

10 PM Current Affairs Quiz Compilation

January, 2021 - (Fourth week)

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GEOGRAPHY/ENVIRONMENT

Q.1) Which of the following is/are potential **advantages of crop diversification**?

1. Reduced economic uncertainty for cultivators
2. Makes crops more resistant to pests/diseases.
3. Reduces the environmental degradation.

Select the correct answer using the code given below:

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

Correct answer: D

Explanation: Crop diversification refers to the addition of new crops or cropping systems to agricultural production on a particular farm.

-- As crop prices become less stable and growing conditions become more difficult, many farmers struggle to ensure their financial security. However, farmers can reduce economic uncertainty by cultivating more than one type of crop.

-- Single crop farming results in entire fields being susceptible to the same hazard, be it a pest or disease. Diversifying crops means that no one pest or disease can destroy a farm's entire harvest.

-- Planting a variety of crops makes the soil healthier, which in turn reduces the need to use excessive amounts of fertilizer. In addition, diversification ensures that crops are more resistant to disease and therefore require fewer pesticides.

Q.2) Which of the following location(s) is/are correctly matched?

1. Karanbel Tripuri - Madhya Pradesh
2. Sinauli - Rajasthan

Select the correct answer using the code given below:

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

Correct answer: A

Explanation: Option 1 is correctly matched. **Archaeological Survey of India (ASI)** under the Ministry of Culture recently inaugurated excavations Sites at **Karanbel Tripuri and Tewar in District Jabalpur of Madhya Pradesh**. Tripuri, an ancient city-state, and the capital of the later Kalachuris during the 8th–13th centuries.

Option 2 is incorrectly matched. **Sinauli** is an archaeological site located in Baghpat, **Uttar Pradesh** famous for its Bronze Age solid disk wheel "chariots", the first ones to be recovered in archaeological excavation in South Asia.

Q.3) Consider the following statements regarding the **Brown Fish-Owl**:

1. It is a native resident species of India.
2. It is protected under Schedule I of Wildlife Protection Act, 1972.

Which of the statements given above is/are correct?

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

Correct answer: A

Explanation: Statement 1 is correct. **Brown Fish-owl (*Ketupa zeylonensis*)** has a large range and is a native resident species in the South Asia and South East Asia.

Statement 2 is incorrect. This species has an extremely large range, and hence does not approach the thresholds for Vulnerable under the range size criterion under IUCN Red List, therefore it is listed as a **Least Concern** species. It is not listed in the Schedule I of Wildlife Protection Act, 1972.

Recently National Zoological Park (NZP), Delhi witnessed a death of Brown Fish Owl in its captivity, which has been found positive for H5N8 Avian Influenza.

Q.4) A mass awareness campaign '**SAKSHAM**' has been launched recently for what purpose?

- a) Promoting green and clean energy
- b) Promoting cleanliness and hygiene
- c) Supporting Divyang citizens through accessible infrastructure
- d) Promoting adult education in rural India

Correct answer: A

Explanation: With a view to create awareness among the consumers of fossil fuels, Petroleum Conservation Research Association (PCRA), Ministry of Petroleum and Natural Gas has launched a month-long campaign, highlighting the **adverse health and environmental impacts of increasing carbon footprints**.

The campaign will also spread awareness about 7 key drivers that include moving towards a gas-based economy, cleaner use of fossil fuels, greater reliance on domestic sources to drive bio-fuels, achieving renewable targets with the set deadlines, increased use of electric vehicles to decarbonize mobility, increased use of cleaner fuels like Hydrogen, and digital innovation across all energy systems.

Q.5) The **Harike Wetland** is in which of the following State/UT?

- a) Punjab
- b) Jammu & Kashmir
- c) Himachal Pradesh
- d) Rajasthan

Correct answer: A

Explanation: **Harike Wetland** is situated on the confluence of the river Beas and Sutlez at the Ferozepur and Amritsar border the sanctuary encompass an area of approximately 86 sq km. The area was declared as a Wildlife Sanctuary in 1999 and because of its importance as a wetland of international stature, it was declared a Ramsar site by the International Body of Wetlands under in 1990.

The wetland is a significant abode for the migratory birds as every winter, the birds make their way to India through the central Asian flyway which covers a large continental area of Europe-Asia between the Arctic and Indian Oceans.

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Q.6) The **Shahid Beheshti Port** is in which of the following country?

- a) Iran
- b) Djibouti
- c) Saudi Arabia
- d) Oman

Correct answer: A

Explanation: **Chabahar Port** is located in southeastern Iran, on the Gulf of Oman. It serves as Iran's only oceanic port and consists of two separate ports named **Shahid Kalantari and Shahid Beheshti**.

During the visit of the Prime Minister to Iran in May 2016, a Trilateral Agreement to establish International Transport and Transit Corridor was signed by India, Iran and Afghanistan. India is participating in the development of the first phase of the Shahid Beheshti Port in Chabahar in cooperation with the Government of the Islamic Republic of Iran.

India has recently supplied a consignment of two Mobile Harbour Cranes (MHC) to Iran's Chabahar port, with a total contract value of over USD 25 Million under a contract agreement for supply of 6 MHC.

Q.7) The **Nagi Dam and Nakti Dam Bird sanctuaries** are in which of the following State/UT?

- a) NCT of Delhi
- b) Bihar
- c) Madhya Pradesh
- d) Assam

Correct answer: B

Explanation: The Nagi Dam and Nakti Dam are two sanctuaries close to each other in the Jamui district of south **Bihar**. These sanctuaries are a home to wide variety of indigenous species and migratory birds that turn up during the winters from places like Eurasia, Central Asia, the Arctic Circle, Russia and Northern China.

About 1,600 Bar-headed Goose (*Anser indicus*) have been recorded from this site. According to Wetlands International (2002), 1% threshold of this species is 560; accordingly, about 3% of the population is found at this important bird area site. This site could also attract more than 20,000 birds, if fishing and other disturbances are curtailed during winter when most of the migrants are found in India.

'Kalrav', Bihar's 1st state-level festival started at the Nagi-Nakti bird sanctuaries in the Jamui district, Bihar.

Q.8) The **Ratle Hydro Electric (HE) Project** is on which of the following River?

- a) Chenab
- b) Jhelum
- c) Ravi
- d) Sutlej

Correct answer: A

Explanation: The Union Cabinet, chaired by the Prime Minister, has given its approval for the investment of Rs.5281.94 crore for **850 MW Ratle Hydro Electric (HE) Project located on river Chenab, in Kishtwar** district of Union Territory of Jammu and Kashmir, by a new Joint

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Venture Company (JVC) to be incorporated between National Hydroelectric Power Corporation (NHPC) and Jammu & Kashmir State Power Development Corporation Ltd (JKSPDC).

Q.9) Consider the following statements regarding the **Western Disturbances**:

1. They originate in the Mediterranean region.
2. They are important to the development of the Kharif crop in north India.

Which of the statements given above is/are correct?

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

Correct answer: A

Explanation: Statement 1 is correct. The **Western disturbances**—originate over the east Mediterranean Sea and travel eastwards across West Asia, Iran-Afghanistan and Pakistan before they reach the north-western parts of India. On their way, they pick up moisture from the Caspian Sea in the north and the Persian Gulf in the South

Statement 2 is incorrect. They enter India loaded with moisture, where the Himalayas obstruct them, causing rain and snow over northern India. Western disturbances occur during the cold, dry season and are important to the development of the Rabi crop in the northern subcontinent.

Q.10) Consider the following statements regarding the **Potash**:

1. India is the largest producer of Potash globally.
2. Potash is primarily used as a fertilizer and aids plants to use water more efficiently.

Which of the statements given above is/are correct?

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

Correct answer: B

Explanation: Statement 1 is incorrect. As per **National Mineral Inventory database** the total resources of potash have been estimated at 22,508 million tonnes in India, all in remaining resource category. **Rajasthan** alone contributes 91% to the total resources, followed by Madhya Pradesh (5%) and Uttar Pradesh (4%). The entire requirement of potash to be utilized as fertilizer is met by imports.

Canada is the world's largest potash producer, accounting for 33% of the world's total in 2018. Four countries (Canada, Belarus, Russia and China) accounted for 80% of the world's potash production in 2018.

Statement 2 is correct. Potash is primarily used as a **fertilizer** (approximately 95%) to support plant growth, increase crop yield and disease resistance, and enhance water preservation. Potash is an essential nutrient for protein synthesis and it aids plants to use water more efficiently.

A tripartite agreement was signed between Mineral Exploration Corporation Limited (MECL), Rajasthan State Mines & Minerals Limited (RSMML) and the Department of Mines & Geology (DMG), Govt. of Rajasthan for taking up feasibility studies of Solution Mining of Potash in the state of Rajasthan.

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Q.11) What is MICE tourism?

- a) Business tourism
- b) Island tourism
- c) Augmented Reality tourism
- d) Space tourism

Correct answer: A

Explanation: The acronym MICE stands for **Meetings, Incentives, Conferences and Exhibitions**. It refers to a group of tourism that plans, books and organises conferences, seminars and other events. It is a version of business tourism that draws domestic and international business tourists to a destination.

The MICE industry is one of the hospitality industries most profitable sectors, as MICE travellers typically spend large amount of their budget on-site.

Gujarat CM has announced the tourism policy for 2021-25. It seeks to make Gujarat a hub of "MICE" tourism.

Q.12) Where is Kholongchhu Hydroelectric Project located?

- a) Bhutan
- b) Myanmar
- c) Tibet (China)
- d) Vietnam

Correct answer: A

Explanation: The **Kholongchhu hydroelectric project** is a 600MW run-of-the-river hydropower facility under construction on the Kholongchhu River in **Bhutan**. It is being developed through a joint venture (JV) partnership between India and Bhutan.

The Concession Agreement for the 600 MW Kholongchhu (Joint Venture) Hydroelectric Project between the Royal Government of Bhutan and Kholongchhu Hydro Energy Limited was signed in 2020.

Hydropower sector is the flagship area of **India-Bhutan bilateral cooperation**. The 720 MW Mangdechhu hydroelectric project was jointly inaugurated earlier in August 2019 by the Hon'ble Prime Ministers of India and Bhutan. With this, four (04) hydroelectric projects of bilateral cooperation (336 MW Chukha HEP, 60 MW Kurichhu HEP, 1020 MW Tala HEP and 720 MW Mangdechhu HEP), totaling over 2100 MW, are already operational in Bhutan.

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INTERNATINAL RELATIONS/ORGANISATIONS

Q.1) Which of the following is/are or proposed **railway line** connecting India directly to its neighboring country(s)?

1. Maitree Express
2. Jaynagar-Bijalpura-Bardibas rail project
3. Zaranj-Delaram project

Select the correct answer using the code given below:

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

Correct answer: A

Explanation: Option 1 is correct. The first rail line between India and Dhaka was opened in 2008 when **Maitree express between Dhaka and Kolkata** was started. In 2017 Bandhan express was also started between Kolkata and Khulna.

Option 2 is correct. **Jaynagar-Bijalpura-Bardibas** railway line project connects India and Nepal. As first phase of this project, the rail line from Jayanagar in Madhubani district, Bihar has been connected to Kurtha in Nepal and will be extended up to Bijalpura by March 2021.

Option 3 is incorrect. The **Delaram-Zaranj Highway** is roadway in the Nimruz Province of Afghanistan connecting the Delaram District in Afghanistan to the border of Iran. India provided assistance to Afghanistan for construction of this highway which further connects to Chabahar port through Iran.

Q.2) What is **'Defeat Non-Communicable Disease Partnership'**?

- a) An intergovernmental partnership under World Health Organisation (WHO)
- b) A collaborative partnership of WHO and European Union
- c) A global preventive healthcare initiative of India
- d) A public-private-people partnership anchored in the United Nations

Correct answer: D

Explanation: The **Defeat-NCD Partnership** is a 'public-private-people' partnership anchored in the United Nations (UN Institute of Training and Research, Geneva). It partners with governments, multilateral agencies, civil society, academia, philanthropic foundations and the private sector.

The Partnership aims to gather and mobilise global and national knowledge, tools, capacities, and finances to benefit low-resource countries.

Q.3) Consider the following statements regarding the **Open Skies Treaty**:

1. It permits each state-party to conduct unarmed, reconnaissance flights over the others' territories to collect data on military forces and activities.
2. India a state-party to the Open Skies Treaty.

Which of the statements given above is/are correct?

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

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d) Neither 1 nor 2

Correct answer: A

Explanation: Statement 1 is correct. The **Open Skies Treaty** permits each state-party to conduct short-notice, unarmed, reconnaissance flights over the others' entire territories to collect data on military forces and activities.

Statement 2 is incorrect. **India is not a member to this treaty.**

Members: Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Turkey, Ukraine, the United Kingdom.

In May 2020, the Trump administration announced its intention of withdrawing from the OST, accusing Russia of “flagrantly and continuously violating the Treaty in various ways for years”, and left it in November 2020. Kyrgyzstan has signed, but not ratified the treaty.

Q.4) Consider the following statements regarding the **World Health Organisation’ Executive Board**:

1. The main function of the Board is to implement the decisions and policies of the Health Assembly.

2. India is currently the chair of the WHO Executive Board.

Which of the statements given above is/are correct?

a) 1 only

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Correct answer: C

Explanation: Statement 1 is correct. The **WHO Executive Board** is composed of 34 technically qualified members elected for three-year terms. The annual Board meeting is held in January when the members agree upon the agenda for the World Health Assembly and the resolutions to be considered by the Health Assembly.

A second shorter meeting takes place in May, as a follow-up to the Health Assembly. The main functions of the Board are to implement the decisions and policies of the Health Assembly, and advise and generally to facilitate its work.

Statement 2 is correct. Dr. Harsh Vardhan, Union Minister for Health and Family Welfare digitally chaired the 148th session of WHO Executive Board, through Video Conference.

Q.5) India is hosting which of the following country’s defence forces in the **Exercise Desert Knight-21**?

a) France

b) United Kingdom

c) United Arab Emirates

d) Russia

Correct answer: A

Explanation: **Indian Air Force and French Air and Space Force** (Armée de l’Air et de l’Espace) will conduct a bilateral Air exercise, Ex Desert Knight-21 at Air Force Station Jodhpur from 20 to 24 Jan 21.

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As part of Indo-French defence cooperation, Indian Air Force and French Air and Space Force have held six editions of Air Exercises named 'Garuda', the latest being in 2019 at Air Force Base Mont-de-Marsan, France.

Q.6) Which of the following institution has released the **Adaptation Gap Report 2020**?

- a) United Nations Framework Convention on Climate Change
- b) United Nations Environment Programme
- c) Intergovernmental Panel for Climate Change
- d) World Meteorological Organization

Correct answer: B

Explanation: The fifth edition of the **Adaptation Gap Report, released by the United Nations Environment Programme (UNEP)** looks at progress in planning for, financing and implementing adaptation – with a focus on nature-based solutions.

The UNEP Adaptation Gap Report 2020 finds that while nations have advanced in planning, huge gaps remain in finance for developing countries and bringing adaptation projects to the stage where they bring real protection against climate impacts such as droughts, floods and sea-level rise.

Nature-based solutions – locally appropriate actions that address societal challenges, such as climate change, and provide human well-being and biodiversity benefits by protecting, sustainably managing and restoring natural or modified ecosystems – must also become a priority.

Q.7) Consider the following statements regarding **COVAX Facility**:

- 1. Gavi is coordinating the development and implementation of the COVAX Facility.
- 2. COVAX Advance Market Commitment aims to enable access of low- and middle-income economies to donor-funded doses of COVID-19 vaccines.

Which of the statements given above is/are correct?

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

Correct answer: C

Explanation: Both statements are correct.

COVAX is the vaccines pillar of the Access to COVID-19 Tools (ACT) Accelerator. The ACT Accelerator is a ground-breaking global collaboration to accelerate the development, production, and equitable access to COVID-19 tests, treatments, and vaccines.

Gavi is coordinating the development and implementation of the COVAX Facility, the global procurement mechanism of COVAX. At the Global Vaccine Summit last year, Gavi launched the COVID-19 Vaccines Advance Market Commitment (COVAX AMC) as the first building block of the COVAX Facility.

The **Gavi COVAX AMC** is the innovative financing instrument that will support the participation of 92 low- and middle-income economies in the COVAX Facility – enabling access to donor-funded doses of safe and effective COVID-19 vaccines.

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Q.8) Which of the following country(s) is/are receiving the **COVID-19 vaccine supplies** from India under grant assistance?

1. Maldives
2. Bangladesh
3. Myanmar

Select the correct answer using the code given below:

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

Correct answer: D

Explanation: The Government of India has received several requests for the supply of Indian manufactured vaccines from neighbouring and key partner countries. In response to these requests, and in keeping with India's stated commitment to use India's vaccine production and delivery capacity to help all of humanity fight the Covid pandemic, supplies under grant assistance to **Bhutan, Maldives, Bangladesh, Nepal, Myanmar and Seychelles will begin from 20 January 2021.**

In respect of Sri Lanka, Afghanistan and Mauritius, we are awaiting their confirmation of necessary regulatory clearances.

Q.9) Which of the following organisations(s) is/are members of the **International Coordinating Group (ICG) on Vaccine Provision**?

1. World Health Organisation
2. United Nations Children's Fund
3. International Federation of the Red Cross and Red Crescent Societies

Select the correct answer using the code given below:

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

Correct answer: D

Explanation: The **International Coordinating Group (ICG) on Vaccine Provision** was established in 1997, following major outbreaks of meningitis in Africa, as a mechanism to manage and coordinate the provision of emergency vaccine supplies and antibiotics to countries during major outbreaks.

ICGs have been established to provide access to vaccines for **Cholera, Ebola, Meningitis and Yellow fever.**

The ICG is made up of four member agencies: World Health Organization (WHO), UNICEF, the International Federation of Red Cross and Red Crescent Societies (IFRC), and Médecins Sans Frontières (MSF).

WHO, UNICEF, IFRC and MSF recently announced the establishment of a Global Ebola Vaccine Stockpile to ensure response to outbreak.

Q.10) Which of the following institution has released the report titled '**International Migration 2020 Highlights**'?

- a) World Bank

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- b) International Labour Organisation
- c) United Nations Educational, Scientific and Cultural Organization
- d) United Nations Department of Economic and Social Affairs

Correct answer: D

Explanation: International Migration report 2020 has been released by the **Population Division of the United Nations Department of Economic and Social Affairs (UNDESA)**.

--18 million people from India were living outside of their country of birth.

-- India's large diaspora is distributed across a number of major countries of destination, with the UAE (3.5 million), the US (2.7 million) and Saudi Arabia (2.5 million) hosting the largest numbers of migrants from India.

--Other countries with a large diaspora included Mexico and Russia (11 million each), China (10 million) and Syria (8 million).

The World Migration Report is a flagship publication series of the International Organization for Migration.

Q.11) Consider the following statements regarding **India-Singapore relations**:

1. India has a Comprehensive Economic Cooperation Agreement (CECA) with Singapore.
2. Both countries are members of the IORA (Indian Ocean Rim Association) and IONS (Indian Ocean Naval Symposium).
3. Singapore is among the countries that have received COVID-19 vaccines under grant assistance from India.

Which of the statements given above is/are correct?

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

Correct answer: A

Explanation: Statement 1 is correct. India and Singapore signed the **Comprehensive Economic Cooperation Agreement (CECA) in 2005**. This robust relationship was elevated to a Strategic Partnership in 2015.

Statement 2 is correct. There is great convergence on a broad range of international issues and both are members of a number of forums, including **East Asia Summit, G20, Commonwealth, IORA (Indian Ocean Rim Association) and IONS (Indian Ocean Naval Symposium)**.

Statement 3 is incorrect. The Government of India has received several requests for the supply of Indian manufactured vaccines from neighbouring and key partner countries. In response to these requests, and in keeping with India's stated commitment to use India's vaccine production and delivery capacity to help all of humanity fight the Covid pandemic, supplies under grant assistance to Bhutan, Maldives, Bangladesh, Nepal, Myanmar and Seychelles will begin from 20 January 2021.

In respect of Sri Lanka, Afghanistan and Mauritius, India is awaiting their confirmation of necessary regulatory clearances.

Defence Minister Rajnath Singh recently held a bilateral meeting with Singapore Defence Minister Dr Ng Eng Hen through video conferencing.

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Q.12) Which of the following organization has published the **Global Risks Report 2021**?

- a) World Economic Forum
- b) World Bank
- c) United Nations Educational, Scientific and Cultural Organization
- d) United Nations Framework Convention on Climate Change

Correct answer: A

Explanation: The **16th edition of the World Economic Forum's Global Risks Report** analyses the risks from societal fractures—manifested through persistent and emerging risks to human health, rising unemployment, widening digital divides, youth disillusionment, and geopolitical fragmentation.

Report findings are based on the Global Risks Perception Survey (GRPS) undertaken by more than 650 members of leadership communities of WEF (World Economic Forum).

Top Global Risks by Likelihood



Top Global Risks by Impact



■ Economic ■ Environmental ■ Geopolitical ■ Societal ■ Technological

Source: World Economic Forum Global Risks Report 2021

Q.13) Consider the following statements regarding the **Partnerships for Accelerating Clinical Trials (PACT)** programme:

- 1. It has been launched for supporting COVID-19 vaccine development activities in partnering countries.
- 2. The initiative is being implemented by the Department of Science & Technology.

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Which of the statements given above is/are correct?

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

Correct answer: A

Explanation: Statement 1 is correct. The **PACT (Partnerships for Accelerating Clinical Trials)** programme has been launched for supporting COVID-19 vaccine development activities in partnering countries.

Statement 2 is incorrect. The initiative is being implemented by **Biotechnology Industry Research Assistance Council (BIRAC)** and Clinical Development Services Agency (CDSA) under the aegis of the National Biopharma Mission and Ind-CEPI Mission of DBT.

India has also provided training to several neighbouring countries to enhance and strengthen their clinical capabilities, under the Partnerships for Accelerating Clinical Trials (PACT) programme.

Q.14) Consider the following statements regarding **India-European Union** relations:

1. Indian has signed a Broad-based Trade and Investment Agreement (BTIA) with the European Union.
2. India – EU Maritime Security Dialogue is an annual dialogue held alongside the India-EU Summit.

Which of the statements given above is/are correct?

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

Correct answer: D

Explanation: Statement 1 is incorrect. **India and the EU** began negotiations on a broad-based Bilateral Trade and Investment Agreement (BTIA) in Brussels, Belgium in 2007. The agreement is yet to be signed and is stuck due to difference of stance on issues like IPR, environmental regulations, services sector negotiations, sanitary and phytosanitary measures and technical barriers to trade (SPS-TBT).

Statement 2 is incorrect. The inaugural **India – EU Maritime Security Dialogue** has been held recently.

India and the EU held their first maritime security dialogue in a virtual format on 20 January 2021. The consultations involved exchanges on developments in maritime security environment, regional cooperation activities, developments of mutual interest and opportunities for cooperation between India and the EU.

The first India-EU Summit was held in Lisbon on 28 June 2000 which marked a watershed in the development of the relationship. Since then, fifteen annual bilateral Summits have been held between India and the EU.

Q.15) Which of the following organisation publishes the **Global Innovation Index (GII)**?

- a) World Intellectual Property Organization (WIPO)
- b) World Economic Forum (WEF)
- c) World Bank

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d) Organisation for Economic Co-operation and Development (OECD)

Correct answer: A

Explanation: The **Global Innovation Index (GII)** is co-published by **Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO)**, a specialized agency of the United Nations. The Global Innovation Index (GII), since 2007, has been providing detailed metrics about the innovation performance of countries and economies around the world.

Global Innovation Index (GII) 2020 ranked India at 48th place, up four positions since 2019.

India has maintained its growth in publications—the traditional indicator of scientific excellence. The number of publications has increased exponentially over the last 10 years. According to data from the US agency, the **National Science Foundation (NSF)**, India is currently in third place, only behind China and the United States, with 135,788 scientific articles in the year 2018.

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GOVERNMENT SCHEMES/INITIATIVES

Q.1) Consider the following statements:

1. Indian Railways is a public sector undertaking (PSU) under the Government of India.
2. Iron-ore and Steel combined form more than half of the annual freight loading of Indian Railway.

Which of the statements given above is/are correct?

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

Correct answer: D

Explanation: Statement 1 is incorrect. **Indian Railways is not a PSU but is a department** of Government of India under a ministry, handled by a minister, elected to Parliament.

Statement 2 is incorrect. Iron-ore is the second most important stream of traffic of Railways and along with steel accounts for nearly **17% (53.81 Million Tonne of Steel & 153.35 Million Tonne of Iron ore)** of total 1210 Million Tonne freight loading of IR in 2019-20.

A new 'Iron-ore Policy 2021' governing allocation of rakes and transportation of iron-ore has been issued by Indian Railways recently.

Q.2) Which of the following is/are the provisions under the **National Mineral Policy 2019**?

1. Encouragement of merger and acquisition of mining entities
2. Introduction of Right of First Refusal for reconnaissance permit and prospecting license holders
3. Encouraging the private sector to take up exploration

Select the correct answer using the code given below:

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

Correct answer: D

Explanation: The **National Mineral Policy 2019** includes provisions which will give boost to mining sector such as

--introduction of Right of First Refusal for RP/PL holders,

[A reconnaissance permit is granted for preliminary prospecting through regional, aerial, geophysical or geochemical surveys and geological mapping. A prospecting licence is granted for exploring, locating and proving mineral deposits.]

--encouraging the private sector to take up exploration,

--encouragement of merger and acquisition of mining entities and

--transfer of mining leases and creation of dedicated mineral corridors to boost private sector mining areas.

The 2019 Policy proposes to grant status of industry to mining activity to boost financing of mining for private sector and for acquisitions of mineral assets in other countries by private sector.

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The Policy also mentions rationalize reserved areas given to PSUs which have not been used and to put these areas to auction, which will give more opportunity to private sector for participation.

Q.3) Consider the following statements regarding the **National Education Policy, 2020**:

1. The NEP 2020 is only second in of National Education Policy of independent India.
2. It proposed a National Mission on Foundational Literacy and Numeracy to target illiteracy among adult population.

Which of the statements given above is/are correct?

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

Correct answer: D

Explanation: Statement 1 is incorrect. The **National Education Policy, 2020** is the third in the series of National Education Policies (1968 and 1986 modified in 1992) in India and is the first education policy of the 21st century. NEP 2020 covers wider spectrum of school education from pre-primary to senior secondary.

Statement 2 is incorrect. The highest priority of the education system will be to achieve universal foundational literacy and numeracy in primary school by 2025. To this end, a **National Mission on Foundational Literacy and Numeracy** is to be set up by the Ministry of Education on priority.

Accordingly, all State/UT governments will immediately prepare an implementation plan for attaining universal foundational literacy and numeracy in all primary schools, identifying stage-wise targets and goals to be achieved by 2025, and closely tracking and monitoring progress of the same.

Q.4) Consider the following statements:

1. The forest dwellers are legally empowered with the ownership and governance of the Minor forest produce through the Forest Rights Act, 2006.
2. TRIFED is a national-level apex organization functioning under the administrative control of Ministry of Tribal Affairs

Which of the statements given above is/are correct?

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

Correct answer: C

Explanation: Statement 1 is correct. The forest dwellers are legally empowered with the ownership and governance of the minor forest produce through **PESA (Panchayat Extension to Scheduled Areas) Act, 1996, and the Forest Rights Act, 2006**.

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, gives the “right of ownership, access to collect, use and dispose of minor forest produce which has been traditionally collected within or outside village boundaries”.

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Under Forest Rights Act, 2006, "minor forest produce" includes all non-timber forest produce of plant origin including bamboo, brush wood, stumps, cane, tussar, cocoons, honey, wax, lac, tendu or kendu leaves, medicinal plants and herbs, roots, tubers and the like.

Statement 2 is correct. The Tribal Cooperative Marketing Development Federation of India (TRIFED) came into existence in 1987. It is a national-level apex organization functioning under the administrative control of Ministry of Tribal Affairs

TRIFED and Indian Farm Forestry Development Co-operative Ltd (IFFDC) have entered into a Memorandum of Understanding (MoU) on January 18, 2021 to work together for tribal livelihood generation.

Q.5) The India Innovation Index is an initiative of which of the following institution?

- a) Invest India
- b) NITI Aayog
- c) World Economic Forum
- d) Federation of Indian Chambers of Commerce & Industry

Correct answer: B

Explanation: The India Innovation index is released by the NITI Aayog. It has released the second edition of the India Innovation Index 2020 today.

The India Innovation Index 2020 seeks to rank the states and union territories based on their relative performance of supporting innovation, and to empower them to improve their innovation policies by highlighting their strengths and weaknesses.

The ranking methodology is designed in a way that states can draw lessons from the national leaders in innovation. Hopefully, this will lead to a healthy competition among the states and union territories, thereby fostering competitive federalism.

Q.6) Consider the following statements regarding the National Startup Advisory Council:

1. It is mandated to advise the Government on measures needed to build a strong ecosystem for nurturing innovation and startups in the country.
2. It is chaired by the Minister of Electronics and Information Technology.

Which of the statements give above is/are correct?

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

Correct answer: A

Explanation: Statement 1 is correct. The Central Government last year notified the **National Startup Advisory Council** to advise the Government on measures needed to build a strong ecosystem for nurturing innovation and startups in the country to drive sustainable economic growth and generate large scale employment opportunities.

Statement 2 is incorrect. The National Startup Advisory Council will be chaired by **Minster for Commerce & Industry**. The Council will consist of the non-official members, to be nominated by Central Government, from various categories like founders of successful startups, veterans who have grown and scaled companies in India, persons capable of representing interests of investors into startups, persons capable of representing interests of incubators and accelerators and representatives of associations of stakeholders of startups and representatives of industry associations.

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Recently non-official members on the National Startup Advisory Council have been nominated by the government.

Q.7) Which of the following is being commemorated through ‘Parakram Diwas’ celebration recently announced by the government?

- a) Birth Anniversary year of Netaji Subhas Chandra Bose
- b) The Galwan valley clash between India-China armed forces
- c) Balakot Air strike
- d) Nathu La and Cho La clashes of 1967

Correct answer: A

Explanation: Government of India has decided to celebrate the **125th Birth Anniversary year of Netaji Subhas Chandra Bose** in a befitting manner at national and international level, beginning from 23rd January 2021. A High Level Committee, headed by the Prime Minister, has been constituted for deciding the programs, and to supervise and guide the commemoration.

In order to honour and remember Netaji’s indomitable spirit and selfless service to the nation, Government of India has decided to celebrate his birthday on the 23rd day of January every year as “PARAKRAM DIWAS”.

Gazette Notification for declaring 23rd January as “ParakramDiwas” has been published.

Q.8) Consider the following statements regarding the **North Eastern Council (NEC)**:

- 1. It is a zonal council established under the States Re-organisation Act, 1956.
- 2. The Union Home Minister is ex-officio Chairman of the NEC.

Which of the statements given above is/are correct?

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

Correct answer: B

Explanation: Statement 1 is incorrect. The **North Eastern Council** is the nodal agency for the economic and social development of the North Eastern Region which consists of the eight States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The North Eastern Council was constituted in 1971 by an Act of Parliament.

Other zonal councils are set up under the States Re-organisation Act, 1956.

Statement 2 is correct. The **Union Home Minister** is ex-officio Chairman and the MoS(IC) Development of North Eastern Region (DoNER) is the ex-officio Vice-Chairman of the NEC.

Q.9) Consider the following statements regarding the “**Electricity (Rights of Consumers) Rules, 2020**”:

- 1. Prosumers to have right to set up Renewable Energy (RE) generation unit including roof top solar photovoltaic (PV) systems.
- 2. Maximum time period of 7 days in metro cities and 30 days in rural areas identified to provide new connection and modify an existing connection:

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only

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

Correct answer: C

Explanation: Both statements are correct.

Union Ministry of Power has promulgated “**Electricity (Rights of Consumers) Rules, 2020**” laying down the rights of power consumers in the country.

--It is the duty of every distribution licensee to supply electricity on request made by an owner or occupier of any premises in line with the provisions of Act.

--It is the right of consumer to have minimum standards of service for supply of electricity from the distribution licensee.

-- Maximum time period of 7 days in metro cities and 15 days in other municipal areas and 30 days in rural areas identified to provide new connection and modify an existing connection:

--While the prosumers will maintain consumer status and have the same rights as the general consumer, they will also have right to set up Renewable Energy (RE) generation unit including roof top solar photovoltaic (PV) systems – either by himself or through a service provider. Net metering for loads up to ten kW and for gross metering for loads above ten kW.

A prosumer is an one who both consumes as well as produces.

Q.10) Which of the following institution conducted the **Time Use Survey (TUS) 2019 in India?**

- a) National Statistical Office (NSO)
- b) NITI Aayog
- c) Labour Bureau
- d) Centre for Monitoring Indian Economy

Correct answer: A

Explanation: Time Use Survey (TUS) provides a framework for measuring time dispositions by the population on different activities. It is an important source of information about the activities that are performed by the population and the time duration for which such activities are performed.

The primary objective of Time Use Survey (TUS) is to measure participation of men and women in paid and unpaid activities. TUS is an important source of information on the time spent in unpaid caregiving activities, volunteer work, unpaid domestic service producing activities of the household members. It also provides information on time spent on learning, socializing, leisure activities, self-care activities, etc., by the household members.

National Statistical Office (NSO) conducted the first Time Use Survey in India during January – December 2019. The survey measures the participation rate and time spent on paid activities, care activities, unpaid activities, etc.

Q.11) Consider the following statements:

1. The first National Conference with States on Logistics has been organized by the NITI Aayog.
2. The Logistics Performance Index is released by the World Bank every two years.

Which of the statements given above is/are correct?

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

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Correct answer: B

Explanation: Statement 1 is incorrect. The first **National Conference with States on Logistics** was organized on Tuesday 19th January, 2021 by the Department of Commerce, Ministry of Commerce & Industry, with the objective to initiate a consultative and collaborative framework for the Central and State Governments to work in a coordinated manner in the logistic sector.

Statement 2 is correct. The **Logistics Performance Index is reported by the World Bank** in every two years. The LPI is based on a worldwide survey of stakeholders on the ground providing feedback on the logistics "friendliness" of the countries in which they operate and those with which they trade.

Q.12) Consider the following statements regarding the **India Innovation Index 2020**:

1. It has been released by the Department for Promotion of Industry and Internal Trade (DPIIT).
2. Karnataka is ranked first among in 'Major States' category.

Which of the statements given above is/are correct?

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

Correct answer: B

Explanation: Statement 1 is incorrect. **NITI Aayog, along with the Institute for Competitiveness**, have released the second edition of the India Innovation Index in a virtual event. The report examines the innovation capabilities and performance of the states and union territories. The first edition of the index was launched in October 2019.

Statement 2 is correct. In the 'Major States' category, **Karnataka** continued to occupy the top position, while Maharashtra moved past Tamil Nadu to reach the second place.

Overall, Delhi retained its first rank, while Chandigarh made a big leap since 2019 and landed in the second place this year.

Under the 'North-Eastern/Hill States' category, Himachal Pradesh moved up from the second position to emerge as the top ranker this year, while 2019's top performer (in this category), Sikkim, slipped down to the fourth position.

Q.13) Consider the following statements regarding status of **telecom services in India**:

1. Out of the total Telephone subscription in India, the share of Rural subscription is more than the Urban subscription.
2. The tele-density of India is more than hundred percent.

Which of the statements given above is/are correct?

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

Correct answer: D

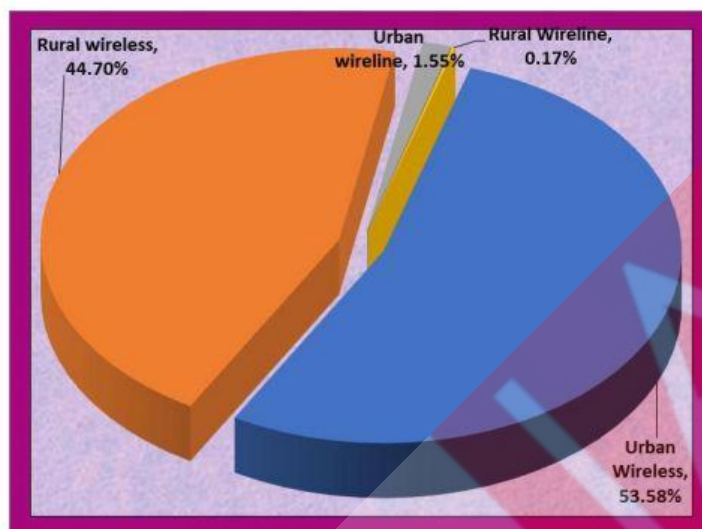
Explanation: Telecom Regulatory Authority of India (TRAI) has recently released the "**Indian Telecom Services Performance Indicator Report**" for the Quarter ending 30th September, 2020. This Report provides a broad perspective of the Telecom Services in India and presents the key parameters and growth trends of the Telecom Services.

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Statement 1 is incorrect. Out of the total subscription, the share of Rural subscription is at 44.87% and Urban subscription is at 55.13%.

Composition of Telephone Subscribers



Statement 2 is incorrect. **Teledensity** – Number of telephone connections (fixed lines and mobile phone subscribers) per 100 inhabitants within a geographical area.

The overall Tele-density in India also increased from 85.85% as in QE Jun-20 to 86.22% as in QE Sep-20. The Urban Tele-density also increased from 137.35% to 138.25% and the Rural Tele-density remained same i.e. 58.96%, as it was during last quarter June, 2020.

Q.14) Which of the following defence force(s) of India is/are participating in the ‘**Exercise Kavach**’?

1. Indian Army
2. Indian Air Force
3. Indian Coast Guard

Select the correct answer using the code given below:

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

Correct answer: D

Explanation: A large scale **Joint Military exercise ‘Exercise Kavach’** involving assets of Indian Army, Indian Navy, Indian Air Force and Indian Coast Guard is being conducted under the aegis of the Andaman and Nicobar Command (ANC), the only Joint Forces Command of the country.

The exercise would involve participation and deployment of elements of Army’s Amphibious Brigade along with supporting forces including Special Forces of Navy, Armour/Mechanised components, Naval Ships comprising Destroyers, ASW Corvettes and Landing Ships with ship-borne helicopters of Eastern Naval Command and ANC, Jaguar Maritime Strike and Transport aircrafts from Indian Air Force and assets of Coast Guard.

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The joint force would execute multi domain, high intensity offensive and defensive manoeuvres in the Andaman Sea and Bay of Bengal and carry out amphibious landing operations, air landed operation, helicopters-borne insertion of Special Forces from sea culminating in tactical follow-on operations on land.

Q.15) What was the mandate of the **B.N. Srikrishna Committee**?

- a) Data Protection Framework for India
- b) National Education Policy
- c) Doubling the Farmer's Income
- d) Reforms in Criminal Laws of India

Correct answer: A

Explanation: A **Committee of Experts on a Data Protection Framework** for India under the chairmanship of (retd.) Justice B.N. Srikrishna was constituted by the government in 2017 which submitted its report in 2018. The committee also brought out a draft Personal Data Protection Bill (PDPB).

The framework seeks to put in place a culture of privacy by design and promoting concepts such as consent framework, purpose limitation, storage limitation, and data minimization among various other privacy-oriented concepts.

[Dr. Kasturirangan Committee - National Educational Policy.]

[Ashok Dalwai Committee - Doubling the Farmers' Income]

[Ranbir Singh Committee – Criminal Laws Reforms]

Q.16) Consider the following statements regarding the **Rapid Assessment System (RAS)** that has been in news recently:

1. It has been developed by the National e-Governance Division (NeGD).
2. It is a feedback tool for e-services delivered by Government of India and State Governments.

Which of the statements given above is/are correct?

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

Correct answer: C

Explanation: Both statements are correct.

Under the COVID Vaccination drive, the Government of India is using '**Rapid Assessment System (RAS)**' for taking feedback from those who get vaccinated. This initiative to utilize RAS platform is aimed at improving the vaccination experience for citizens, while ensuring that all norms are being followed during the vaccination process at all vaccination centres.

National e-Governance Division has developed a Rapid Assessment System (RAS) for online instant feedback for e-services (online as well as offline through counters) delivered by Government of India and State Governments.

The main objective of RAS is to continuously assess the quality of eServices, through feedback, under each e-Governance project and realign processes to achieve targeted benefits. RAS interface prompts the citizens to provide feedback about the quality of service immediately after the citizen avails an eService of the Government.

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Q.17) Consider the following statements regarding the **Personal Data Protection Bill, 2019**:

1. It provides for right of individual to obtain confirmation from the data fiduciary on whether their personal data has been processed.
2. Sensitive personal data may be transferred outside India for processing if explicitly consented to by the individual.

Which of the statements given above is/are correct?

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

Correct answer: C

Explanation: Both statements are correct.

The **Personal Data Protection Bill (PDPB)** was introduced in Parliament in December 2019 and is currently being discussed by a **joint select committee**.

The Bill sets out certain rights of the individual (or data principal). These include the right to: (i) obtain confirmation from the fiduciary on whether their personal data has been processed, (ii) seek correction of inaccurate, incomplete, or out-of-date personal data, (iii) have personal data transferred to any other data fiduciary in certain circumstances, and (iv) restrict continuing disclosure of their personal data by a fiduciary, if it is no longer necessary or consent is withdrawn.

Sensitive personal data may be transferred outside India for processing if explicitly consented to by the individual, and subject to certain additional conditions. However, such sensitive personal data should continue to be stored in India.

The Bill sets up a **Data Protection Authority** which may take steps to protect interests of individuals, prevent misuse of personal data, and ensure compliance with the Bill.

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SCIENCE & TECHNOLOGY

Q.1) Consider the following statements comparing the **4G and 5G Technology**:

1. It offers lower latency than the 4G LTE.
2. The high band 5G spectrum provides faster data transmission speeds compared to 4G networks.

Which of the statements given above is/are correct?

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

Correct answer: C

Explanation: Statement 1 is correct. 5G technology offers an extremely **low latency rate**, the delay between the sending and receiving of information. From around 200 milliseconds for 4G, it goes down to about 1 millisecond (1ms) with 5G.

Statement 2 is correct. 5G speed tops out at 10 gigabits per second (Gbps). According to communication principles, the shorter the frequency, the **larger the bandwidth**.

The use of shorter frequencies (millimeter waves between 30GHz and 300GHz) for 5G networks is why 5G can be faster. This high-band 5G spectrum provides the expected boost not only in speed but also in capacity, low latency, and quality.

Q.2) Consider the following statements regarding the **Seroprevalence Survey**:

1. It is a mass application of RT-PCR diagnostic tests on population.
2. Its objective is to estimate the percentage of people in a population who have antibodies against a particular disease.

Which of the statements given above is/are correct?

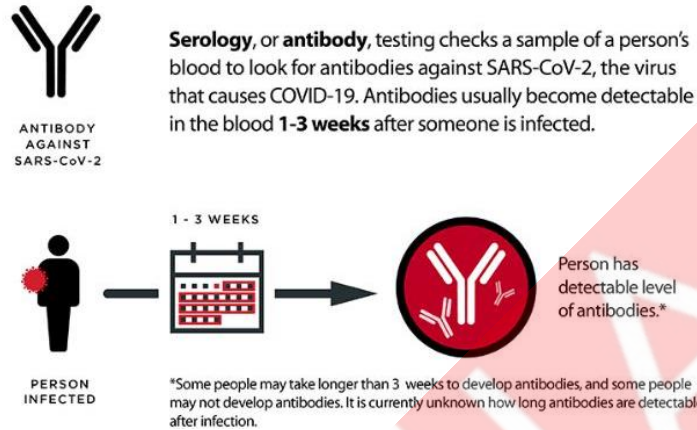
- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Correct answer: B

Explanation: Statement 1 is incorrect. A **Seroprevalence Survey** employs Antibody Tests on large scale. Serology testing checks a sample of a person's blood to look for antibodies against a particular infection.

Statement 2 is correct. The percentage of individuals in a population who have antibodies to an infectious agent is called **seroprevalence**.

What COVID-19 Seroprevalence Surveys Can Tell Us



Q.3) Endothelium is found in which part of the body?

- a) Inside the blood vessels
- b) Liver
- c) Skin tissue
- d) Brain tissue

Correct answer: A

Explanation: The **endothelium** is a thin membrane that lines the inside of the heart and blood vessels. Endothelial cells release substances that control vascular relaxation and contraction as well as enzymes that control blood clotting, immune function and platelet (a colorless substance in the blood) adhesion.

The endothelium forms an interface between circulating blood or lymph in the lumen and the rest of the vessel wall. Endothelial cells form the barrier between vessels and tissue and control the flow of substances and fluid into and out of a tissue.

Q.4) Consider the following statements regarding the **ACE2 receptor**:

1. It is a protein on the surface of several cell types and tissues including the lungs and heart.
2. It is a vital element in regulating blood pressure and inflammation.

Which of the statements given above is/are correct?

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

Correct answer: C

Explanation: The **angiotensin-converting enzyme 2**, or ACE2 “receptor” is the protein that provides the entry point for the coronavirus in human body.

Statement 1 is correct. ACE2 is present in many cell types and tissues including the lungs, heart, blood vessels, kidneys, liver and gastrointestinal tract. It is present in epithelial cells, which line certain tissues and create protective barriers.

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Statement 2 is correct. ACE2 is a vital element in a biochemical pathway that is critical to regulating processes such as blood pressure, wound healing and inflammation, called the renin-angiotensin-aldosterone system (RAAS) pathway.

ACE2 helps modulate the many activities of a protein called angiotensin II (ANG II) that increases blood pressure and inflammation, increasing damage to blood vessel linings and various types of tissue injury. ACE2 converts ANG II to other molecules that counteract the effects of ANG II.

Q.5) Consider the following statements:

1. Vaccines trigger an immune response within the body producing antibodies against a specific pathogen.
2. Vaccines may require multiple doses to allow for the production of long-lived antibodies and development of memory cells.

Which of the statements given above is/are correct?

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

Correct answer: C

Explanation: Statement 1 is correct. **Vaccines** contain weakened or inactive parts of a particular organism (antigen) that triggers an immune response within the body to produce the pathogen specific antibodies. Newer (DNA/RNA) vaccines contain the blueprint for producing antigens rather than the antigen itself.

Regardless of whether the vaccine is made up of the antigen itself or the blueprint so that the body will produce the antigen, this weakened version will not cause the disease in the person receiving the vaccine, but it will prompt their immune system to respond much as it would have on its first reaction to the actual pathogen.

Statement 2 is correct. **Some vaccines require multiple doses**, given weeks or months apart. This is sometimes needed to allow for the production of long-lived antibodies and development of memory cells. In this way, the body is trained to fight the specific disease-causing organism, building up memory of the pathogen so as to rapidly fight it if and when exposed in the future.

Q.6) What is **Angiogenesis**?

- a) Formation of new blood vessels
- b) Infection in blood vessels
- c) Blockage of blood vessels
- d) Paralysis of blood vessels

Correct answer: A

Explanation: Angiogenesis is the formation of new blood vessels. This process involves the migration, growth, and differentiation of endothelial cells, which line the inside wall of blood vessels. The process of angiogenesis is controlled by chemical signals in the body.

Angiogenesis is critical in the growth of cancer because tumors need blood supply to grow. Tumors trigger the growth of blood cells by giving off chemical signals that stimulate angiogenesis.

Inhibition of tumor angiogenesis has become a popular anti-cancer strategy after chemotherapy. However, the clinically approved anti-angiogenic drugs are ineffective due to

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parallel activation of various compensatory mechanisms involving a cascade of molecules, which aids tumor angiogenesis and investigation of these mechanisms are essential for developing anti-angiogenic therapies.

DST INSPIRE faculty from Chennai is working to develop transgenic zebrafish (which have exogenous genes added to their genome) model by use of the CRISPR/Cas9 gene-editing tool to further study the compensatory angiogenesis mechanism in tumor microenvironment.

Q.7) Which of the following is/are classified as an ‘Adverse event following immunization’ (AEFI)?

1. A adverse reaction caused or precipitated by a vaccine due to inherent properties of the vaccine product.
2. Coincidental adverse event post vaccination caused by something other than the vaccine product.

Select the correct answer using the code given below:

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

Correct answer: C

Explanation: An **Adverse event following immunization (AEFI)** is any untoward medical occurrence which follows immunization and which does not necessarily have a causal relationship with the usage of the vaccine. The adverse event may be any unfavourable or unintended sign, abnormal laboratory finding, symptom or disease.

AEFIs are grouped into five categories:

-- **Vaccine product-related reaction:** An AEFI that is caused or precipitated by a vaccine due to one or more of the inherent properties of the vaccine product. Example: Extensive limb swelling following DTP vaccination.

-- **Vaccine quality defect-related reaction:** n AEFI that is caused or precipitated by a vaccine that is due to one or more quality defects of the vaccine product including its administration device as provided by the manufacturer. Example: Failure by the manufacturer to completely inactivate a lot of inactivated polio vaccine Inactivated polio vaccine (IPV).

-- **Immunization error-related reaction:** An AEFI that is caused by inappropriate vaccine handling, prescribing or administration and thus by its nature is preventable. Example: Transmission of infection by contaminated multidose vial.

-- **Immunization anxiety-related reaction:** An AEFI arising from anxiety about the immunization. Example: Vasovagal syncope in an adolescent during/following vaccination.

-- **Coincidental event:** An AEFI that is caused by something other than the vaccine product, immunization error or immunization anxiety. Coincidental events reflect the natural occurrence of health problems in the community with common problems being frequently reported.

Q.8) Consider the following statements **Chandrashekhar limit:**

1. A star having mass less than the Chandrashekhar limit (1.4 times the Sun) eventually collapses to form a black hole.
2. Massive star having mass more than the Chandrashekhar limit eventually collapses to become a White dwarf.

Which of the statements given above is/are correct?

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

Correct answer: D

Explanation: Both statements are incorrect.

The **Chandrasekhar Limit** is now accepted to be approximately 1.4 times the mass of the sun; any white dwarf with less than this mass will stay a white dwarf forever, while a star that exceeds this mass is destined to end its life in that most violent of explosions: a supernova. Once the dust clears, the only thing remaining will be a very dense star known as a neutron star, these can often be rapidly spinning and are known as pulsars. If the star which explodes is especially large, it can even form a black hole.

Astronomers at Indian Institute of Astrophysics (IIA) exploring the massive intriguing globular cluster in our Galaxy called NGC 2808 have spotted rare hot UV-bright stars in it using the Ultraviolet Imaging Telescope (UVIT) onboard the AstroSat.

These stars whose inner core is almost exposed, making them very hot, exist in the late stages of evolution of a Sun-like star.

Q.9) Consider the following statements regarding the **Smart Anti-Airfield Weapon (SAAW)**:

1. India has signed a transfer of technology (ToT) deal with Russia for development SAAW in India.
2. It is a smart weapon capable of engaging ground enemy airfield assets up to a range of 100 kms.

Which of the statements given above is/are correct?

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

Correct answer: B

Explanation: Statement 1 is incorrect. The **Defence Research and Development Organisation** has successfully conducted captive and release trial of indigenously developed **Smart Anti-Airfield Weapon (SAAW)** from Hawk-I of Hindustan Aeronautics Limited (HAL) off the Odisha coast on 21 January 2021.

SAAW is indigenously designed and developed by DRDO's Research Centre Imarat (RCI) Hyderabad.

Statement 2 is correct. This is 125 Kg class smart weapon, capable of engaging ground enemy airfield assets such as radars, bunkers, taxi tracks, and runways etc. up to a range of 100 kms. The high precision guided bomb is light weight as compared to weapon system of the same class. The weapon was earlier successfully test fired from Jaguar aircraft.

Q.10) Consider the following statements regarding **Bulk Drugs**:

1. Bulk drug is the key ingredient of a medicine which leads to the desired therapeutic effect.
2. India's pharmaceutical industry is import dependent for bulk drug raw materials.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only

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

Correct answer: C

Explanation: Statement 1 is correct. A **bulk drug, also called an active pharmaceutical ingredient (API)**, is the key ingredient of a drug or medicine, which lends it the desired therapeutic effect or produces the intended pharmacological activity.

Statement 2 is correct. The Indian pharmaceutical industry is the 3rd largest in the world by volume. It has high market presence in several advanced economies such as the US and EU. The industry is well known for its production of affordable medicines, particularly in the generics space. However, the country is significantly dependent on the import of basic raw materials, viz., Bulk Drugs that are used to produce medicines.

The Applications of several companies have been approved under Production Linked Incentive (PLI) Scheme for Promotion of Domestic Manufacturing of critical Key Starting Materials (KSMs)/ Drug Intermediates and Active Pharmaceutical Ingredients (APIs) in the country.

Q.11) Consider the following statements regarding the **Decision support systems (DSS)**:

1. It compiles and analyses large amounts of data.
2. It improves efficiency in dealing with operations and management by informed decision-making.

Which of the statements given above is/are correct?

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

Correct answer: C

Explanation: Both statements are correct.

Decision support systems (DSS) are interactive software-based systems intended to help managers in decision-making by accessing large volumes of information generated from various related information systems involved.

It **gathers and analyzes data**, synthesizing it to produce comprehensive information reports. A decision support system differs from an ordinary operations application, whose function is just to collect data.

Decision support systems allow for more informed decision-making, timely problem-solving, and improved efficiency in dealing with issues or operations, planning, and even management.

The Commission for Air Quality Management (CAQM) in NCR and adjoining areas has begun the process of setting up a Decision Support System (DSS) having a web, GIS and multi-model based operational and planning decision support tool.

Q.12) What is **Atrial Septal Defect (ASD)**?

- a) A hole in the septum between the two upper chambers of your heart
- b) Inability of the sinoatrial node to generate electric impulses in heart
- c) Blockage in Aorta due to accumulation of fat
- d) High blood pressure causing the damage to walls of Atrium

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Correct answer: A

Explanation: An **atrial septal defect (ASD)** is a hole in the wall (septum) between the two upper chambers of your heart (atria). The condition is present at birth (congenital). This defect allows oxygen-rich blood to leak into the oxygen-poor blood chambers in the heart.

Nitinol-based occluder devices, which are presently used to heal **Atrial Septal Defect (ASD)** or hole in the heart that affects 8 out of every 1000 living babies born, are currently imported to meet demands in India.

Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), an autonomous institute of the Department of Science & Technology (DST), under the Technical Research Centre (TRC), has entered into Technology Transfer Agreements with Pune based Biorad Medisys for two biomedical implant devices--- an Atrial Septal Defect Occluder and an Intracranial Flow Diverter Stents developed by the institute in collaboration with National Aerospace Laboratories, Bangalore using superelastic NiTiNOL alloys.

Q.13) Consider the following statements regarding the **Quantum Properties**:

1. Superposition is essentially the ability of a quantum system to be in multiple states at the same time.
2. Entanglement is an extremely strong correlation that exists between quantum particles.

Which of the statements given above is/are correct?

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

Correct answer: C

Explanation: Both statements are correct.

All computing systems rely on a fundamental ability to store and manipulate information. Current computers manipulate individual bits, which store information as **binary 0 and 1 states**. **Quantum computers** leverage quantum mechanical phenomena to manipulate information. To do this, they rely on quantum bits, or qubits.

Three quantum mechanical properties — **superposition, entanglement, and interference** — are used in quantum computing to manipulate the state of a qubit.

--Superposition is essentially the ability of a quantum system to be in multiple states at the same time — that is, something can be “here” and “there,” or “up” and “down” at the same time.

--Entanglement is an extremely strong correlation that exists between quantum particles — so strong, in fact, that two or more quantum particles can be inextricably linked in perfect unison, even if separated by great distances.

--Finally, quantum states can undergo interference due to a phenomenon known as phase. Quantum interference can be understood similarly to wave interference; when two waves are in phase, their amplitudes add, and when they are out of phase, their amplitudes cancel.

Q.14) Consider the following statements regarding the **Active Matter Systems**:

1. Its constituent elements consume energy.
2. The system is continuously in state of equilibrium.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only

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

Correct answer: A

Explanation: Statement 1 is correct. **Active matter** describes systems whose constituent elements **consume energy** and are thus out-of-equilibrium. Examples include flocks or herds of animals, collections of cells, and components of the cellular cytoskeleton.

Statement 2 is incorrect. Due to continuous energy input, such systems are driven far from equilibrium and exhibit fascinating collective behaviors like clustering, giant mass fluctuations and anomalous transport.

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ECONOMICS

Q.1) Consider the following statements regarding the **Initial Public Offering (IPO)**:

1. It is the process of offering shares of a private corporation to the public in a new stock issuance.
2. It is regulated in India by the Securities & Exchange Board of India (SEBI).

Which of the statements given above is/are correct?

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

Correct answer: C

Explanation: An initial public offering (IPO) refers to the process of offering shares of a private corporation to the public in a new stock issuance. A company that was privately-owned until then becomes a publicly-traded company.

Securities and Exchange Board of India (SEBI) is a statutory body and a market regulator, which controls the securities market in India. The basic function of SEBI is to protect the interests of investors in securities and to promote and regulate the securities market. Companies must meet requirements by exchanges and the SEBI to hold an initial public offering (IPO).

Q.2) What Is a **Bad Bank**?

- a) A bank with non-performing assets more than its Tier-1 capital
- b) A bank not maintaining mandated Capital Adequacy Ratio
- c) A bank set up to buy the bad loans of another financial institution
- d) An international bank outside the oversight of national regulatory authorities

Correct answer: C

Explanation: A bad bank is a bank set up to buy the bad loans and other illiquid holdings of another financial institution. The entity holding significant nonperforming assets will sell these holdings to the bad bank at agreed price.

The bad bank is not involved in lending and taking deposits, but helps commercial banks clean up their balance sheets and resolve bad loans.

The **Economic Survey 2016-17** had also argued in favour of setting up a “Public Sector Asset Rehabilitation Agency” to help tackle the problem of bad loans.

Q.3) Which of the following have been designated as **Domestic Systemically Important Banks (D-SIBs)** by the Reserve Bank of India?

1. State Bank of India
2. ICICI Bank
3. HDFC Bank

Select the correct answer using the code given below:

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

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Correct answer: D

Explanation: The **State Bank of India, ICICI Bank and HDFC Bank** are the domestic systemically important banks (D-SIBs) or banks that are considered as “too big to fail”.

The Reserve Bank had issued the Framework for dealing with Domestic Systemically Important Banks (D-SIBs) on July 22, 2014. The D-SIB framework requires the Reserve Bank to disclose the names of banks designated as D-SIBs starting from 2015 and place these banks in appropriate buckets depending upon their Systemic Importance Scores (SISs). Based on the bucket in which a D-SIB is placed, an additional common equity requirement has to be applied to it.

Q.4) Consider the following statements regarding the **All-India Consumer Price Index Numbers for Agricultural and Rural Labourers (CPI-AL/RL)**:

1. The Labour Bureau is responsible for compilation and maintenance of CPI-AL/RL.
2. Currently, the base year for CPI-AL/RL is 1986-87.

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

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

Correct answer: C

Explanation: Both statements are correct.

The **Labour Bureau** is responsible for compilation and maintenance of Consumer Price Index Numbers for Agricultural Labourers and Rural Labourers (CPI-AL/RL) and Consumer Price Index Numbers for Industrial Workers (CPI-IW).

The current series of CPI Numbers for Agricultural and Rural Labourers (**base 1986-87=100**) replaced the earlier series on base 1960-61=100 in 1995.

The All-India Consumer Price Index Numbers for Agricultural Labourers and Rural Labourers (Base: 1986-87=100) for the month of December, 2020 decreased by 13 points and 12 points to stand at 1047 and 1053 points respectively.

Q.5) Which of the following institution is organizing the **MASCRADE 2021 (Movement against Smuggled & Counterfeit Trade) Conference**?

- a) NITI Aayog
- b) Federation of Indian Chambers of Commerce & Industry
- c) Department for Promotion of Industry and Internal Trade (DPIIT)
- d) World Trade Organisation

Correct answer: B

Explanation: Union Minister of Health and Family welfare recently inaugurated the **7th Edition of the International Conference “MASCRADE 2021”- Movement against Smuggled & Counterfeit Trade**, a flagship event organised by the FICCI (Federation of Indian Chambers of Commerce & Industry). The event is being held virtually this time in view of the pandemic precautions.

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The aim of MASCRAGE 2021 is to foster a healthy discussion on newer and practical strategies to mitigate the challenges of counterfeiting and smuggling especially in a post COVID era.

[Under the Drugs & Cosmetics Act, if any drug is deemed to be adulterated or spurious, then the offender or liable person may face imprisonment for a term which shall not be less than ten years but which may extend to imprisonment for life.]

ForumIAS

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HISTORY

Q.1) Which of the following state(s) of today was/were granted Statehood by the **North Eastern Region (Re-Organisation) Act, 1971**?

1. Tripura
2. Mizoram
3. Arunachal Pradesh

Select the correct answer using the code given below:

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

Correct answer: A

Explanation: The **North-Eastern Areas (Reorganisation) Act, 1971** was a major reform of the boundaries of India's North-East region into States and union territories. It led to:

- Establishment of the states of Manipur, Tripura. They were Union Territories before.
- Establishment of the state of Meghalaya. It was an autonomous part of Assam before.
- Establishment of the Union Territories of Mizoram and Arunachal Pradesh.

The erstwhile princely states of Tripura and Manipur were merged into the Indian Union in October 1949 and became full-fledged states on January 21, 1972.

Q.2) Consider the following statements regarding **Subhash Chandra Bose**:

1. He was jailed during Civil Disobedience movement and released in 1931 after Gandhi-Irwin pact was signed.
2. He was elected the President of Indian National Congress at Haripura session after two successive terms of Jawahar Lal Nehru.

Which of the statements given above is/are correct?

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

Correct answer: C

Explanation: Statement 1 is correct. **Subhas Chandra Bose** was jailed during Civil Disobedience movement in 1930. He was released in 1931 after Gandhi-Irwin pact was signed. He protested against the Gandhi-Irwin pact and opposed the suspension of Civil Disobedience movement specially when Bhagat Singh and his associates were hanged.

Statement 2 is correct. **J. L. Nehru** was elected for two consecutive terms as Congress President in 1936 and 1937 followed by Subhas Bose's victory in 1938 Haripura session.

Q.3) What is the main theme of **Sushruta Samhita (Sushruta's Compendium)**?

- a) Surgery
- b) Sanskrit grammar
- c) Calculus
- d) Astronomy

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Correct answer: A

Explanation: Sushruta was a physician in ancient India known today as the “**Father of Plastic Surgery**” for inventing and developing surgical procedures. His work on the subject, the Sushruta Samhita (Sushruta's Compendium) is considered the oldest text in the world on plastic surgery.

The Sushruta Samhita devotes chapter after chapter to surgical techniques, listing over 300 surgical procedures and 120 surgical instruments in addition to the 1,120 diseases, injuries, conditions, and their treatments, and over 700 medicinal herbs and their application, taste, and efficacy, which are also dealt with in depth.

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POLITY

Q.1) Consider the following statements regarding the **pardoning power of President:**

1. The President cannot grant pardon in cases where the punishment or sentence is by a Court Martial.
 2. The power of president to grant pardon is final and not subject to Judicial review.
- Which of the statements given above is/are correct?
- a) 1 only
 - b) 2 only
 - c) Both 1 and 2
 - d) Neither 1 nor 2

Correct answer: D

Explanation: Statement 1 is incorrect. Under the Constitution of India (**Article 72**), the President of India 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—

--in all cases where the punishment or sentence is by a Court Martial;

--in all cases where the punishment or sentence is for an offence against any law relating to a matter to which the executive power of the Union extends;

--in all cases where the sentence is a sentence of death.

Statement 2 is incorrect. The power of pardon under Article 72 was reviewed in the cases of **Maru Ram v Union of India and Kehar Singh v Union of India**.

The Court explicitly held in that 'Article 72 falls squarely within the judicial domain and can be examined by the court by way of judicial review.' The Court qualified this finding by holding that the order of the President cannot be subjected to judicial review on its merits except within the strict limitations of Presidential order being arbitrary or wholly irrelevant, irrational, discriminatory or mala fide.

Q.2) In which of the following circumstance(s) the Parliament can make laws on subjects specified in the **State List of Seventh Schedule to the Constitution?**

1. If the Legislative Council of a State has declared by resolution that it is necessary or expedient in the national interest that Parliament should make such a law.
2. If a Proclamation of Emergency is in operation.

Select the correct answer using the code given below:

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

Correct answer: B

Explanation: Statement 1 is incorrect. **Article 249** of the Constitution states that if the **Council of States** has declared by resolution supported by not less than two-thirds of the members present and voting that it is necessary or expedient in the national interest that Parliament should make laws with respect to any matter enumerated in the State List specified in the resolution, it shall be lawful for Parliament to make laws for the whole or any part of the territory of India with respect to that matter while the resolution remains in force.

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Statement 2 is correct. **Article 250** provides for power of Parliament, while a Proclamation of Emergency is in operation, to make laws for the whole or any part of the territory of India with respect to any of the matters enumerated in the State List.

Q.3) Consider the following statements:

1. Constitution puts a limit of 14 days on President to either assent or reject a law after it has been passed by both houses of the Parliament.
 2. The President cannot return for reconsideration a Money bill duly passed by the Parliament.
- Which of the statements given above is/are correct?

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

Correct answer: B

Explanation: Statement 1 is incorrect. There is **no time limit** put on the President to declare assent or reject a bill passed by the Parliament. This in effect is the **Pocket veto** power of the President of India.

Statement 2 is correct. President can either accept or reject a money bill but cannot return it for reconsideration.

Article 111 of the Constitution states that President may, as soon as possible after the presentation to him of a Bill for assent, return the Bill if it is not a Money Bill to the Houses with a message requesting that they will reconsider the Bill or any specified provisions thereof, and if the Bill is passed again by the Houses with or without amendment and presented to the President for assent, the President shall not withhold assent therefrom.

Q.4) Consider the following statements:

1. Acquisition and requisitioning of property' is a state subject under the Seventh Schedule to the Constitution.
2. The Legislative Assembly Jammu & Kashmir can make laws with respect to any of the matters enumerated in the State List except Land, Public Order and Police.

Which of the statements given above is/are correct?

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

Correct answer: D

Explanation: Statement 1 is incorrect. Though **land is a state subject**, "**acquisition and requisitioning of property**" is in the **concurrent list**. Both Parliament and state legislatures can make laws on this subject.

Statement 2 is incorrect. As per the **Jammu & Kashmir Reorganisation Act, 2019**; The Legislative Assembly of Union territory of Jammu and Kashmir, the Legislative Assembly may make laws for the whole or any part of the Union territory of Jammu and Kashmir with respect to any of the matters enumerated in the State List except the subjects mentioned at entries 1 and 2, namely "**Public Order**" and "**Police**" respectively.