were trade and cultural contacts with the Egyptian and Mesopotamian civilizations in the third millennium BC.

India also had contacts with ancient Persia, Greece and Rome which provided a great impetus to the exchange of cultural, religious and social ideas. This flourishing trade contact with the Roman Empire is confirmed by the Roman historian Pliny who deplored the drain of wealth from Rome to India.

Que-37
Consider the following statements:

1. From East to West, the Golden Quadrilateral connects Jamnagar (Gujarat) to Silchar (Assam).
2. National Highway No.1 stretches from Varanasi to Kanyakumari.

3. The year 2018-19 was declared by the Ministry of Road Transport & Highways as the Year of Construction.

Which of the above statements is/are correct?

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

Answer: B

Solution:

● From East to West, the Golden Quadrilateral connects Porbandar (Gujarat) to Silchar (Assam).
● The historical Sher-Shah Suri Marg is called National Highway No.1, between Delhi and Amritsar.

Enrich Your Learning:

Roadways

India has one of the largest road networks in the world, aggregating to over a total of 5.5 million km. The length of road per 100 sq. km of area is known as density of roads. Distribution of road is not uniform in the country.

The growing importance of road transport vis-à-vis rail transport is rooted in the following reasons:

● Construction cost of roads is much lower than that of railway lines,
● Roads can traverse comparatively more dissected and undulating topography,
● Roads can negotiate higher gradients of slopes and as such can traverse mountains such as the Himalayas,
● Road transport is economical in transportation of few persons and relatively smaller amount of goods over short distances,
● It also provides door-to-door service, thus the cost of loading and unloading is much lower,
● Road transport is also used as a feeder to other modes of transport such as they provide a link between railway stations, air and sea ports.

In India, roads are classified in the following six classes according to their capacity.

Golden Quadrilateral Super Highways:

The government has launched a major road development project linking Delhi-Kolkata-Chennai-Mumbai and Delhi by six-lane Super Highways. The North-South corridors linking Srinagar (Jammu & Kashmir) and Kanniyakumari (Tamil Nadu), and East-West Corridor connecting Silchar (Assam) and Porbander (Gujarat) are part of this project. The major objective of these Super Highways is to reduce the time and distance between the mega cities of India. These highway projects are being implemented by the National Highway Authority of India (NHAI).

National Highways:

National Highways link extreme parts of the country. These are the primary road systems and are laid and maintained by the Central Public Works Department (CPWD). A number of major National Highways run in North-South and East-West directions. The historical Sher-Shah Suri Marg is called National Highway No.1, between Delhi and Amritsar.

State Highways:

Roads linking a state capital with different district headquarters are known as State Highways. These roads are constructed and maintained by the State Public Works Department (PWD) in State and Union Territories.

District Roads:
These roads connect the district headquarters with other places of the district. These roads are maintained by the Zila Parishad.

Other Roads:
Rural roads, which link rural areas and villages with towns, are classified under this category. These roads received special impetus under the Pradhan Mantri Grameen Sadak Yojana. Under this scheme, special provisions are made so that every village in the country is linked to a major town in the country by an all season motorable road.

Border Roads:
Apart from these, Border Roads Organisation a Government of India undertaking constructs and maintains roads in the bordering areas of the country. This organisation was established in 1960 for the development of the roads of strategic importance in the northern and northeastern border areas. These roads have improved accessibility in areas of difficult terrain and have helped in the economic development of these area.

Classification on the basis of the type of material
Roads can also be classified on the basis of the type of material used for their construction such as metalled and unmetalled roads. Metalled roads may be made of cement, concrete or even bitumen of coal, therefore, these are all weather roads. Unmetalled roads go out of use in the rainy season.

Key Facts:
- The year 2018-19 was declared by the Ministry of Road Transport & Highways as the Year of Construction.

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Que-38
Consider the following statements with reference to Forest Spotted Owlet:

1. It is endemic to Eastern Australia and Southeast Asia.
2. It is listed as Endangered by the International Union of Conservation of Nature (IUCN).

Which of the above statements is/are correct?

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

Answer: A

Solution:
- Forest Spotted Owlet is endemic to forests of central India.

Enrich Your Learning:
Forest Spotted Owlet
- The forest owlet (Heteroglaux blewitti) is an endangered owl that is endemic to the forests of central India.
- The International Union of Conservation of Nature (IUCN) has declared it as Endangered.
- It was discovered in 1873 and was not seen after 1884. It was considered extinct until it was rediscovered in 1997.

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Que-39
Consider the following statements regarding Special address by the President of India:

1. Addresses both the houses at the beginning of the first Session after each general election.
2. Provides a broad framework of the government’s agenda and direction.
3. Addresses both the houses at beginning of the first session of each year.
Which of the above statements is/are correct?

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

**Answer: D**

**Solution:**
Correct statement
- All the given statements are correct.

**Enrich Your Learning:**

**Special address by the President of India**

**Article 86(1)** of the Constitution provides that the President may address either House of Parliament or both Houses assembled together, and for that purpose require the attendance of members.

Till date, there has not been any occasion when the President has addressed either House or both Houses assembled together, under the provision of this article.

**Article 87** of the constitution provides **two instances** when the President specially addresses both Houses of Parliament.

Clause (1) provides that President of India addresses **both the Rajya Sabha and the Lok Sabha** at the **beginning of the first Session** after each general election when the reconstituted lower house meets for the first time.

The President also addresses both the houses **at beginning of the first session of each year**.

The President shall address both Houses of Parliament assembled together and inform Parliament of the causes of its summons. Such an Address is called 'special address'. It is also an annual feature.

The President’s speech essentially **highlights the government’s policy priorities** and plans for the upcoming year.

The address provides **a broad framework of the government’s agenda and direction**.

No other business is transacted till the President has addressed both Houses of Parliament assembled together. The time and date of the President's Address are notified in the Parliamentary Bulletin, Part II.

If at the time of commencement of the first session of the year, **Lok Sabha is not in existence** and has been dissolved, and Rajya Sabha has to meet, Rajya Sabha can have its session without the President's Address.

This happened in 1977, when during the dissolution of Lok Sabha, Rajya Sabha had its session on 28 February 1977 without the President’s Address.

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**Que-40**

Consider the following statements with reference to the **Powers of legislative council**:

1. Legislative council can reject an ordinary or non-money bill which is passed by the Legislative Assembly.

2. Legislative Council can delay the enactment of a Money Bill for a maximum period of 1 month.

3. The State Council of Ministers are not responsible to the Legislative Council.

Which of the above statements is/are correct?

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

**Answer: C**

**Solution:**
Correct statement

- Legislative Council can simply delay the enactment of a Money Bill for a maximum period of 14 days.

**Enrich Your Learning:**

**Powers of legislative council**

The **three main powers** of the state legislative council are:

**Legislative Powers:**

An ordinary or non-money bill can be introduced in either House of the State Legislature.

It is required to be passed by both the Houses for becoming a law. If the bill is moved in the Legislative Assembly in the first instance, it goes to the Legislative Council after having been passed by the Assembly.

The Council has four alternatives:

(a) To pass the bill,
(b) To reject the bill,
(c) To amend the bill, or
(d) Not to take any action on it. In the case of

If the council passes the bill without amendments or the assembly accepts the amendments suggested by the council, the bill is deemed to have been passed by both the Houses and the same is sent to the governor for his assent.

The Bill cannot be delayed for more than one month for the second time. After this the bill denied to have been passed by both houses. This means that in the first instance the Council can delay the bill for three months and in the second instance for one month.

At the most the Council can delay a non-money bill for a period of four months.

However, any bill passed by the Legislative Council can be rejected by the Legislative Assembly.

**Financial Powers:**

Legislature Council has little power in case of a Money Bill; it can be introduced only in the Legislative Assembly. After its passage.

Legislature Council can make certain suggestions on Money Bill, but it is for the Assembly to accept these or not.

After the expiry of 14 days the bill gets fully passed even when the Council has not passed it.

In other words, the Legislative Council can simply delay the enactment of a Money Bill for a maximum period of 14 days.

**Control over the Executive:**

The Legislative Council has little control over the executive.

The State Council of Ministers is responsible to the Legislative Assembly alone and not to the Legislative Council.

The members of the Legislative Council exercise some control over the State ministry by asking questions and supplementary questions to the ministers.

Que-41

Which of the following rights are included under Protection of Life and Personal Liberty as part of Article 21?

1. Right against delayed execution
2. Right to electricity
3. Right to speedy trial
4. Right to travel abroad

Select the correct answer using the codes given below:

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

Answer: D

Solution:

Correct statement

- All given rights are included under Protection of Life and Personal Liberty as part of Article 21.

Enrich Your Learning:

Protection of Life and Personal Liberty

Article 21 declares that no person shall be deprived of his life or personal liberty except according to procedure established by law. This right is available to both citizens and non-citizens.

Article 21 is not merely confined to animal existence or survival but it includes within its ambit the right to live with human dignity and all those aspects of life which go to make a man's life meaningful, complete and worth living.

It also ruled that the expression 'Personal Liberty' in Article 21 is of the widest amplitude and it covers a variety of rights that go to constitute the personal liberties of a man.

The Supreme Court has declared the following rights as part of Article 21:

- Right to live with human dignity
- Right to decent environment including pollution free water and air and protection against hazardous industries
- Right to livelihood
- Right to privacy
- Right to shelter
- Right to health
- Right to free education up to 14 years of age
- Right to free legal aid
- Right against solitary confinement
- Right to speedy trial
- Right against handcuffing

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Que-42

Consider the following statements about Bank for International Settlements (BIS) and New Development Bank (NDB):

1. The BIS was created out of The Hague Agreements of 1930.
2. In the G20 Summit in Fortaleza (2014), the Agreement to establish NDB was signed.
3. The voting power of each member will be equal to the number of its subscribed shares in NDB.

Which of the above statements is/are correct?

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

Answer: C

Solution:
Correct statement

- In the sixth BRICS Summit in Fortaleza (2014), the Agreement was signed and NDB was established.

Solution:
Enrich Your Learning:

Bank for International Settlement (BIS)

Bank for International Settlements (BIS) is a bank for central banks.

It has been founded in 1930, which is the oldest global financial institution and operates under the auspices of international law.

It is owned by 62 central banks, representing countries from around the world that together account for about 95% of world GDP.

But from its inception to the present day, the role of the BIS has been ever-changing as it adapts to the dynamic global financial community and its needs.

It is headquartered in Basel, Switzerland.

Background

The BIS was created out of The Hague Agreements of 1930 and took over the job of the Agent General for Repatriation in Berlin.

When established, the BIS was responsible for the collection, administration and distribution of reparations from Germany—as agreed upon in the Treaty of Versailles—following World War I.

After World War II, the BIS turned its focus to the defense and implementation of the World Bank’s Bretton Woods System.

Objectives

Fostering discussion and facilitating collaboration among central banks.

Supporting dialogue with other authorities that are responsible for promoting financial stability.

Carrying out research and policy analysis on issues of relevance for monetary and financial stability.

Acting as a prime counterparty for central banks in their financial transactions.

Serving as an agent or trustee in connection with international financial operations.

New Development Bank

Formerly referred to as the BRICS Development Bank, is a multilateral development bank established by the BRICS states.

The idea of setting up New Development Bank has been put at the fourth BRICS Summit in New Delhi (2012). In the sixth BRICS Summit in Fortaleza (2014), the Agreement was signed and NDB was established.

The bank is headquartered in Shanghai, China. The first regional office of the NDB is in Johannesburg, South Africa.

Brazil, Russia, India, China and South Africa considered establishment of NDB to mobilize resources for infrastructure and sustainable development projects in BRICS and other emerging economies, as well as in developing countries.

The Bank shall support public or private projects through loans, guarantees, equity participation and other financial instruments.

The initial subscribed capital of the bank was equally distributed among the founding members.

The voting power of each member will be equal to the number of its subscribed shares in the capital stock of the bank. India also have
the equal voting power (20%) among the five members of NDB.

Objectives

To contribute to development plans established nationally through projects that are socially, environmentally and economically sustainable.

Promotion of infrastructure and sustainable development projects with a significant development impact in member countries.

Establishment of an extensive network of global partnerships with other multilateral development institutions and national development banks.

Building a balanced project portfolio giving a proper respect to their geographic location, financing requirements and other factors.

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Que-43

Consider the following statements about Asian Infrastructure Investment Bank (AIIB):

1. The authorised capital of bank is equivalent to half of the capital of the Asian Development Bank.
2. China is largest shareholder of AIIB.
3. India holds 7.5% vote share in AIIB.

Which of the above statements is/are correct?

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

Answer: B

Solution:

Correct statement

- The authorised capital of bank is equivalent to 2/3 of the capital of the Asian Development Bank and about half that of the World Bank.

Enrich Your Learning:

Asian Infrastructure Investment Bank (AIIB)

Asian Infrastructure Investment Bank (AIIB), a multilateral development bank with a mission to improve social and economic outcomes in Asia and beyond.

It is headquartered in Beijing.

The bank was proposed by China in 2013 and the initiative was launched at a ceremony in Beijing in October 2014. It became operational in January 2016.

It has 87 approved members from around the world.

Its purpose is to provide finance to sustainable infrastructure development and regional connectivity projects in Asia-Pacific region.

Major economies that are not members include Japan, Mexico, Nigeria, and the United States.

The authorised capital of bank is equivalent to 2/3 of the capital of the Asian Development Bank and about half that of the World Bank.

China is largest shareholder of AIIB with 26.06% voting shares.

India with 7.5% vote share is second largest shareholder followed by Russia, Germany and South Korea.

The United Nations has addressed the launch of AIIB as having potential for “scaling up financing for sustainable development” for the concern of global economic governance.

It received the highest credit ratings from the three biggest rating agencies in the world and is seen as a potential rival to World Bank and IMF.

Composition
The bank’s governance structure is composed of the Board of Governors as the top-level and highest decision-making body.

It is composed of 1 governor for each member state of the bank. They meet once a year.

Nine of those members are from within the Asia-Pacific region and three representing members outside the region.

Que 44
Which of the following statements is/are correct about the ‘Humpback Whale’?
1. It is a species of baleen whale.
2. They feed in polar waters but migrate to tropical waters for breeding.
3. They are known for their magical songs.

Choose the correct answer using the codes given below:

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

Answer: D

Solution:
- All statements are correct

Enrich Your Learning:

Humpback Whale
- The humpback whale is a species of baleen whale.
- They are found in every ocean in the world.
- The humpback has a distinctive body shape, with long pectoral fins and a knobbly head.
- It is known for breaching and other distinctive surface behaviors, making it popular with whale watchers.

Que 45
Recently, the Government of India and World Bank and today signed the $750 million Emergency Response Programme to support which of the following sector during COVID - 19?

a) Regional Rural Banks
b) Post Offices
c) Micro, small, and medium enterprises
d) Self Help Groups

Answer: C
Solution:

- The 750 million Agreement for Emergency Response Programme was signed for MSME.

Enrich Your Learning:

World Bank and Government of India sign $750 million Agreement for Emergency Response Programme for MSME

- The World Bank and the Government of India today signed the $750 million agreement for the MSME Emergency Response Programme to support increased flow of finance into the hands of micro, small, and medium enterprises (MSMEs), severely impacted by the COVID-19 crisis.
- The World Bank’s MSME Emergency Response Programme will address the immediate liquidity and credit needs of some 1.5 million viable MSMEs to help them withstand the impact of the current shock and protect millions of jobs.
- This is the first step among a broader set of reforms that are needed to propel the MSME sector over time.
- This program will support government’s efforts to channel that liquidity to the MSME sector by derisking lending from banks and Non-Banking Financial Companies (NBFCs) to MSMEs through a range of instruments, including credit guarantees.
- Improving the funding capacity of key market-oriented channels of credit, such as the NBFCs and Small Finance Bank (SFBs), will help them respond to the urgent and varied needs of the MSMEs.
- Today, only about 8 percent of MSMEs are served by formal credit channels. The program will incentivize and mainstream the use of fintech and digital financial services in MSME lending and payments.

World Bank Group

- The World Bank Group has set two goals for the world to achieve by 2030:
  - End extreme poverty by decreasing the percentage of people living on less than $1.90 a day to no more than 3%.
  - Promote shared prosperity by fostering the income growth of the bottom 40% for every country.
- Established in 1944, the World Bank Group is headquartered in Washington, D.C.
- It provide low-interest loans, zero to low-interest credits, and grants to developing countries.

Que-46

Which of the following provisions is/are being mentioned correctly with regard to the Unlawful Activities (Prevention) Amendment Act, 2019?

1. This act amends the Unlawful Activities (Prevention) Act, 1967.
2. The prior approval of the Director General of Police (DGP) is not required by the investigating officer to seize properties connected with terrorism.
3. The treaty of International Convention for Suppression of Acts of Nuclear Terrorism (2005) has been added to the list of treaties.

Choose the correct answer using the codes given below:

a) 1 and 3 only
b) 3 only
c) 2 and 3 only
d) All of the above

Answer: A

Solution:

- An investigating officer needs to take prior permission of DGP to seize properties connected with terrorism.

Enrich Your Learning:

Unlawful Activities (Prevention) Amendment Act, 2019

- The Unlawful Activities (Prevention) Amendment Bill, 2019 amends the Unlawful Activities (Prevention) Act, 1967.
- The Act provides special procedures to deal with terrorist activities, among other things.
- The central government may designate an organisation as a terrorist organisation if it:
  - (i) commits or participates in acts of terrorism
  - (ii) prepares for terrorism
  - (iii) promotes terrorism, or
  - (iv) is otherwise involved in terrorism.
- The act empowers the government to designate individuals as terrorists on the same grounds.
- An investigating officer is required to obtain the prior approval of the Director General of Police (DGP) to seize properties that may be connected with terrorism.
- The investigation of cases may be conducted by officers of the rank of Deputy Superintendent or Assistant Commissioner of Police or above.
- The Act defines terrorist acts to include acts committed within the scope of any of the treaties listed in a schedule to the Act.
- It puts zero tolerance to ‘terrorist investigation’ by declaring an individual as terrorist.
- The act focuses on expertise rather than on rank to investigate terrorist cases.

Que-47

The Global Outbreak Alert and Response Network has been established by which of the following international organization?

a) United Nations
b) Red Cross
c) World Health Organization
d) World Bank

Answer: C

Solution:

- The Global Outbreak Alert and Response Network established by the World Health Organization.

Enrich Your Learning:

Global Outbreak Alert and Response Network (GOARN)

- The Global Outbreak Alert and Response Network – also referred to as GOARN – is a global technical partnership, established by the World Health Organization (WHO).
- It is a key mechanism to responds to public health emergencies of international importance.
- GOARN currently comprises over 250 technical institutions and networks (and their members) across the globe.
The main objective of the network is to provide technical support to WHO Member States experiencing a human health emergency due to various threats including disease outbreaks, food safety, chemical toxins, zoonosis, natural and manmade disasters etc.

In 19 years, GOARN conducted over 135 operations and deployed over 2900 experts to assist more than 90 countries across the globe.

Participation in GOARN is open to any nonprofit organization that has capacity to contribute to international outbreak alert and response.

Que-48
Consider the following statements:
1. The Pakke Tiger Reserve is located in Sikkim.
2. The Pakke Tiger Reserve houses Rufous-Necked Hornbill species.
Which of the above given statements is/are correct?

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

Answer: B

Solution:
- The Pakke Tiger Reserve is located in Arunachal Pradesh.

Enrich Your Learning:
- A study based on satellite data has flagged a high rate of deforestation in a major hornbill habitat in Arunachal Pradesh.
- Papum Reserve Forest (RF) adjoining the Pakke Tiger Reserve as well as a part of Assam affected by illegal felling and ethnic conflict.

Papum RF is a nesting habitat of three species of the large, colourful fruit-eating hornbills: Great, Wreathed and Oriental Pied.
- The Pakke reserve houses a fourth species, the Rufous-Necked.
- Referred to as ‘forest engineers’ or ‘farmers of forest’ for playing a key role in dispersing seeds of tropical trees, hornbills indicate the prosperity and balance of the forest they build nests in.
- Hornbills used to be hunted for their casques—upper beak—and feathers for adorning headgear despite being cultural symbols of some ethnic communities in the northeast, specifically the Nyishi of Arunachal Pradesh.

Oriental pied hornbill
- The oriental pied hornbill is an Indo-Malayan pied hornbill, a large canopy-dwelling bird belonging to the family Bucerotidae.
- The species is considered to be among the smallest and most common of the Asian hornbills.
- It has the largest distribution in the genus.

Wreathed hornbill
- It is 75–100 cm long.
- The wreathed hornbill can be recognized by the dark bar on the lower throat.
- Found in forests from far north-eastern India and Bhutan

Rufous-necked hornbill
- The rufous-necked hornbill is a species of hornbill in northeastern India, especially in Arunachal Pradesh.
- It is locally extinct in Nepal due to hunting and significant loss of habitat.
With a length of about 117 centimetres it is among the largest Bucerotine hornbills.

Que-49
With reference to the ‘Indian Bison’, which of the following statements is/are correct?

1. It is included in the Schedule I of the Wild Life Protection Act, 1972.
2. It has been listed as ‘Threatened’ on the IUCN Red List.
3. It is the tallest species of wild cattle found in India.

Select the correct answer using the codes given below:

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

Answer: B

Solution:

• IUCN RED LIST status: Vulnerable

Enrich Your Learning:

Indian Bison

• The gaur also called the Indian bison, is native to South and Southeast Asia.
• It has been listed as Vulnerable on the IUCN Red List since 1986.
• Its population declined by more than 70% during the last three generations, and is extinct in Sri Lanka and probably also in Bangladesh.
• Indian Bison is the tallest species of wild cattle found in India and largest extant bovine.
• In India, they are found in Nagarhole, Bandipur, Masinagudi National Parks.

Que-50
Which of the following gases reacts with water vapour to form Acid rain?

1. Sulphuric dioxide
2. Carbon dioxide
3. Carbon monoxide
4. Nitrogen dioxide
5. Ozone
6. Methane

Choose the correct answer using the codes given below:

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

Answer: D

Solution:
Sulphur dioxide and Nitrogen dioxide react with water vapour to form acid rain in the form of sulphuric acid and nitric acid.

Enrich Your Learning:

**Acid rain**

- The Sulphur dioxide and Nitrogen dioxide gases react with the water vapour present in the atmosphere to form sulphuric acid and nitric acid.
- The acids drop down with rain, making the rain acidic. This is called acid rain.
- Acid rain corrodes the marble of the monument. The phenomenon is also called “Marble cancer”
- Acid rain has been shown to have adverse impacts on forests, freshwaters and soils, killing insect and aquatic life-forms, causing paint to peel, corrosion of steel structures such as bridges, and weathering of stone buildings and statues.

Que-51

The ‘Operation Sukoon’ was the evacuation operation during which of the following war?

a) Nigerian Civil War 1967
b) Yemini Crisis 2015
c) Congo Crisis 1961
d) Lebanon War 2006

**Answer: D**

**Solution:**

- Operation Sukoon led by Indian Navy evacuated people from 2006 Lebanon War.

Enrich Your Learning:

**Operation Sukoon**

- Operation Sukoon was an operation launched by the Indian Navy to evacuate Indian, Sri Lankan and Nepalese nationals, as well as Lebanese nationals with Indian spouses, from the conflict zone during the 2006 Lebanon War.

- Four Indian Naval vessels — INS Mumbai, INS Betwa, INS Brahmaputra and INS Shakti successfully evacuated a total of 1495 people.

Enrich Your Learning:

**Operation Samudra Setu**

- The Operation Samudra Setu, which was launched by Indian Navy on May 5 as part of the national effort to repatriate Indian citizens from overseas by sea during the Covid-19.
- 3,992 Indian citizens have been brought back to their homeland by sea.
- Indian naval ships Jalashwa (Landing Platform Dock), Airavat, Shardul and Magar (Lading Ship Tanks) have participated in the operation which lasted over 55 days traversing more than 23,000 Kms.

Que-52

Which of the following organization comes under the six main organs of the United Nations?

1. UN Secretariat.
2. Security Council
3. Trusteeship Council
4. United Nations Educational, Scientific and Cultural Organization (UNESCO)

Choose the correct answer using the codes given below:

a) 1, 2 and 3 only
b) 2 and 4 only
c) 1, 3 and 4 only
d) All of the above

Answer: A

Solution:
- UNESCO is not the part of main six organs of United Nations.

Enrich Your Learning:

United Nations

- The United Nations is an international organization founded in 1945 following the devastation of the Second World War, with one central mission: the maintenance of international peace and security.
- It is currently made up of 193 Member States.
- The UN is headquartered on international territory in New York City.
- The mission and work of the United Nations are guided by the purposes and principles contained in its founding Charter.
- Each of the 193 Member States of the United Nations is a member of the General Assembly.
- States are admitted to membership in the UN by a decision of the General Assembly upon the recommendation of the Security Council.
- The current Secretary-General of the UN, and the ninth occupant of the post, is Mr. António Guterres of Portugal.

Six main organs of the United Nations

- The UN has six principal organs:
  1. General Assembly
  2. Security Council
  3. Economic and Social Council (ECOSOC)
  4. Trusteeship Council
  5. International Court of Justice
  6. UN Secretariat.

Que-53

With reference to the development of education in eighteenth century India, consider the following statements:

1. The beginning of oriental scholarship was made by Warren Hastings.
2. The Christian missionaries introduced Western education by opening elementary schools.

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

Answer: C

Solution: Both the statements are correct.

Enrich Your Learning:

Eighteenth Century: The Beginning of Modern Period

The old famous centres of higher learning like those at Taxila, Nalanda, Vikramshila near Bhagalpur, at Jagaddal in North Bengal, Vallabhi at Kathiawar and Kanchi in the South had disappeared long ago. Islamic education, on the other hand flourished subsequently under the patronage of rulers and nobles.

Still the majority of the Hindu population continued to receive education in their time honoured institutions and with the growth of vernacular literature they studied their classical works. ‘According to Thomas who wrote ‘There is not country’ in 1891 ‘The English found in India, a widespread style of elementary education and higher education, of which the former was mainly practical while the latter mainly literary, philosophical and religious.
For about 150 years, the British were involved in trade and conquest in India. So they maintained a distance from all kinds of cultural activities including education.

The beginning of oriental scholarship was made by Warren Hastings in 1781 when he started the Calcutta Madrasa. His endeavour was primarily due to administrative reasons. Eleven years later, in 1792, Jonathan Duncan, a Resident of Varanasi started a Sanskrit college to educate native Hindus to assist the Europeans. Meanwhile, Christian missionaries were making efforts to introduce Western education by opening elementary schools and providing education to the more humble sections of the society, including the so called untouchable castes.

Que-54

With reference to education in Indian medieval period, which of the following statements is/are correct?

1. The institutions that provided school education were known as ‘Madrasas’.
2. The study of mathematics, astronomy and geography in madrasas was introduced by Babar.
3. The scholar Abul Fazl was patronised by emperor Humayun.
4. The Muslim educational system was traditional in spirit and theological in content.

Select the correct answer using the codes given below:

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

Answer: C

Solution:

- The institutions that provided school education were known as ‘Makhtabs’.
- The study of mathematics, astronomy and geography in madrasas was introduced by Humayun.
- The scholar Abul Fazl was patronised by emperor Akbar.

Enrich Your Learning:

EDUCATION IN THE MEDIEVAL PERIOD

With the establishment of the Delhi Sultanate, Islamic system of education was introduced.

Education in medieval India was designed on the lines of the tradition of education developed under the Abbasids of Baghdad. As a result, scholars from countries like Samarqand, Bukhara and Iran looked up to the Indian scholars for guidance.

Amir Khusrau, an exemplary personality, not only developed the skill of writing prose and poetry but also devised a new language which suited the local conditions. Some contemporary historians like Minhajus-Siraj, Ziauddin Barani and Afif have written about Indian scholarship.

The institutions that provided school education were known as ‘makhtabs’, while those of higher learning were called ‘madrasas’. The ‘makhtabs’ were generally run by public donations while ‘Madrasas’ were maintained by the rulers and nobles.

There were six different types of institutions: (i) those established and maintained by nobles and rulers, (ii) those which were started by individual scholars with the help of state assistance or donations, (iii) those that were attached to the mosques, (iv) those that were attached to the tombs, (v) those that were started and maintained by individual scholars, and (vi) those that were attached to the Sufi hospices.

The famous ‘madrasas’ were the Muizzi, the Nasiri and the Firuzi madrasas in Delhi, Mohammed Gawani’s madrasa in Bidar and
Abul Fazl’s madrasa in Fatehpur Sikri. The Sirat-i-Figuz Shahi gives a list of 14 subjects that were taught in the Madrasas like Jurisprudence or Dirat which was a method of recitation, punctuation and vocalization of the text Quran etc.

The main feature of the Muslim educational system was that it was traditional in spirit and theological in content.

The curriculum was broadly divided into two categories: the traditional (Manqulat) and the rational (Maqulat) sciences. Traditions, law and history and literature came under the traditional sciences. Logic, philosophy, medicine, mathematics and astronomy came under rational sciences. Later, rational sciences came to be emphasized more than the traditional sciences.

Traditional subjects dominated education from the time of Iltutmish (1211-36) till the reign of Sikander Lodi (1489-1517).

The scenario started changing from the time of Sikander Lodi when he invited the brothers Sheikh Abdullah and Sheikh Azizullah from Multan to Delhi. They introduced the study of philosophy and logic in the curriculum. The Mughal rulers were great patrons of learning and literature. This period saw the rise of Urdu as a language which came out of a long contact between Persian and Hindi i.e. the Turks and the Indians.

Babar wrote his own biography known as Tazuk-i-Babari.

The Mughal Emperor Humayun introduced the study of mathematics, astronomy and geography in the ‘madrasas’ in Delhi. This helped in reducing the bias in the existing education system.

Akbar added subjects like accountancy, public administration, geometry and built a workshop near his palace. He personally supervised the workshop. Akbar’s attempt to introduce secular and scientific system of education was not liked by the orthodox sections. Akbar’s efforts ushered in a change which continued for centuries.

In the eighteenth century some nobles were against the introduction of Western methods in education which involved inquiry, observation, investigation and conducting experiment. Memorising, discussing and writing out the lessons were the basis of instruction in the Muslim ‘madrasas’. Akbar patronised many scholars such as Abul Fazal, Faizi, Raja Todar Mal, Birbal and Rahim. They were among the nine gems of his court who helped in spreading culture and education.

Que-55
Consider the following statements with reference to coal:
1. Bituminous coal is the highest quality of coal.
2. The coal deposited in Damodar valley were formed during the tertiary geological period.
3. The main lignite coal reserves in India are located in Neyveli in Tamil Nadu.

Which of the above statements is/are not correct?

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

Answer: A

Solution:
- Anthracite coal is the highest quality of coal.
- The coal deposited in Damodar valley were formed during the Gondwana period.

Enrich Your Learning:
Coal

In India, coal is the most abundantly available fossil fuel. It provides a substantial part of the nation’s energy needs. It is used for power generation, to supply energy to industry as well as for domestic needs. India is highly dependent on coal for meeting its commercial energy requirements.

In India coal occurs in rock series of two main geological ages, namely Gondwana, a little over 200 million years in age and in tertiary deposits which are only about 55 million years old. The major resources of Gondwana coal, which are metallurgical coal, are located in Damodar valley (West Bengal-Jharkhand). Jharia, Raniganj, Bokaro are important coalfields.

The Godavari, Mahanadi, Son and Wardha valleys also contain coal deposits. Tertiary coals occur in the north eastern states of Meghalaya, Assam, Arunachal Pradesh and Nagaland.

As coal is formed due the compression of plant material over millions of years, it is found in a variety of forms depending on the degrees of compression and the depth and time of burial.

- Lignite is a low grade brown coal, which is soft with high moisture content. The principal lignite reserves are in Neyveli in Tamil Nadu and are used for generation of electricity.
- Coal that has been buried deep and subjected to increased temperatures is bituminous coal. It is the most popular coal in commercial use. Metallurgical coal is high grade bituminous coal which has a special value for smelting iron in blast furnaces.
- Anthracite is the highest quality hard coal.

With reference to the ‘World Drug Report 2020’, which of the following statements is/are correct?

1. The second highest seizure of opium was reported from India in 2018.
2. The global area under opium poppy cultivation has significantly increased in 2019.
3. Afghanistan- Myanmar-Laos is one of the main opiate production area.

Choose the correct answer using the codes given below:

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

Answer: B

Solution:

- The fourth highest seizure of opium was reported from India in 2018.
- The global area under opium poppy cultivation has declined in 2019 by 30%.

Enrich Your Learning:

World Drug Report 2020

Global highlights

- The opiates seized in the largest quantity in 2018 continued to be opium (704 tonnes), followed by heroin (97 tonnse) and morphine (43 tonnes).
- Iran reported the highest seizure of heroin (25 tonnes), followed by Turkey, United States, China, Pakistan and Afghanistan.
- The maximum of 644 tonnes of opium was seized in Iran, followed by 27 tonnes in Afghanistan and 19 tonnes in Pakistan.
• From Myanmar, which accounts for 7% of the global opium production, and Laos, where 1% of the opium is produced, it is supplied to East and South-East Asia and Oceania.

• The report said that the global area under opium poppy cultivation declined for the second year in a row in 2019, down by 17% in 2018 and by 30% in 2019.

• The main opiate trafficking flows originate from three key production areas: Afghanistan, Myanmar-Laos and Mexico-Colombia-Guatemala.

• Opium is illicitly produced in about 50 countries. However, close to 97% of the total global production of opium in the past five years came from only three countries.

India Specific

• The fourth highest seizure of opium was reported from India in 2018, after Iran, Afghanistan and Pakistan.

• In India, the figure stood at only four tonne in 2018.

• In terms of heroin seizure (1.3 tonnes), India was at the 12th position in the world.

Que-57

Consider the following statements with reference to Pulses:

1. India is the largest producer of pulses in the world.

2. Pulses are grown near large water bodies as it needs high amount of moisture.

3. Most of the Pulse crops are leguminous crops.

Which of the above statements is/are correct?

a) 1 and 2 only

b) 2 and 3 only

c) 1 and 3 only

d) 1, 2 and 3

Answer: C

Solution:

Pulses need less moisture and survive even in dry conditions.

Enrich Your Learning:

Pulses

India is the largest producer as well as the consumer of pulses in the world. These are the major source of protein in a vegetarian diet. Major pulses that are grown in India are tur (arhar), urad, moong, masur, peas and gram.

Pulses need less moisture and survive even in dry conditions. Being leguminous crops, all these crops except arhar help in restoring soil fertility by fixing nitrogen from the air. Therefore, these are mostly grown in rotation with other crops. Major pulse producing states in India are Madhya Pradesh, Uttar Pradesh, Rajasthan, Maharashtra and Karnataka.

Que-58

Consider the following statements with reference to Alluvial Soils:

1. These soils can be categorized as Bangar and Khadar, based on the size of the grains found in such soil.

2. These soils can also be found in Rajasthan and Gujarat.

3. Regions of alluvial soils are densely populated.

Which of the above statements is/are correct?

a) 1 and 2 only

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

d) 1, 2 and 3

Answer: B

Solution:

These soils can be categorized as Bangar and Khadar based on their age. Old alluvial is Bangar and new alluvial is Khadar.

Enrich Your Learning:

Alluvial Soils

This is the most widely spread and important soil. In fact, the entire northern plains are made of alluvial soil. These have been deposited by three important Himalayan river systems-- the Indus, the Ganga and the Brahmaputra. These soils also extend in Rajasthan and Gujarat through a narrow corridor.

Alluvial soil is also found in the eastern coastal plains particularly in the deltas of the Mahanadi, the Godavari, the Krishna and the Kaveri rivers. The alluvial soil consists of various proportions of sand, silt and clay.

In the upper reaches of the river valley i.e. near the place of the break of slope, the soils are coarse. Such soils are more common in piedmont plains such as Duars, Chos and Terai. Apart from the size of their grains or components, soils are also described on the basis of their age. According to their age alluvial soils can be classified as old alluvial (Bangar) and new alluvial (Khadar). The bangar soil has higher concentration of kanker nodules than the Khadar. It has more fine particles and is more fertile than the bangar.

Alluvial soils as a whole are very fertile. Mostly these soils contain adequate proportion of potash, phosphoric acid and lime which are ideal for the growth of sugarcane, paddy, wheat and other cereal and pulse crops. Due to its high fertility, regions of alluvial soils are intensively cultivated and densely populated. Soils in the drier areas are more alkaline and can be productive after proper treatment and irrigation.

Que-59

Consider the following statements about pardoning power of governor of a state:

1. Article 168 of the Constitution provides governor of a state the pardoning power.
2. The governor can pardon sentences inflicted by court martial (military courts).
3. Both the governor and the President have concurrent power in respect of suspension, remission and commutation of death sentence.

Which of the above statements is/are correct?

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

Answer: C

Solution:

Correct statement

- As per the Article 161, the President can pardon sentences inflicted by court martial (military courts) while the governor cannot.

Enrich Your Learning:

Article 161

Under Article 161 of the Constitution, the governor of a state possesses the pardoning power.

The Governor of a State shall have the power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence against any law.
relating to a matter to which the executive power of the State extends.

**Difference between pardoning powers of president and governor**

The President can pardon sentences inflicted by court martial (military courts) while the governor cannot.

The President can pardon death sentence while governor cannot. Even if a state law prescribes death sentence, the power to grant pardon lies with the President and not the governor. However, the governor can suspend, remit or commute a death sentence.

Both the governor and the President have concurrent power in respect of suspension, remission and commutation of death sentence.

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**Que-60**

Consider the following statements regarding Inter-State Trade and Commerce:

1. Trade and Commerce throughout the territory of India has been free under the Article 301.

2. Parliament is empowered to impose restrictions on the freedom of trade, commerce and intercourse between the states or within a state in public interest.

3. The legislature of a state cannot impose any restrictions on the freedom of trade and commerce with that state.

Which of the above statements is/are correct?

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

**Answer: A**

**Solution:**

Correct statement

- The legislature of a state can impose reasonable restrictions on the freedom of trade, commerce and intercourse with that state or within that state in public interest.

**Enrich Your Learning:**

**Inter-State Trade and Commerce**

**Articles 301 to 307** in Part XIII of the Constitution deal with the trade, commerce and intercourse within the territory of India.

**Article 301** declares that trade, commerce and intercourse **throughout the territory of India shall be free**.

This provision promotes the break down of border barriers between the states and to create one unit with a view to encourage the free flow of trade, commerce and intercourse in the country.

The freedom under this provision is not confined to inter-state trade, commerce and intercourse but also extends to intra-state trade, commerce and intercourse.

Thus, Article 301 will be **violated whether restrictions are imposed at the frontier** of any state or at any prior or subsequent stage.

The freedom guaranteed by Article 301 is a **freedom from all restrictions**, except following provisions (Articles 302 to 305) of Part XIII of the Constitution:

i) **Parliament can impose restrictions** on the freedom of trade, commerce and intercourse between the states or within a state in public interest. But, cannot give preference to one state over another or discriminate except in the case of scarcity of goods in any part of India.

ii) **The legislature of a state can impose reasonable restrictions** on the freedom of trade, commerce and intercourse with that state or within that state in public interest.
A bill for this purpose can be introduced in the legislature only with the previous sanction of the president. The state legislature cannot give preference to one state over another or discriminate between the states.

iii) The legislature of a state can impose on goods imported from other states or the union territories any tax to which similar goods manufactured in that state are subject. It prohibits the imposition of discriminatory taxes by the state.

iv) The freedom is subject to the nationalisation laws (i.e., laws providing for monopolies in favour of the Centre or the states). Thus, the Parliament or the state legislature can make laws for the carrying on by the respective government of any trade, business, industry or service, whether to the exclusion, complete or partial, of citizens or otherwise.

The Parliament can appoint an appropriate authority for carrying out the purposes relating to the freedom of trade, commerce and intercourse and restrictions on it. The Parliament can also confer on that authority the necessary powers and duties.

No such authority has been appointed so far.

Que-61

Consider the following statements about Financial Sector Regulatory Appointments Search Committee (FSRASC):

1. FSRASC was set up based on the recommendation of the Financial Sector Legislative Reforms Commission.
2. FSRASC tasked to recommend candidates for appointment of chairman of Securities and Exchange Board of India.
3. FSRASC is bound to identify and recommend the person who applied for the post.

Which of the above statements is/are correct?

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

Answer: A

Solution:

Correct statement

- FSRASC is free to identify and recommend any other person who has not applied for the post.

Enrich Your Learning:

Financial Sector Regulatory Appointments Search Committee (FSRASC)

FSRASC was set up in 2017, the original mandate of the FSRASC was to recommend names for all members and chiefs of all regulatory bodies.

The move comes after RBI Governor Raghuram Rajan announced his intention to return to academia on the completion of his three-year term.

Earlier, FSRASC was tasked with recommending candidates for appointment as the head the Securities and Exchange Board of India and IRDAI chairman.

FSRASC was set up based on the recommendation of the Financial Sector Legislative Reforms Commission as a “standing committee” to “recommend suitable persons for selection of Chairperson and Whole Time and Part Time Members of the financial sector regulators.”

It was set to adopt a uniform selection process for all financial sector regulators without going into the related issues of tenure, age and qualification.

FSRASC be used for the selection of Chairpersons, Chief Executive Officers and members of other proposed institutions such
as the Public Debt Management Authority, the Monetary Policy Committee and the Financial Data Management Centre.

It is noted that the FSRASC is free to identify and recommend any other person also, on the basis of merit, who has not applied for the post.

Composition of the FSRASC
Cabinet Secretary– head
Additional Principal Secretary to the Prime Minister
Secretary, Department of Economic Affairs or Department of Financial Services
Chairperson of the regulatory authority concerned, and three outside experts

It was originally proposed that the NITI Aayog Vice-Chairman would also be a member of the committee, but this plan was nixed as this post ranks senior to the Cabinet Secretary.

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Que-62
Consider the following statements regarding Cess and Surcharge:
1. The usage of the fund created out of cess is restricted to specific purposes only.
2. Central government is not required to share the revenue neither from Cess nor from Surcharge with state governments.
3. Cess and Surcharge becomes a part of Consolidated Fund of India.

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

Answer: D

Solution:
Correct statement
- All the given statements are correct.

Enrich Your Learning:

Cess
Cess is imposed by the central government and is a tax on tax and is levied for a specific purpose.

It is levied until the government gets enough money for that purpose. The usage of the fund created out of cess is restricted to specific purposes only.

For example, Education cess collected can be utilized only for financing education and not for any other purpose.

Various types of Cess imposed by the government in India is like Infrastructure Cess on motor cars, Krishi Kalyan Cess on Service Value, Swach Bharat Cess, Education Cess, health and Education Cess on Income Tax, etc.

In case of revenue collected from cess it is first credited to the Consolidated Fund of India and the Central Government may after due appropriation from the Parliament utilize the fund for the specified purpose or credited to the specific fund.

The central government is not required to share the revenue from cess with state governments.

Surcharge
A surcharge is a tax on any tax. It is a tax on tax.

The objective of imposing of levying surcharge is to put high tax burden on rich persons who can bear or have the capacity to pay high tax.

Like Cess, the central government is not required to share the revenue from the surcharge with state governments.

But it becomes a part of Consolidated Fund of India and goes directly to the fund. Thus it can be utilized for any purpose of the government.
The rate of Surcharge for an individual is 10% if the income is in the range of Rs. 50 lakhs and Rs. 1 crore. It is 15%, if the income exceeds Rs. 1 crore.

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<thead>
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<th>Cess</th>
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<tbody>
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<td>Though Goes directly to</td>
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<tr>
<td>CFI</td>
<td>CFI but its utilization restricted</td>
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<tr>
<td>Can be used for any purpose</td>
<td>Can be used for specific purpose only</td>
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<td>No such sharing</td>
<td>No such sharing</td>
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</tbody>
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Que-63

Which of the following agreements are within the framework of World Trade Organisation?

1. General Agreement on Trade in Services (GATS)
2. Agreement on Reciprocal Logistics Support (ARLS)
3. Agreement on Government Procurement
4. Agreement on Trade in Civil Aircraft

Which of the above statements is/are correct?

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

Answer: B

Solution:
Correct statement
- The Agreement on Reciprocal Logistics Support (ARLS) is a proposed Military Logistics Support Agreement between India and Russia.

Enrich Your Learning:
WTO Agreements

Agreement on Agriculture

The Agreement on Agriculture is one of the key agreements within the WTO system. Its importance is reflected by its presence as the first Agreement annexed to the Marrakesh Agreement establishing the WTO.

The WTO Agreement on Agriculture came into force in 1995, represents a significant step towards reforming agricultural trade and making it fairer and more competitive.

The Agriculture Committee oversees implementation of the Agreement.

It is to reform the agriculture sector and to address the subsidies and high trade barriers that distort agricultural trade.

The overall aim is to establish a fairer trading system that will increase market access and improve the livelihoods of farmers around the world.

Members continue to conduct negotiations for further reform. In 2015, they adopted a historic decision to abolish agricultural export subsidies and to set rules for other forms of farm export support.

General Agreement on Trade in Services (GATS)

The creation of the GATS was one of the landmark achievements of the Uruguay Round, whose results entered into force in January 1995.

Objectives

Creating a credible and reliable system of international trade rules; ensuring fair and equitable treatment of all participants (principle of non-discrimination).

Stimulating economic activity through guaranteed policy bindings.

Promoting trade and development through progressive liberalization.

All WTO members are at the same time members of the GATS and, to varying degrees,
have assumed commitments in individual service sectors.

The GATS applies in principle to all service sectors, with two exceptions. One is services supplied in the exercise of governmental authority, and the Air Transport Services exempts from coverage measures affecting air traffic rights and services directly related to the exercise of such rights.

The GATS distinguishes between four modes of supplying services: cross-border trade, consumption abroad, commercial presence, and presence of natural persons.

**Agreement on Government Procurement**

The GPA is a plurilateral agreement within the framework of the WTO, meaning that not all WTO members are parties to the Agreement.

At present, it has 20 parties comprising 48 WTO members. 36 WTO members/observers participate in the GPA Committee as observers. Out of these, 12 members are in the process of acceding to the Agreement.

The fundamental aim of the GPA is to mutually open government procurement markets among its parties.

The GPA is composed mainly of two parts: the text of the Agreement and parties' market access schedules of commitments.

The text of the Agreement establishes rules requiring that open, fair and transparent conditions of competition be ensured in government procurement.

As a binding international treaty, the GPA is administered by the Committee on Government Procurement which is composed of representatives of all its parties.

The enforcement of the Agreement is realized through two mechanisms:

1. Domestic review mechanism at the national level
2. WTO dispute settlement mechanism at the international level

**Agreement on Trade in Civil Aircraft**

This plurilateral agreement entered into force on 1 January 1980.

There are 32 signatories. Most WTO agreements are multilateral since they are signed by all WTO members.

The Agreement on Trade in Civil Aircraft is one of two plurilateral agreements (with the Agreement on Government Procurement being the second) signed by a smaller number of WTO members.

It eliminates import duties on all aircraft, other than military aircraft, as well as on all other products covered by the agreement.

This Agreement applies to the following products:

- All civil aircraft
- All civil aircraft engines and their parts and components
- All other parts, components, and sub-assemblies of civil aircraft
- All ground flight simulators and their parts and components

Work in the WTO on trade in civil aircraft is carried out by the Committee on trade in civil aircraft and its technical sub-committee.

Que-64

With reference to the ‘United Nations Educational, Scientific and Cultural Organization (UNESCO)’, which of the following statements is/are not correct?

1. Its Headquarter is located in in Paris.
2. It is the successor of the League of Nations’ International Committee on Intellectual Cooperation.
3. Palestine is the member of UNESCO but not a member of United Nations.
4. The United States has exited from the UNESCO recently.
Choose the correct answer using the codes given below:

a) 2 and 4 only
b) 1, 3 and 4 only
c) 1, 2 and 3 only
d) None of the above

Answer: D

Solution:

All statements are correct

Enrich Your Learning:

UNESCO

- The United Nations Educational, Scientific and Cultural Organization (UNESCO) is a specialized agency of the United Nations (UN).
- It aims at promoting world peace and security through international cooperation in education, the sciences, and culture.
- It has 193 member states and 11 associate members.
- Headquartered in Paris, France.
- UNESCO was founded in 1945 as the successor to the League of Nations' International Committee on Intellectual Cooperation.
- UNESCO is governed by the General Conference, composed of member states and associate members, which meets biannually to set the agency's programmes and the budget.

Member states of UNESCO

- UNESCO members include 193 member states and 11 associate members.
- Some members have additional National Organizing Committees (NOCs) for some of their dependent territories. The associate members are non-independent states.

- Three UNESCO member states are not UN member states: Cook Islands, Niue, and Palestine (Palestine is a non-member observer State of the United Nations General Assembly since 29 November 2012), while three UN member states (Israel, Liechtenstein, United States) are not UNESCO members.
- The United States and Israel were members, but left on 31 December 2018 asserting that the organization had an anti-Israel bias.
- Kosovo was approved for membership by UNESCO's executive board in 2015, but the proposal did not receive the required 2/3 of votes in favour at the general conference

Que-65

Consider the following statements regarding National Iodine Deficiency Disorders Control Programme (NIDCP):

1. NIDCP is an initiative of the Ministry of Women and Child Development.
2. Iodine Deficiency Disorders cause problems like mental and physical retardation, deaf mutism, cretinism, still births, abortions etc.
3. Iodine is required at 100-150 micrograms daily for normal human growth and development.

Which of the above statements is/are correct?

a) 1 and 2 only
b) 2 and 3 only
c) 1 and 3 only
d) All of the above

Answer: B

Solution: NIDCP is an initiative of the Ministry of Health and Family Welfare.
Enrich Your Learning:

National Iodine Deficiency Disorders Control Programme (NIDDCP):

- The National Goitre Control Programme (NGCP) was renamed as National Iodine Deficiency Disorders Control Programme (NIDDCP) in August, 1992.
- It is an initiative of the Ministry of Health and Family Welfare.
- The Salt organization is the nodal agency for monitoring production, distribution and quality of iodised salt under National Iodine deficiency control programme.

Objectives and components:

- Surveys to assess the magnitude of the Iodine Deficiency Disorders.
- Supply of iodated salt in place of common salt.
- Resurvey after every 5 years to assess the extent of Iodine Deficiency Disorders and the impact of iodated salt.
- Laboratory monitoring of iodated salt and urinary iodine excretion.
- Health education & Publicity.

Iodine:

- Iodine is an essential micro nutrient.
- It is required at 100-150 micrograms daily for normal human growth and development.
- The disorders caused due to deficiency of nutritional iodine in the food/diet are called iodine deficiency disorders (IDDs).
- Iodine Deficiency Disorders are worldwide major public health problems like mental and physical retardation, deaf mutism, cretinism, still births, abortions etc.
- More than 1.5 billion people all over the world are at risk of IDD.

Que-66

State-wise Key Performance Indicators for States is an initiative of:

a) NITI Aayog

b) National Highways Authority of India

c) Ministry of Commerce

d) Ministry of Finance

Answer: A

Solution: NITI Aayog

Enrich Your Learning:

State-wise Key Performance Indicators for States:

- NITI Aayog has prepared State-wise Key Performance Indicators for States across the three sectors to encourage positive competition and to propel States and UTs to innovate to improve outcomes.

Aim:

- To institutionalise a focus on Health and Education outcomes and for better management and utilization of Water resources.

Water:

- In view of limitations on availability of water resources and rising demand for water, sustainable management of water resources has acquired critical importance.
- NITI Aayog has developed a Composite Water Management Index as a useful tool to assess and further improve the performance in efficient management of water resources.
- The index aims to provide useful information for the States and also for the concerned Central Ministries/Departments enabling them to formulate and implement
suitable strategies for better management of water resources.

**Key Performance Indicators:**
- The Index has a set of 28 Key Performance Indicators (KPIs) covering irrigation status, drinking water and other water-related sectors.
- **Critical areas** such as source augmentation; major and medium irrigation; watershed development; participatory irrigation practices; sustainable on-farm water use practices; rural drinking water; urban water supply and sanitation; and policy & governance have been accorded high priority.

**Health:**
- NITI Aayog has spearheaded the Health Index initiative, to measure the annual performance of States and UTs.
- It will rank States on the basis of incremental change, while also providing and overall status of States’ performance and helping identify specific areas of improvement.

**Education:**
- The State-level School Education Quality Index (SEQI) focuses on improving education outcomes (learning, access, equity) in India.
- It recognizes that school education is a subject on the Concurrent List and State-level leadership is critical for improving outcomes in cost-effective ways.
- SEQI comprises a set of indicators that critically influence the overall effectiveness and efficiency of the school education sector.
- The SEQI is to focus on improving teaching and learning in schools.
- It provides insights into each State/UT’s strengths, weaknesses, and areas requiring more focused action and resources.

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**Que-67**
Which of the following statements is/are correct about theory behind ‘using microbes as biocontrol agents’?

1. The eradication of pests is non-desirable.
2. The complex system of checks and balances can be achieved.
3. Reducing the dependence on toxic chemicals and pesticides.

Choose the correct answer using the codes given below:
- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 only
- d) All of the above

**Answer:** D

**Solution:**
All statements are correct

**Enrich Your Learning:**

**MICROBES AS BIOCONTROL AGENTS**

- Biocontrol refers to the use of biological methods for controlling plant diseases and pests.

**Biological control of pests and diseases:**
- In agriculture, there is a method of controlling pests that relies on natural predation rather than introduced chemicals.
- The more variety a landscape has, the more sustainable it is.
- The **organic farmer, therefore, works to create a system where the insects that are sometimes called pests are not eradicated, but instead are kept at manageable levels by a complex system of checks and balances**
within a living and vibrant ecosystem.
- Contrary to the ‘conventional’ farming practices which often use chemical methods to kill both useful and harmful life forms indiscriminately, this is a holistic approach that seeks to develop an understanding of the webs of interaction between the myriad of organisms that constitute the field fauna and flora.
- The eradication of the creatures that are often described as pests is not only possible, but also undesirable, for without them the beneficial predatory and parasitic insects which depend upon them as food or hosts would not be able to survive.
- Thus, the use of biocontrol measures will greatly reduce our dependence on toxic chemicals and pesticides.
- An important part of the biological farming approach is to become familiar with the various life forms that inhabit the field, predators as well as pests, and also their life cycles, patterns of feeding and the habitats that they prefer.
- This will help develop appropriate means of biocontrol.

Various Examples
- The very familiar **beetle with red and black markings** – the Ladybird, and Dragonflies are useful to get rid of aphids and mosquitoes, respectively.
- An example of microbial biocontrol agents that can be introduced in order to control butterfly caterpillars is the **bacteria Bacillus thuringiensis** (often written as Bt).
- These are available in sachets as dried **spores** which are mixed with water and sprayed onto vulnerable plants such as brassicas and fruit trees, where these are **eaten by the insect larvae**.
- In the gut of the larvae, the toxin is released and the larvae get killed. The bacterial disease will kill the caterpillars, but leave other insects unharmed.
- Because of the development of methods of **genetic engineering** in the last decade or so, the scientists have introduced **B. thuringiensis toxin genes into plants**.
- Such plants are **resistant to attack by insect pests**.
- **Bt-cotton** is one such example, which is being cultivated in some states of our country.
- A biological control being developed for use in the treatment of plant disease is the fungus Trichoderma. **Trichoderma species** are free-living fungi that are very common in the root ecosystems. They are effective biocontrol agents of several plant pathogens.

2. Baculoviruses
- **Baculoviruses** are **pathogens that attack insects and other arthropods**.
- The majority of baculoviruses **used as biological control agents** are in the genus **Nucleopolyhedrovirus**.
- These viruses are excellent candidates for species-specific, narrow spectrum insecticidal applications.
- They have been shown to have no negative impacts on plants, mammals, birds, fish or even on non-target insects.
- This is especially desirable when beneficial insects are being conserved to aid in an overall integrated pest management (IPM) programme, or when an ecologically sensitive area is being treated.

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Que-68
Consider the following statements about a phenomena called ‘Ecophene’:

1. The changes occurring among ecophenes are permanent.
2. It takes place due to change in living area of an organism.
3. The changes takes place in genetics of an organism.

Which of the above given statements is/are correct?

a) 2 and 3 only  
b) 1 and 2 only  
c) 2 only  
d) All of the above

Answer: C

Solution:

- In ecophene no genetics changes take place hence no permanent changes within an organism.

Enrich Your Learning:

Ecophene

- Ecophene is a type of **response by an organism due to change in living area**.
- It is also called **ecads** or **morphologically-changed forms**.
- When a species is transported to a new environment, it’s first response will be to develop abilities to survive there.
- Such changes are quite common in plants. For example, a species of grass called Euphorbia hirta has two different ecophenes; one that has adapted to grow in dry, hard soils and the other that grows in places that have been heavily trampled.
- These **differences among ecophenes are not permanent**.
- They are just temporary variations to survive the new conditions.

- The body of the organism assumes that it is going to be in these new conditions for a short while only. Therefore, ecophenes from different habitats, when brought together, become similar. If that American from Africa was to move to northern Europe, he would start to grow fairer.
- This reversibility is because there has been no change in the genetics of the two separate ecophenes.

Que-69

Consider the following statements:

1. A cell having the nuclear material without a nuclear membrane is termed as eukaryotic cells.
2. A cell having the nucleus with a nuclear membrane is termed as prokaryotic cells.
3. The nucleus of the bacterial cell is well-organised.

Which of the statements given above is/are correct?

a) 1 and 2 only  
b) 3 only  
c) All of the above  
d) None of the above

Answer: D

Solution:

- A cell having the nuclear material without a nuclear membrane is termed as prokaryotic cells.
- A cell having the nucleus with a nuclear membrane is termed as eukaryotic cells.
- The **nucleus of the bacterial cell is not well-organised** and does not have nuclear membrane too. Hence, it is a prokaryotic cells.
Enrich Your Learning:

Nucleus of the bacterial cell

- The nucleus of the bacterial cell is **not well-organised** like the cells of multicellular organisms. There is **no nuclear membrane**.
- The cells having nuclear material without nuclear membrane are termed **prokaryotic cells**.
- The organisms with these kinds of cells are called prokaryotes (pro: primitive; karyon : nucleus).
- Examples of prokaryotes are **bacteria** and **blue green algae**.
- The cells, like onion cells and cheek cells having **well-organised nucleus with a nuclear membrane** are designated as **eukaryotic cells**.
- All organisms other than bacteria and blue green algae are called **eukaryotes**.

Que-70

Consider the following statements with reference to Indian National Commission for Co-operation with UNESCO (INCCU):

1. A permanent INCCU was established by the Ministry of Education in 1951.
2. It aims to contribute towards fulfilment of the objectives of UNESCO and strengthening India’s image globally.
3. Vice President shall be the President of the Commission and will presides over the meetings of the commission.

Which of the above statements is/are correct?

a) 1 and 2 only
b) 2 and 3 only
c) 1 and 3 only
d) All of the above

**Answer: A**

Solution: The Minister of Education shall be the President of the Commission and will presides over the meetings of the commission.

Enrich Your Learning:

Indian National Commission for Co-operation with UNESCO (INCCU):

- A permanent Indian National Commission for Co-operation with UNESCO (INCCU) was established in 1951 by the **Ministry of Education**, Government of India.

Objectives:

- To contribute towards **fulfilment of the objectives of UNESCO** while also strengthening India’s image globally.
- Consistent efforts towards **fulfilment of 2030 sustainable development goals** (SDGs).

Functions of the Commission:

- To **promote understanding** of the objects and purposes of UNESCO among the people of India.
- To serve as a **liaison agency** between the Government of India and the institutions concerned with the working for the advancement of education, science and culture.
- To **encourage participation of national, governmental and non-governmental institutions** and various individuals in the formulations and execution of UNESCO’s programmes so as to secure for UNESCO all the intellectual, scientific artistic or administrative assistance that it may require.
- To **collaborate with the National Commissions of Asia and the Pacific** and with UNESCO’s Regional Offices and centres in fostering regional, sub-regional and bilateral co-operation in education, the sciences, culture and information, particularly through the
joint formulation and execution of programmes.

- To disseminate information on the objectives, programme and activities of UNESCO and endeavor to arouse public interest in them.
- To advise the Government of India on matters relating to UNESCO.

Members:

- The Minister of Education shall be the President of the Commission and will preside over the meetings of the commission.
- In the absence of the President, the Commission may elect a Chairman from among the members present to preside over each meeting.
- The Secretary to the Government of India in the Department of Higher Education, Ministry of Human Resource Development is the Secretary General of the commission and remains in overall charge of the work of the Commission.
- The membership of the commission consists of the members of five Sub-Commissions namely, Sub-Commission for (i) education; (ii) Natural Sciences; (iii) Social Sciences; (iv) Culture; and (v) Communication.

Que-71

Consider the following statements with reference to Digital India Land Records Modernization Programme (DILRMP):

1. DILRMP aims for a system of updated land records and inter-connectivity between revenue and registration.
2. The state has been taken as the unit of implementation where all programme activities are to converge.

Which of the above statements is/are correct?

a) 1 only

b) 2 only
c) Both 1 and 2
d) None of the above

Answer: A

Solution: The District has been taken as the unit of implementation, where all programme activities are to converge.

Enrich Your Learning:

Digital India Land Records Modernization Programme (DILRMP):

- The Land Reforms (LR) Division was implementing two Centrally Sponsored Schemes viz.: Computerisation of Land Records (CLR) & Strengthening of Revenue Administration and Updating of Land Records (SRA&ULR).
- Later on August 2008, the Cabinet approved merger of these schemes into a modified Scheme named Digital India Land Records Modernization Programme (DILRMP).

Aim:

- To usher in a system of updated land records, automated and automatic mutation, integration between textual and spatial records, inter-connectivity between revenue and registration.
- To replace the present deeds registration and presumptive title system with that of conclusive titling with title guarantee.

Components:

- The DILRMP has 3 major components:
  (a) Computerization of land record
  (b) Survey/re-survey
  (c) Computerization of Registration.
• The District has been taken as the unit of implementation, where all programme activities are to converge.

Que-72

National Monsoon Mission (NMM) is an initiative of:

a) Ministry of Science and Technology
b) Indian Space Research Organisation
c) Ministry of Earth Sciences
d) None of the above

Answer: C

Solution: Ministry of Earth Sciences

Enrich Your Learning:

National Monsoon Mission (NMM):

• This Mission was launched by the Ministry of Earth Sciences (MoES) in 2012.

• Indian Institute of Tropical Meteorology (IITM), Pune is vested with the responsibility of execution and coordination of this mission.

• The basic modelling system for the above purpose is Climate Forecast System (CFS) of USA.

Aim:

• To develop a state-of-the-art dynamical prediction system for monsoon rainfall on different time scales.
  o Improved prediction of monsoon rainfall on extended range to seasonal time scale (16 days to one season).
  o Improved prediction of temperature, rainfall and extreme weather events on short to medium range time scale (up to 15 days).

Objectives:

• To improve Seasonal and Intra-Seasonal Monsoon Forecast.
• To improve Medium Range Forecast.

Que-73

Consider the following pairs:

<table>
<thead>
<tr>
<th>Indian Mathematicians</th>
<th>Their work</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Baudhayan</td>
<td>Sulva Sutra</td>
</tr>
<tr>
<td>2 Brahmagupta</td>
<td>Siddanta Shiromani</td>
</tr>
<tr>
<td>3 Bhaskaracharya</td>
<td>Sputa Siddantika</td>
</tr>
<tr>
<td>4 Varahamihira</td>
<td>Brihatsamhita</td>
</tr>
</tbody>
</table>

Which of the pairs given above is/are not correctly matched?

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

Answer: C

Solution:

● Brahmagupta - Sputa Siddantika
● Bhaskaracharya - Siddanta Shiromani

Enrich Your Learning:

Mathematics (Development of Science in Ancient India)

The town planning of Harappa shows that the people possessed a good knowledge of measurement and geometry.

By third century AD mathematics developed as a separate stream of study.
Indian mathematics is supposed to have originated from the Sulvasutras.

Apastamba in second century BC, introduced practical geometry involving acute angle, obtuse angle and right angle. This knowledge helped in the construction of fire altars where the kings offered sacrifices.

The three main contributions in the field of mathematics were the notation system, the decimal system and the use of zero. The notations and the numerals were carried to the West by the Arabs. These numerals replaced the Roman numerals.

Zero was discovered in India in the second century BC.

Brahmagupta’s Brahmasputa Siddhanta is the very first book that mentioned ‘zero’ as a number, hence, Brahmagupta is considered as the man who found zero. He gave rules of using zero with other numbers.

Aryabhatta discovered algebra and also formulated the area of a triangle, which led to the origin of Trignometry. The Surya Siddhanta is a very famous work.

Varahamihira’s Brihatsamhita of the sixth century AD is another pioneering work in the field of astronomy. His observation that the moon rotated around the earth and the earth rotated around the sun found recognition and later discoveries were based on this assertion.

Mathematics and astronomy together ignited interest in time and cosmology. These discoveries in astronomy and mathematics became the cornerstones for further research and progress.

In 7th century, Brahmagupta took mathematics to heights far beyond others. In his methods of multiplication, he used place value in almost the same way as it is used today. He introduced negative numbers and operations on zero into mathematics. He wrote Brahmsputa Siddantika through which the Arabs came to know our mathematical system.

Bhaskaracharya was the leading light of 12th Century. He was born at Bijapur, Karnataka. He is famous for his book Siddanta Shiromani. It is divided into four sections: Lilavati (Arithmetic), Beejaganit (Algebra), Goladhyaya (Sphere) and Grahaganit (mathematics of planets). Bhaskara introduced Chakrawat Method or the Cyclic Method to solve algebraic equations.

Que-74

Consider the following statements with reference to the development of medicine in Ancient India.

1. The diseases and medicines were mentioned for the first time in the Yajurveda.
2. The surgeons in ancient India were familiar with plastic surgery.
3. The pioneer of surgery of the period was Charaka.

Which of the statements given above is/are correct?

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

Answer: D

Solution:

- The diseases and medicines were mentioned for the first time in the Atharva Veda.
- The pioneer of surgery of the period was Sushruta whereas Charak is called the father of ayurvedic medicine.

Enrich Your Learning:

Medicine (Development of Science in Ancient India)

Diseases, cure and medicines were mentioned for the first time in the Atharva...
Veda. Fever, cough, consumption, diarrhoea, dropsy, sores, leprosy and seizure are the diseases mentioned. The diseases are said to be caused by the demons and spirits entering one’s body. The remedies recommended were replete with magical charms and spells.

From 600 BC began the period of rational sciences. Takshila and Taranasi emerged as centres of medicine and learning. The two important texts in this field are Charaksamhita by Charak and Sushrutsamhita by Sushruta. How important was their work can be understood from the knowledge that it reached as far as China, Central Asia through translations in various languages. The plants and herbs used for medicinal purposes have been mentioned in Charaksamhita.

Surgery came to be mentioned as a separate stream around fourth century AD. Sushruta was a pioneer of this discipline. He considered surgery as “the highest division of the healing arts and least liable to fallacy”. He mentions 121 surgical instruments. Along with this he also mentions the methods of operations, bone setting, cataract and so on.

The surgeons in ancient India were familiar with plastic surgery (repair of noses, ears and lips). Sushruta mentions 760 plants. All parts of the plant roots, barks, flowers, leaves etc. were used. Stress was laid on diet (e.g. salt free diet for nephrites).

Both the Charaksamhita and the Sushrutsamhita became the predecessors of the development of Indian medicine in the later centuries. However, surgery suffered in the early medieval time since the act of dissecting with a razor became the work of a barber.

Que-75

Consider the following statements:

1. Atreya Samhita is the Ayurveda medicine book.

2. Physical yoga is called Rajyoga.

3. Mahabhasya is written by Panini on medicine.

4. Ayurveda defines health as an equilibrium in three doshas.

Which of the statements given above is/are correct?

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

Answer: A

Solution:

● Physical yoga is called HAHAYOGA.

● Mahabhasya is written by PATANJALI rishi which is a work on Panini’s grammar. Panini’s grammar is known by the name of Asthadhyayi.

Enrich Your Learning:

AYURVEDA

● Ayurveda is the indigenous system of medicine that was developed in Ancient India. The word Ayurveda literally means the science of good health and longevity of life.

● This ancient Indian system of medicine not only helps in treatment of diseases but also in finding the causes and symptoms of diseases. It is a guide for the healthy as well as the sick.

● It defines health as an equilibrium in three doshas, and diseases as disturbance in these three doshas.

● While treating a disease with the help of herbal medicines, it aims at removing the cause of disease by striking at the roots.

● It is the oldest medical system of our planet. A treatise on Ayurveda, Atreya Samhita, is the oldest medical book of the world. Charak is called the father
of ayurvedic medicine and Susruta the father of surgery. Susruta, Charak, Madhava, Vagbhatta and Jeevak were noted ayurvedic practitioners. The Ayurveda has lately become very popular in the western world. This is because of its many advantages over the modern system of medicine called Allopathy, which is of western origin.

YOGA

- The science of Yoga was developed in ancient India as an allied science of Ayurveda for healing without medicine at the physical and mental level.
- The term Yoga has been derived from the Sanskrit work Yoktra. Its literal meaning is “yoking the mind to the inner self after detaching it from the outer subjects of senses”.
- Like all other sciences, it has its roots in the Vedas. It defines chitta i.e. dissolving thoughts, emotions and desires of a person’s consciousness and achieving a state of equilibrium. It sets in to motion the force that purifies and uplifts the consciousness to divine realization. Yoga is physical as well as mental.
- Physical yoga is called Hathyoga. Generally, it aims at removing a disease and restoring healthy condition to the body. Rajayoga is mental yoga. Its goal is self-realization and liberation from bondage by achieving physical mental, emotional and spiritual balance.
- Yoga was passed on by word of mouth from one sage to another. The credit of systematically presenting this great science goes to Patanjali.
- In the Yoga Sutras of Patanjali, Aum is spoken of as the symbol of God. He refers to Aum as a cosmic sound, continuously flowing through the ether, fully known only to the illuminated.
- Besides Yoga Sutras, Patanjali also wrote a work on medicine and worked on Panini’s grammar known as Mahabhasaya.

Que-76
Consider the following statements with reference to Black Soils:

1. The Black soil are mostly found in Southern states of India and in some parts of North-east regions.
2. They are well-known for their capacity to hold moisture.
3. These soils are generally poor in potash, lime and phosphoric contents.

Which of the above statements is/are not correct?

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

Answer: C

Solution:

- Black soils are found in Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhattisgarh and extend in the south east direction along the Godavari and the Krishna valleys.
- While Black soils are rich in potash and lime, they are poor in phosphoric contents.

Enrich Your Learning:

Black Soil

These soils are black in colour and are also known as regur soils. Black soil is ideal for growing cotton and is also known as black cotton soil. It is believed that climatic condition along with the parent rock material are the
important factors for the formation of black soil.

This type of soil is typical of the Deccan trap (Basant) region spread over northwest Deccan plateau and is made up of lava flows. They cover the plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhattisgarh and extend in the south east direction along the Godavari and the Krishna valleys.

The black soils are made up of extremely fine i.e. clayey material. They are well-known for their capacity to hold moisture. In addition, they are rich in soil nutrients, such as calcium carbonate, magnesium, potash and lime. These soils are generally poor in phosphoric contents.

They develop deep cracks during hot weather, which helps in the proper aeration of the soil. These soils are sticky when wet and difficult to work on unless tilled immediately after the first shower or during the pre-monsoon period.

Que-77

The concept of ‘Sustainable Development’ was first introduced by the:

a) Club of Rome
c) Member countries of Earth Summit (1992)
d) Intergovernmental Panel on Climate Change

Answer: B

Solution & Enrich Your Learning:

Irrational consumption and over-utilisation of resources may lead to socio-economic and environmental problems. To overcome these problems, resource conservation at various levels is important. This had been the main concern of the leaders and thinkers in the past. For example, Gandhiji was very apt in voicing his concern about resource conservation. He placed the greedy and selfish individuals and exploitative nature of modern technology as the root cause for resource depletion at the global level.

At the international level, the Club of Rome advocated resource conservation for the first time in a more systematic way in 1968.

Subsequently, in 1974, Gandhian philosophy was once again presented by Schumacher in his book Small is Beautiful. The seminal contribution with respect to resource conservation at the global level was made by the Brundtland Commission Report, 1987. This report introduced the concept of ‘Sustainable Development’ and advocated it as a means for resource conservation, which was subsequently published in a book entitled Our Common Future. Another significant contribution was made at the Earth Summit at Rio de Janeiro, Brazil in 1992.

Que-78

Consider the following statements with reference to Polymetallic Nodules:

1. Polymetallic Nodules are the volcanic minerals found near the dormant volcanoes.
2. Majority of these Nodules contain manganese and iron hydroxides.

Which of the above statements is/are correct?

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

Answer: B

Solution:

Polymetallic nodules are rock concretions on the sea bottom formed of concentric layers of iron and manganese hydroxides around a core.

Enrich Your Learning:
What are Polymetallic Nodules?

Polymetallic nodules (PMN) are also known as manganese nodules. They are potato-shaped, largely porous rocks found in abundance at the sea floor. They are rock formed of concentric layers of iron and manganese.

Polymetallic nodules were discovered in 1868 in the Kara Sea, in the Arctic Ocean off Siberia. It has been estimated that 380 million metric tonnes of polymetallic nodules are available at the bottom of the seas in the Central Indian Ocean.

India has been allotted a site of 75,000 sq. km. in the Central Indian Ocean Basin (CIOB) by the UN International Sea Bed Authority for exploitation of polymetallic nodules (PMN). Accessing even 10% of that reserve can meet the energy requirement for the next 100 years.

Manganese nodules occur in all oceans. But only in 4 regions is the density of nodules great enough for industrial exploitation:

- Indian Ocean
- Cline – Clipperton Zone
- Peru Basin
- Penrhyn Basin

Polymetallic Nodules contain

- Besides manganese and iron, they contain nickel, copper, cobalt, lead, molybdenum, cadmium, vanadium, titanium. Of these metals nickel, cobalt and copper are considered to be of economic and strategic importance.

Que-79

Consider the following pairs:

<table>
<thead>
<tr>
<th>Ancient Indian scientists</th>
<th>Their contribution/work</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Kanad</td>
<td>Underground water</td>
</tr>
<tr>
<td>2 Varahamihira</td>
<td>Atomic theory</td>
</tr>
<tr>
<td>3 Nagarjuna</td>
<td>Extraction of metals</td>
</tr>
</tbody>
</table>

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

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

Answer: B

Solution:

- Kanad - Atomic theory
- Varahamihira – he proved presence of groundwater. He made great contributions in the fields of hydrology, geology and ecology.

Enrich Your Learning:

SCIENCE

The contributions of some scientists of ancient India

Kanad

- Kanad was a sixth century scientist of Vaisheshika School, one of the six systems of Indian philosophy.
● His original name was Aulukya. He got the name Kanad, because even as a child, he was interested in very minute particles called “kana”.
● His **atomic theory** can be a match to any modern atomic theory. **According to Kanad, material universe is made up of kanas, (anu/atom) which cannot be seen through any human organ. These cannot be further subdivided. Thus, they are indivisible and indestructible.**
● This is, of course, as you may be knowing, what the modern atomic theory also says.

**Varahamihira**

● Varahamihira was another well-known scientist of the ancient period in India.
● He lived in the **Gupta period**. Varahamihira made great contributions in the fields of hydrology, geology and ecology. He was one of the first scientists to claim that termites and plants could be the indicators of the presence of underground water. He gave a list of six animals and thirty plants, which could indicate the presence of water.
● He gave very important information regarding termites (Deemak or insects that destroy wood), that they go very deep to the surface of water level to bring water to keep their houses (bambis) wet.
● Another theory given by him is the **earthquake cloud theory in his book Brhat Samhita**. The thirty second chapter of this samhita is devoted to signs of earthquakes. He has tried to relate earthquakes to the influence of planets, undersea activities, underground water, unusual cloud formation and abnormal behaviour of animals.
● Another field where Varahamihira’s contribution is worth mentioning is **Jyotish or Astrology**. Astrology was given a very high place in ancient India and it has continued even today. **Jyotish, which means science of light, originated with the Vedas.** It was presented scientifically in a systematic form by Aryabhotta and Varahamihira. The Aryabhotta devoted two out of the four sections of his work Aryabhattiyam to astronomy, which is the basis for Astrology.
● **Astrology is the science of predicting the future.** Varahamihira was one of the nine gems, who were scholars, in the court of Vikramaditya.
● Varahamihira’s predictions were so accurate that king Vikramaditya gave him the title of ‘Varaha’.

**Nagarjuna**

● Nagarjuna was a tenth century scientist. The main aim of his experiments was to **transform base elements into gold**, like the alchemists in the western world. Even though he was not successful in his goal, he succeeded in making an element with gold-like shine. Till date, this technology is used in making imitation jewelry. In his treatise, Rasaratnakara, he has discussed methods for the extraction of metals like gold, silver, tin and copper.

Que-80

Which of the following pairs are correctly matched?

1. Article 302– Power of Parliament to impose restrictions on trade within any part of the territory of India
2. Article 304 (b)– Bill containing reasonable restrictions on the freedom of trade requires no previous sanction of the President

Select the correct answer using the codes given below:
a) Only 1  
b) Only 2  
c) Both 1 and 2  
d) Neither 1 nor 2  

Answer: A  

Solution: 

Correct statement 

- Any Bill containing reasonable restrictions on the freedom of trade requires previous sanction of the President.

Enrich Your Learning: 

Restrictions on trade and commerce as per the Indian Constitution 

Article 302 

Power of Parliament to impose restrictions on trade, commerce and intercourse. 

Parliament may by law impose such restrictions on the freedom of trade, commerce or intercourse between one State and another or within any part of the territory of India as may be required in the public interest. 

Article 304 (b) 

Parliament can impose reasonable restrictions on the freedom of trade, commerce or intercourse with or within that State as may be required in the public interest. 

The Article provides that no Bill or amendment for the purposes of clause shall be introduced or moved in the Legislature of a State without the previous sanction of the President. 

Also, the *legislature of a state can impose* on goods imported from other states or the union territories any tax to which similar goods manufactured in that state are subject.
Ordinary Bill can be amended or rejected by the Rajya Sabha while Money Bill cannot be amended or rejected by the Rajya Sabha. The Rajya Sabha should return the bill with or without recommendations, which may be accepted or rejected by the Lok Sabha.

Ordinary Bill can be detained by the Rajya Sabha for a maximum period of six months whereas Money Bill can be detained by the Rajya Sabha for a maximum period of 14 days only.

Ordinary Bill does not require the certification of the Speaker when transmitted to the Rajya Sabha while Money Bill requires the certification of the Speaker when transmitted to the Rajya Sabha.

Ordinary Bill is sent for the President’s assent only after being approved by both the Houses. Money Bill is sent for the President’s assent even if it is approved by only Lok Sabha. There is no provision of joint sitting of both the Houses in this regard.

Defeat of Ordinary Bill in the Lok Sabha may lead to the resignation of the government (if introduced by a minister) while Money Bill defeat in the Lok Sabha leads to the resignation of the government.

Ordinary Bill can be rejected, approved, or returned for reconsideration by the President while Money Bill can be rejected or approved but cannot be returned for reconsideration by the President.

Answer: B

Solution: The national sword policy in China has banned the importation of certain types of solid waste, as well as set strict contamination limits on recyclable materials.

Enrich Your Learning:

China’s National Sword policy:

- The national sword or green sword is a policy in China that has **banned the importation of certain types of solid waste**, as well as set strict contamination limits on recyclable materials.
- This means that China will not accept **shipments that are mixed with trash**, the wrong type of recyclable, or low-quality recyclables like greasy paper goods.
- The policy was **announced in July 2017**, and the ban officially began January 1, 2018.
- In addition to the bans, China is **reducing the number of import licenses**, meaning that fewer businesses will be able to import waste.

Why does it matter?

- China has been the **world’s biggest importer of waste for decades**.
- China has imported paper, plastic, and scrap metal from other nations and processed these **materials for reuse in the products they produce for export**.
- However, the implementation of National Sword has reduced the **rate at which these materials are imported**.
- This has created **significant logjams in the international recycling system**, resulting in recycled material piling up at **materials recycling facilities (MRFs)** or into landfills.
- This is effecting **recycling efforts** in the world.

Que-82

What is the China’s National Sword policy?

a) Policy to ban seafood imports from India.

b) Policy to ban importation of certain types of solid waste.

c) Policy to put restrictions on free press in Hong Kong.

d) None of the above
• This process significantly threatens jobs in the recycling industry, causes recyclable materials to pile up, and depresses the price for recycled materials due to excess supply.

Que-83

Development Support Services for States (DSSS) for Infrastructure Projects is an initiative of:

a) NITI Aayog
b) Reserve Bank of India
c) Ministry of Commerce
d) None of the above

Answer: A

Solution: NITI Aayog

Enrich Your Learning:

Development Support Services for States (DSSS) for Infrastructure Projects:

• NITI Aayog has implemented a structured initiative for Development Support Services for States (DSSS) for Infrastructure Projects.

Vision:

• To achieve transformational, sustained delivery of infrastructure projects with state of art capacity disseminated at all levels of governance.

Objective:

• To create PPP success stories and reboot infrastructure project delivery models to establish a sustainable infrastructure creation cycle.

Key Features:

• The DSSS Infrastructure initiative involves providing project level support from Concept plan till financial closure to State Governments / UTs.

• NITI Aayog has appointed M/s Ernst & Young LLP (EY LLP) as its consultant to formalize the initiative and to engage with states.

• It is to identify a project shortlist and providing transaction management for implementing selected infrastructure projects on ground.

• Phase I of the initiative was completed in FY 2018, wherein 10 projects were selected from out of over 400 projects received from States based on a multi-staged project selection framework based on certain selection criteria.

• Phase II of the initiative was completed during 2018-19 and the selected projects have progressed onto the transaction stage.

• Under DSSS Infrastructure, mandate for additional seven island projects have been given to EY LLP (Consultant) for Phase III milestones.

• As a part of Phase III of the project, NITI Aayog along with EY LLP assisted in preparation and launch of bids for appointment of technical consultants for preparation of Detailed Project Reports for two projects, namely Integrated Solid Waste Management of Roorkee cluster on PPP mode and integrated community based Micro Irrigation infrastructure at selected Command Coverage Area (CCA) clusters in Haryana.

Que-84

Which of the following Bills require a prior recommendation of the President before being introduced in the legislature?

1. A Bill contemplating the changes in accordance with the Article 3.

2. Financial bill under Article 117(I)
3. Bills affecting taxation in which states are interested

Which of the above statements is/are correct?

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

**Answer:** D

**Solution:**

Correct statement

- All the given Bills require a prior recommendation of the President before being introduced in the legislature.

**Enrich Your Learning:**

**Bills that require a prior recommendation of the President before being introduced in the legislature**

Some Bills require prior recommendation of president before introduction in parliament.

They are:

A Bill contemplating the changes in accordance with the Article 3, can be introduced in the Parliament only with the prior recommendation of the President.

That includes change or alter name, boundaries, area of a state or form a new state by separation of territory from any state under Article 3 of Indian constitution.

Article 110 states that Money bill and financial bill under Article 117(I) require prior recommendation of President before introduction in the Lok Sabha.

State bills which impose restriction upon freedom of trade under Article 304. It ensures unrestricted trade between states except on reasonable and non-discriminatory grounds.

Prior recommendation of president required to bills affecting taxation in which states are interested under Article 274.

Also, a Bill involving expenditure from the Consolidated Fund of India, requires prior recommendation of President.

Que-85

Consider the following statements regarding various Committees:

1. Committee on Absence of Members is a special committee of the Lok Sabha, there is no such committee in the Rajya Sabha.
2. The chairman of the Committee on Public Undertakings is always appointed from the Lok Sabha only.
3. Estimates Committee consists of members from the Rajya Sabha only.

Which of the above statements is/are correct?

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

**Answer:** A

**Solution:**

Correct statement

- Estimates Committee consists of members from the Lok Sabha only.

**Enrich Your Learning:**

**Committee on Absence of Members**

It is a special committee of the Lok Sabha consisting 15 members.

This committee considers all applications from members for leave of absence from the sittings of the House.
It also examines members who have been absent for a period of 60 days or more without permission.

There is no such committee in the Rajya Sabha and all such matters are dealt by the House itself.

Committee on Public Undertakings
This committee was created in 1964 on the recommendation of the Krishna Menon Committee.

Originally, it had 15 members (10 from the Lok Sabha and 5 from the Rajya Sabha). In 1974, its membership was raised to 22 (15 from the Lok Sabha and 7 from the Rajya Sabha).

The members of this committee are **elected by the Parliament every year** from amongst its own members according to the principle of proportional representation by means of a single transferable vote.

Term of office of the members is **one year**. A minister cannot be elected as a member of the committee.

The **chairman** of the committee is **appointed by the Speaker** from amongst its members and he is invariably from the ruling party.

The committee is tasked to examine the estimates included in the budget and suggest ‘economies’ in public expenditure. Hence, it has been described as a ‘**continuous economy committee**’.

Que-86
Consider the following statements regarding Elections of the Rajya Sabha:

1. Only elected members of the State Legislative Assemblies can vote in a Rajya Sabha election.
2. Not voting for the party candidate will attract disqualification under the anti-defection law.
3. A member can vote in a Rajya Sabha election even before taking oath as legislator.

Which of the above statements is/are correct?

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

**Answer: C**

**Solution:**

Correct statement

- Not voting for the party candidate will not attract disqualification under the anti-defection law.

Enrich Your Learning:

Elections of the Rajya Sabha
Polling for a Rajya Sabha election will be held only if the number of candidates exceeds the number of vacancies.

Since the strength of each party in the Assembly is known, it is not difficult to estimate the number of seats a party would win in the Rajya Sabha poll.

In many States, parties avoid a contest by fielding candidates only in respect to their strength. Where an extra candidate enters the fray, voting becomes necessary.

Only elected members of the State Legislative Assemblies can vote in a Rajya Sabha election.

The legislators send a batch of new members to the Upper House every two years for a six-year term.

A third of Members of Parliament in the Rajya Sabha, from each State retire once in two years and polls are held to fill up the vacancies.

Voting is by single transferable vote, as the election is held on the principle of proportional representation.

This is to avoid the principle of majority, which would mean that only candidates put up by ruling parties in the respective States will be elected. The Delhi and Puducherry Assemblies elect members to the Rajya Sabha to represent the two Union Territories.

A single transferable vote means electors can vote for any number of candidates in order of their preference. A candidate requires a specified number of first preference votes to win. Each first choice vote has a value of 100 in the first round.

To qualify, a candidate needs one point more than the quotient obtained by dividing the total value of the number of seats for which elections are taking place plus one.

Not voting for the party candidate will not attract disqualification under the anti-defection law. As voters, MLAs retain their freedom to vote for a candidate of their choice.

While taking oath as a member is for anyone to function as a legislator, a member can vote in a Rajya Sabha election even before taking oath as legislator.

Que-87

Consider the following statements about National Centre for Good Governance (NCGG) and Sevottam model:

1. NCGG and Sevottam model work under the aegis of Ministry of Personnel.
2. NCGG traces its origin to the National Institute of Administrative Research (NIAR).

Which of the above statements is/are correct?

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

Answer: C

Solution:

Correct statement

- Both the given statements are correct.

Enrich Your Learning:

National Centre for Good Governance (NCGG)

National Centre for Good Governance is an autonomous institute under the aegis of Department of Administrative Reforms and Public Grievances, Government of India.

The NCGG has been set up to assist in bringing about governance reforms through studies, training, knowledge sharing and promotion of good ideas.

It seeks to carry out policy relevant research and prepare case studies; curate training courses for civil servants from India and other developing countries.
Provide a platform for sharing of existing knowledge and pro-actively seek out and develop ideas for their implementation in the government, both at the National & International Level.

**Background**

NCGG traces its origin to the National Institute of Administrative Research (NIAR) which was set up in 1995 by the Lal Bahadur Shastri National Academy of Administration (LBSNAA)—Government of India’s apex training Institution for higher civil services.

NIAR was subsequently rechristened with an expanded mandate, as National Centre for Good Governance, which was inaugurated on February 24th, 2014.

**Objectives**

To be a think tank for governance & policy reforms, cutting across administrative, social, economic and financial spheres.

To function as a national repository on information on best practices, initiatives and methodologies that promote Good Governance, e-Governance, innovation & change management within the government.

To initiate and participate in action research and capacity building on various aspects of regulatory and development administration, public policy, governance and public management at National/State & local levels.

To advise on key issues in governance and develop synergy across various Ministries/Departments of GoI, and State Governments.

To promote sharing and replication of innovative ideas and best practices in Governance.

To interact with national and international organizations, in and outside government, engaged in research and capacity building in the above spheres.

To engage in provision of consultancy services in and outside the country.

**Sevottam model**

An assessment - improvement model that has been developed with the objective of improving the quality of public service delivery in the country.

The model was conceived by the Department of Administrative Reforms & Public Grievances (DARPG), Ministry of Personnel, Public Grievances and Pensions in 2006.

The word "Sevottam" is a combination of two Hindi words: Seva (Service) and Uttam (Excellent) means “Service Excellence”, emphasizing the idea of “Service”.

It symbolizes the change in mind-set within the Government, from administration and control to service and enablement.

**Key components of Sevottam**

**Successful implementation of Citizen’s Charters:** It requires opening up a channel for receiving citizens’ inputs into the way in which organizations determine service delivery requirements.

**Service Delivery Preparedness and achievement of Results:** Identification of services rendered, the service delivery process, its control and delivery requirements.

**Sound Public Grievance Redress Mechanism:** This requires a good grievance redress system operating in a manner that leaves the citizen more satisfied with how the organization responds to complaints/grievances, irrespective of the final decision.

**Seven Steps Model for implementation of Sevottam**

1. Define your services and identify your clients
2. Set standards and norms for each service
3. Develop capability to meet the set standards
4. Perform to achieve the standards
5. Monitor performance against the set standards
6. Evaluate impact through an independent mechanism
7. Continuous improvement based on monitoring and evaluation

Sevottam assessment process

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| Que-88

Consider the following statements regarding Special Economic Zones Act 2005:

1. The SEZ Rules provide for different minimum land requirement for different class of SEZs.
2. SEZs, developed as export hubs are treated as foreign territory in terms of customs laws.
3. Sourcing of goods from units located in SEZs in India would not be qualified for the purpose of 30 percent mandatory sourcing from India for proposals involving FDI.

Which of the above statements is/are correct?

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

Answer: A

Solution:

Correct statement

- Sourcing of goods from units located in SEZs in India would qualify as sourcing from India for the purpose of 30 percent mandatory sourcing from India for proposals involving FDI.

Enrich Your Learning:

Special Economic Zones Act 2005

The SEZ Act, 2005, supported by SEZ Rules, came into effect on 10th February, 2006.

It provides for drastic simplification of procedures and for single window clearance on matters relating to central as well as state governments.

It is expected that this will trigger a large flow of foreign and domestic investment in SEZs, in infrastructure and productive capacity, leading to generation of additional economic activity and creation of employment opportunities.

The SEZ Act 2005 envisages key role for the State Governments in Export Promotion and creation of related infrastructure.

A Single Window SEZ approval mechanism has been provided through a 19 member inter-ministerial SEZ Board of Approval (BoA).

The applications duly recommended by the respective State Governments/UT Administration are considered by this BoA periodically. All decisions of the Board of approvals are with consensus.

The SEZ Rules provide for different minimum land requirement for different class of SEZs.

Every SEZ is divided into a processing area where alone the SEZ units would come up and the non-processing area where the supporting infrastructure is to be created.

Objectives of the SEZ Act

Generation of additional economic activity
Promotion of exports of goods and services
Promotion of investment from domestic and foreign sources
Creation of employment opportunities
Development of infrastructure facilities

**Government Clarification on SEZ Act**

Sourcing of goods from units located in SEZs in India would qualify as sourcing from India for the purpose of 30 percent mandatory sourcing from India for proposals involving FDI beyond 51 percent, subject to SEZ Act, 2005.

SEZs, developed as export hubs, are treated as foreign territory in terms of customs laws. Procurement of goods and services from units in these zones are treated as imports.

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Que-89

Consider the following statements regarding salient features of the Special Economic Zones in India:

1. Duty free enclave to be treated as a territory outside the customs territory of India.
2. Domestic sales subject to full customs duty.
3. Licence required for import and export.

Which of the above statements is/are correct?

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

**Answer: A**

**Solution:**

Correct statement

- No licence required for import

**Enrich Your Learning:**

**Special Economic Zones in India**

Special Economic Zone (SEZ) is a specifically delineated duty-free enclave and shall be deemed to be foreign territory for the purposes of trade operations and duties and tariffs.

The Special Economic Zone (SEZ) policy in India first came into inception on April 1, 2000.

**Objective**

To enhance foreign investment and provide an internationally competitive and hassle free environment for exports.

The idea was to promote exports from the country and realising the need that level playing field must be made available to the domestic enterprises and manufacturers to be competitive globally.

**Salient features of the SEZ scheme**

A designated duty free enclave to be treated as a territory outside the customs territory of India for the purpose of authorised operations in the SEZ

No licence required for import

Manufacturing or service activities allowed

The Units are only required to achieve Positive Net Foreign Exchange to be calculated cumulatively for a period of five years from the commencement of production

Domestic sales subject to full customs duty and import policy in force

Full freedom for subcontracting

No routine examination by customs authorities of export/import cargo

SEZ Developers /Co-Developers and Units enjoy Direct Tax and Indirect Tax benefits as prescribed in the SEZs Act, 2005

**Major incentives and facilities available to SEZ developers**

Exemption from customs/excise duties for development of SEZs for authorized operations approved by the BOA.

Income Tax exemption on income derived from the business of development of the SEZ in a block of 10 years in 15 years under Section 80-IAB of the Income Tax Act.
Exemption from Central Sales Tax (CST).
Exemption from Service Tax (Section 7, 26 and Second Schedule of the SEZ Act).
Supplies to SEZ are zero rated under IGST Act, 2017.

Incentives and facilities offered to the units in SEZs
Duty free import/domestic procurement of goods for development, operation and maintenance of SEZ units.

100% Income Tax exemption on export income for SEZ units under Section 10AA of the Income Tax Act for first 5 years, 50% for next 5 years thereafter and 50% of the ploughed back export profit for next 5 years.

Exemption from Central Sales Tax, Exemption from Service Tax and Exemption from State sales tax. These have now subsumed into GST and supplies to SEZs are zero rated under IGST Act, 2017.

Other levies as imposed by the respective State Governments.

Single window clearance for Central and State level approvals.

Supplies to SEZ are zero rated under IGST Act, 2017.

Que-90
Consider the following statements about Basic Exchange and Cooperation Agreement (BECA):
1. It is the agreements for defense cooperation between the Russia and India.
2. It enables exchange of geo-spatial information between the two countries.
Which of the above statements is/are correct?

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

Answer: A

Solution:
Correct statement

- Basic Exchange and Cooperation Agreement (BECA) is the agreements for defense cooperation between the US and India.

Enrich Your Learning:
Basic Exchange and Cooperation Agreement (BECA)
BECA is the last of the fourth “foundational” agreements that underpin deepening defense cooperation between the US and India.

The first was a 2002 agreement to safeguard shared military information, followed by logistics and secure-communication pacts in 2016 and 2018, respectively.

It will enable exchange of geo-spatial information between the two countries, enhancing the operational efficiency of the U.S. platforms currently being operated by India.

BECA will allow the United States to share satellite and other sensor data with India in order to improve the Indian military’s targeting and navigation capabilities.

BECA would lead to sharing information relating to various kind of data, whether it is imagery, hydrological, topographical or other kinds of data.

India has already signed the Logistics Exchange Memorandum of Agreement (LEMOA) and the Communications Compatibility and Security Agreement (COMCASA). BECA is the third of the agreements.

A country needs to sign these three pacts to obtain cutting-edge weapons and communications systems from the United States.
Que-91

With reference to the ‘Coral Bleaching’, which of the following statements is/are correct?

1. It takes place when the sea surface temperature increases beyond a tolerable limit for corals.
2. Zooxanthellae are being expelled from the corals.
3. The coral can never recover after the severe bleaching.

Choose the correct answer using the codes given below:

a) 1 and 3 only
b) 2 and 3 only
c) 1 and 2 only
d) All of the above

Answer: C

Solution:

- The corals can recover if the water temperature drops and the algae are able to recolonise them.

Enrich Your Learning:

Coral bleaching

- When corals are stressed by changes in conditions such as temperature, light, or nutrients, they expel the symbiotic algae living in their tissues, causing them to turn completely white. This phenomenon is known as Coral Bleaching.

How it occurs?

- When the sea surface temperature increases beyond a tolerable limit, coral undergo a process of bleaching that cause corals to expel tiny photosynthetic algae (zooxanthellae), which in turn drain them of their colour.
- Zooxanthellae lives in the tissues of the coral in a symbiotic relationship.
- About 90% of the energy of the coral is provided by the zooxanthellae which are endowed with chlorophyll and other pigments.
- Algae are vital for them because the coral uses the organic products of photosynthesis to help it grow.
- The loss of algae makes the host vulnerable to disease that will eventually make them die.
- Pattern of bleaching in corals was different at different layers within the sea.
- However, coral can recover if the water temperature drops and the algae are able to recolonise them.

Coral reefs:

- Coral reefs are large underwater structures composed of the skeletons of colonial marine invertebrates called coral.
- They are important hotspots of biodiversity in the ocean and animals in the class Anthozoa of phylum Cnidaria.
- They include the important reef builders that inhabit tropical oceans.
- They secrete calcium carbonate to form a hard skeleton.

Que-92
Which of the following type of ‘Mahseer Fish’ was recently found in the caves of Meghalaya?

a) Hump-backed Mahseer  
b) Blind Mahseer  
c) Chocolate Mahseer  
d) Deccan Mahseer  

Answer: B

Solution:
- The Prime Minister Narendra Modi detailed the discovery of a remarkable fish, known as ‘Blind Mahseer’ in Man ki baat.
- It was found in caves of Meghalaya.
- Due to its subterranean habitat, it is in the evolutionary process of losing its eyes.

Enrich Your Learning:

Mahseer Fish

- The Mahseer belongs to the genus Tor, of which there are several subspecies to be found in India and in other range countries in South Asia.
- The species is migratory; moving upstream during rains.
- It prefers clean, fast flowing and well oxygenated waters and has a much lower fecundity rate (lays less eggs per kg of body weight) than most carps.
- During the recent broadcast of Mann Ki Baat by Prime Minister Narendra Modi, he detailed the discovery of a remarkable fish, known as ‘Blind Mahseer’.
- The blind mahseer is one of several Indian species and, currently, the world’s largest subterranean fish.
- International Union for Conservation of Nature (IUCN) listed Golden Mahseer as— ‘endangered’.
- The largest mahseer of all is the hump-backed mahseer (Tor remadevii) of the Cauvery river. It is listed as ‘critically endangered’.
- The hump-backed mahseer is also known as the "Tiger of the Cauvery river".

The other types of Mahseer are:
- "Blue Fin / Deccan Mahseer" found in Mota Mola river east of Pune. This species is also found in other rivers of the Deccan Plateau
- "Red Finned Mahseer" found in the rivers of central India.
- "Chocolate Mahseer" found in the Indian Himalayan region.

Que-93

Which of the following organizations jointly launch the ‘World Adaptation Science Programme’?

1. World Meteorological Organization  
2. United Nation Environment Programme  
3. UN Framework Convention on Climate Change  
4. Green Climate Fund  

Choose the correct answer using the codes given below:

a) 1, 2 and 3 only  
b) 2 and 3 only  
c) 2, 3 and 4 only  
d) All of the above  

Answer: D

Solution:

All of the mentioned organizations launched the ‘World Adaptation Science Programme’.

Enrich Your Learning:

World Adaptation Science Programme
• The World Adaptation Science Programme was officially launched at COP24 at an event sponsored by UN Environment, World Meteorological Organization (WMO), the UN Framework Convention on Climate Change secretariat, Intergovernmental Panel on Climate Change and Green Climate Fund.

• The programme is envisaged as an interface between the research community and decision makers and other stakeholders and will seek to improve policy-relevant research on vulnerability, impacts and adaptation and link this science to policy.

• It replaces the Programme of Research on Climate Change Vulnerability, Impacts and Adaptation (PROVIA).

• The overall aim of the World Adaptation Science Programme is to promote science for climate change adaptation policy through:
  o Providing scientific data and knowledge on climate change vulnerabilities and impacts in conjunction with the consequences and risks of response actions versus inaction;
  o Facilitating knowledge transfer and sharing, and
  o Better linking the science to the policy, finance and actions.

• Its mission is to ensure end users have the knowledge and capacity to underpin effective adaptation. Its work focuses primarily on the provision of climate science and policy services to support UNFCCC, IPCC and GCF.

• PROVIA was one of the four components that formed the World Climate Programme (WCP) based on the World Meteorological Organization (WMO) Congress XVI Resolution18.

• The main functions of this programme include:
  1. Developing and providing evidence-based guidance for adaptation planning, implementation and evaluation,
  2. Identifying and addressing knowledge gaps through the promotion of research,
  3. Strengthening networks within and across the science, policy and practice communities to support knowledge sharing, research into use, and learning by doing, and
  4. Promoting capacity strengthening in adaptation among the research, policy and practitioner communities.

• Its secretariat is hosted by the UN Environment in Nairobi.

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Que-94

Consider the following statements with reference to Long-term repo operations (LTRO):

1. LTRO is introduced to inject liquidity in the system.
2. RBI provides short term loans to banks at the prevailing repo rate.
3. Bank will provide long term loans to public at prevailing repo rate.

Which of the above statements is/are correct?

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

Answer: C

Solution:
Correct statement

- Under LTRO, RBI provides longer term (one-to-three-year) loans to banks at the prevailing repo rate.

Enrich Your Learning:

Long-term repo operations (LTRO)

Instead of cutting the policy rates, the Reserve Bank of India (RBI) introduced a tool called long-term repo operation (LTRO) to inject liquidity in the system, as well as to ensure transmission of rates.

Under LTRO, RBI provides longer term (one-to-three-year) loans to banks at the prevailing repo rate.

As banks get long-term funds at lower rates, their cost of funds falls. In turn, they reduce interest rates for borrowers.

LTRO helped RBI ensure that banks reduce their marginal cost of funds-based lending rate, without reducing policy rates.

Objective

To assure banks about the availability of durable liquidity at reasonable cost relative to prevailing market conditions

To further encourage banks to undertake maturity transformation smoothly and seamlessly so as to augment credit flows to productive sectors

How will it work?

It is a measure that market participants expect will bring down short-term rates and also boost investment in corporate bonds.

These new measures coupled with RBI’s earlier introduced ‘Operation Twist’ are an attempt by the central bank to manage bond yields and push transmission of earlier rate cuts.

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Que-95

Consider the following statements with reference to Accredited Social Health Activist (ASHA):

1. ASHA must be primarily a woman resident of the village.
2. ASHA is a community health worker instituted under the Pradhan Mantri Jan Arogya Yojana.

Which of the above statements is/are correct?

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

Answer: A

Solution:

ASHA is a community health worker instituted under the National Rural Health Mission

Enrich Your Learning:

Accredited Social Health Activist:

- Under the National Health Mission, ASHA are envisaged to be community health volunteers.
- ASHA will be the first port of call for any health related demands of deprived sections of the population, especially women and children, who find it difficult to access health services.
- The general norm: ‘One ASHA per 1000 population’.
- ASHA must be primarily a woman resident of the village - ‘Married/Widow/Divorced’ and preferably in the age group of 25 to 45 yrs.
- She should be a literate woman with due preference in selection to those who are qualified up to 10 standard.

The details task assigned to ASHA workers under National Health Mission:
• To create awareness and provide information to the community on determinants of health such as nutrition, basic sanitation and hygienic practices, healthy living and working conditions, information on existing health services and the need for timely use of health services.
• To counsel women and families on birth preparedness, importance of safe delivery, breastfeeding and complementary feeding, immunization, contraception and prevention of common infections including Reproductive Tract Infection/Sexually Transmitted Infection (RTIs/STIs) and care of the young child.
• To mobilize the community and facilitate people’s access to health and health related services available at the village/sub-centre/primary health centres.
• To work with the Village Health, Sanitation and Nutrition Committee to develop a comprehensive village health plan, and promote convergent action by the committee on social determinants of health.
• To arrange escort/accompany pregnant women & children requiring treatment/ admission to the nearest pre-identified health facility.
• To provide community level curative care for minor ailments such as diarrhoea, fevers, care for the normal and sick newborn, childhood illnesses and first aid. She will be a provider of Directly Observed Treatment Short-course (DOTS) under Revised National Tuberculosis Control Programme.
• To act as a care provider can be enhanced based on state needs. States can explore the possibility of graded training to the ASHA to provide palliative care, screening for non-communicable diseases, childhood disability, mental health, geriatric care and others.
• To provide information on about the births and deaths in her village and any unusual health problems/disease outbreaks in the community to the Sub-Centres/Primary Health Centre. She will promote construction of household toilets under Total Sanitation Campaign.

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Que-96
Palash flower is the State Flower of which of the following Indian state?

a) Guajarat  
b) West Bengal  
c) Jharkhand  
d) Karnataka

Answer: C
Solution:
Enrich Your Learning:
Jharkhand unveils new logo:

• The government in Jharkhand unveiled the new State logo on the eve of 74th Independence Day.
• The State logo is circular in size with the Emblem of India placed at the centre.
• The National Emblem is enclosed in concentric circles depicting Jharkhand’s culture and its abundant natural resources.
• While the Ashoka pillar at the centre is the state emblem of the country, it also represents Jharkhand’s sovereignty.
• The logo accommodates ‘Palash flower’ which is the State flower of Jharkhand. Its bright red colour represents Jharkhand’s beauty and the struggle of people.
The presence of green colour symbolises Jharkhand’s huge green and mineral resources.

Que-97
Consider the following statements with reference to Cobots- Collaborative robots:

1. Cobots are designed to share a workspace with humans.
2. Cobots- Collaborative robots that are very costly.
3. Cobots can be used for machine tending, assembly, packaging, and painting.

Which of the above statements is/are correct?

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

Answer: C
Solution:
Cobots are Collaborative robots that are cost-effective, safe, and flexible to deploy.

Enrich Your Learning:
What is a Cobot?

- Small, collaborative robots, or cobots is intended to work hand-in-hand with humans in a shared workspace.

- This is in contrast with full-fledged robots that are designed to operate autonomously or with limited guidance.
- They support and relieve the human operator of his excess work.

Benefits of Cobots:
- Cobots are easy to use, flexible and safe.
- Unlike industrial robots, cobots don’t need fencing for the protection of workers in the shop floor.
- With the deployment of cobots, almost 80% of downtime gets eliminated, as per estimates. In other words, productivity gains are significant.

Uses:
- Cobots can have many uses, from information robots in public spaces, logistics robots that transport materials within a building.
- The automotive sector is a large adopter of cobots. The global electronics industry is also an adopter.

Cobots in India:
- The first cobot arrived in India in 2011 when Bajaj Auto decided to deploy one at its shop floor.
- The adoption of cobots has been low in India compared with China and the developed world.

International Federation of Robotics defines four types of collaborative manufacturing applications:

- Co-existence: Human and robot work alongside each other, but with no shared workspace.
- Sequential Collaboration: Human and robot share all or part of a workspace but do not work on a part or machine at the same time.
Co-operation: Robot and human work on the same part or machine at the same time, and both are in motion.

Responsive Collaboration: The robot responds in real-time to the worker’s motion.

Que-98
Consider the following statements:

1. India is the largest milk producer in the world.
2. India is the largest producer of pulses globally

Which of the above statements is/are correct?

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

Answer: C

Solution: Both the above statements are correct.

Enrich Your Learning:

Key facts:

- India stands first in the production of bananas, papaya, and mangoes
- India has the world’s largest population of buffalos.
- Among vegetables, India ranks second in the world
- In 2019, top commodities to be exported were basmati rice, buffalo meat and non-basmati rice.
- Indian agricultural/horticultural and processed foods are exported to more than 100 countries/regions, chief among them being the Middle East, Southeast Asia, SAARC countries, the EU and the US.

Que-99
Consider the following statements regarding wild animals found in Ladakh region:

1. Blue Sheep (Bharal) is famous for the finest wool called Shahtoosh.
2. Snow Leopard is listed as ‘Least Concerned’ in the International Union for Conservation of Nature (IUCN) Red List.
3. Tibetan Wolf is listed under Appendix I in CITES and under Schedule I in Indian Wildlife (Protection) Act, 1972.

Choose the correct answer using the codes given below:

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

Answer: C

Solution:

- Tibetan Antelope is famous for the finest wool called Shahtoosh.
- Snow Leopard is listed as ‘Endangered’ in the International Union for Conservation of Nature (IUCN) Red List.

Enrich Your Learning:

Wild animals of Ladakh

Asiatic Ibex
• The Ibex similar to the wild Goat.
• It has a long ridged horns curved.
• The animal lives in herds. Females males lives in separate groups but they come together in breeding season.
• They prefer high altitude pastures in the rocky slopes, and step open hill sides.
• They don’t migrate to lower heights in winter.
• They normally rest during the whole day and graze in the morning and evening.
• Asiatic Ibex is distributed throughout the mountains of Central Asia in Himalaya, Kashmir, Ladakh and Kumaon in Uttarakhand.
• In Ladakh it’s a common resident throughout the central and southern part at an elevation of 3500 to 5200m.
• The place to spot Asiatic Ibex are Kanji near Lamayuru, Changla, and Nubra Shayok valleys.

Blue sheep - Bharal

• Bharal is placed between sheep and goats as it’s not a true sheep.
• The coat is of grayish blue color which becomes red brown in summer.
• In Summer most of the time it stays between snow line and the tree line (4700m to 5000m) they like high altitude pastures rocky slopes.
• However, they descend down to 3800m in winter.
• Best areas to spot this animal in Ladakh are Hemis National Park, Chumathang Mahe region, Rupshu, Changthang including Tsokar, Puga, Tsomoriri & Hanle.

Tibetan Antelope – Chiru

• Stzos is famous for the finest wool called Shahtoosh (means the king of wools).
• Chiru is a shy and wary animal inhabiting high altitude prairies and steppes.
• The snout is swollen the body is covered with dense wool which is shed during summer.
• The high altitude adaptation is manifested in the form of inflated snout.
• The animal feeds on herbs and grasses.
• They dig out shallow depressions with their hooves and rest in these depressions mid day.
• The Tibetan Antelope lives at a height of 3660-5500 m, inhabiting the world’s most climatically hostile region.
• The Chiru in India is distributed in northern and north eastern Ladakh.
• Daulat Beig Oldi (DBO) in the Karakoram range and Changchenmo valley in Leh are the typical areas of encounter within Indian limits.
• Chiru is one of the most threatened animals endemic to Central Asia. The Chiru is placed under the List of endangered animals.

Tibetan Wild Ass

• Tibetan Wild Ass was earlier regarded by some as a race of the Asiatic Wild Ass (Khur).
• Now it is recognized as a separate species. Found in Indian Trans-Himalaya
• The longish tail ends in long black hair tuft.
• The hooves are large as in horses. I
• It is reddish-brown on the back and white on the belly.
• The Kiang occupies high biotopes in Trans-Himalayan cold desert often near marshes or wetlands between 4000 and 5200 m.
• A common resident throughout eastern and northern Ladakh.
Increasing developmental activities has pushed this animal to a few remote valleys.
They are considered as competitor to the livestock of locals.
This has brought this animal in direct conflict with nomadic herders.
It is listed under Appendix II of CITES, under Schedule I of the Jammu & Kashmir Wildlife (Protection) Act, 1978 and as Vulnerable under IUCN Red List of Threatened Animals.

**Snow Leopard**

- Smaller in size than a common leopard.
- Its fur is very luxuriant, soft and pearl grey.
- It is the king of snow-capped mountains and is adapted to survive in some of the harshest and most difficult environmental conditions
- The Snow Leopard is nocturnal and very elusive.
- They inhabit the most inaccessible terrain of rugged mountains, preferably steep terrain broken by cliffs, ridges and gullies.
- Due to its ability to disappear in front of the eyes of the observer it is also called 'grey ghost' by locals.
- Due to well-developed hind limbs and chest muscles it can jump up to 6 meters.
- The two most common preys are Blue Sheep and Asiatic Ibex.
- In India, it is found throughout the alpine zone of the main Himalayan range.
- It is reported from Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh.
- It is encountered throughout Ladakh, mostly in the south and central regions between 3000 and 5000 m.

In Ladakh it can be best sighted within Hemis National Park and Zanskar valley.
It is listed as Endangered in the IUCN Red List of Threatened Animals, under Appendix I in CITES and under Schedule I in the Jammu & Kashmir Wildlife (Protection) Act, 1978.

**Lynx, Himalayan Lynx**

- It is considered as one of the rare cat species in Ladakh.
- Lynx inhabits areas at an altitude of 4250 and 4575 m in the Himalaya and descends up to 1525 m in winter.
- It is also recorded from Tibet, Gilgit, Himachal Pradesh and Ladakh.
- In Ladakh it is reported from Hunder and Panamik area. It has also been observed near Gya-Miru area of Leh. The Lynx population has declined due to habitat loss and hunting.
- In western and Central Europe it has become extinct.

**Pallas’s Cat**

- The Pallas’s Cat resembles a small domestic cat in size.
- It has a broad head, low forehead, low-set widely parted ears and long thick tail with black tip.
- The cat feeds on small mammals like pika and rodents. It also feeds occasionally on birds.
- Its habitat is mainly located in the vicinity of pika habitat in arid flat grasslands.
- It prefers jagged and rocky terrain at high altitude.
- Pallas’s Cat is found only in eastern Ladakh at an elevation between 3000 to 4800 m.
The Pallas’s Cat is represented by three races and is distributed throughout Tibet, France, and Pakistan. This cat was hunted extensively for its fur.

This cat has been placed under Schedule I of the Indian Wildlife (Protection) Act, 1972 and Appendix II of CITES.

The Pallas’s Cat in Ladakh is best seen in Rupshu/Changthang area.

The subspecies found in Ladakh is Otocolobus manul nigripectus.

Apart from Ladakh and Sikkim, a recent record of manul has been found in the Nelong valley of Uttarakhand by a joint team of the Wildlife Institute of India and the National Mission for Sustaining the Himalayan Ecosystem in 2019.

The tall grass species like Poa tibitica (more than 30 centimetres in height) in the marshy meadow provided perfect hide outs to Pallas’s cat for hunting pikas and voles in the area.

The Pallas’s Cat Conservation Action Plan Meeting 2019 has recommended various guidelines and a road map for conservation.

**Himalayan Marmot**

- Two species of marmots are found in India, both the species of marmot viz., Himalayan and Long-tailed Marmot are present in Ladakh.
- The Himalayan Marmot is well adapted to burrow life. The animal lives in excavated burrows which are also used for hibernation.
- The head is triangular in shape with small neck, eyes have black rings.
- There are six pairs of mammae extending from the axial to the groin.
- The animal lives in colonies in the higher biotopes in lush meadows and open grassy stone-strewn slopes.
- A foul stinky substance is ejected from the anal gland on being threatened.
- The animal feeds on grasses, roots, leaves and seeds of various plants. They usually sit outside their burrows to bask in the sun.
- In Ladakh the Himalayan Marmot is a common resident living between 4000 to 5000 m.
- It is mainly found in central-south, eastern and northern Ladakh.
- Upper Markha valley in Hemis National Park, Changthang plains including Tsokar and Rupshu, Puga, Tsomoriri are the best locations for its sighting.
- Natural predators include Snow Leopard, wolf, fox, wild-dog, bear and Golden Eagle.
It is a threatened species and is killed for meat and fur.

Que-100

Which of the following union ministry has recently launched “Swadeshi Microprocessor Challenge” to realise the ambition of self-reliance?

a) Ministry of Science and Technology

b) Ministry of Micro, Small and Medium Enterprises

c) Ministry of Electronics and Information Technology

d) Ministry of Skill Development and Entrepreneurship

Answer: C

Solution & Enrich Your Learning:

Swadeshi Microprocessor Challenge- Innovate Solutions for #Aatmanirbhar Bharat:

- The Central government recently launched Swadeshi Microprocessor Challenge.

Aim:

- To realise the ambition of self-reliance and a momentous stride towards Atma Nirbhar Bharat.

Major Highlights:

- IIT Madras and Center for Development of Advanced Computing have developed two microprocessors named Shakti (32-bit) and Vega (64-bit) respectively.
- They are developed using Open Source Architecture under aegis of Microprocessor Development Programme of Ministry of Electronics and IT.
- Swadeshi Microprocessor Challenge seeks to invite innovators, startups and students to use these microprocessors to develop various technology products, a government statement said.
- The Challenge is part of the series of proactive, pre-emptive and graded measures to spur the technology-led innovation ecosystem and staying at the forefront of digital adoption.

Significance:

- The initiative has the potential to mitigate the issues of security, licensing, technology obsolescence and most crucially cutting dependency on imports.
- The design, development and fabrication of these state-of-the-art processor variants is the successful step towards Electronic System Design & Manufacturing in the country.
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