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Daily MCQs: 03-10-2024

1. Consider the following statements about CAR T-cell therapy.

- 1) CAR T-cell therapy uses a patient's own cells.
- 2) CAR T-cell therapy is approved for all types of cancers.

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

2. Tapping of phone lines, without prior authorization, is violative of which part of the Constitution?

- A. Article 14 and the provisions under the 42nd Amendment to the Constitution
- B. Article 17 and the Directive Principles of State Policy in Part IV
- C. Article 21 and the freedoms guaranteed in Part III
- D. Article 24 and the provisions under the 44th Amendment to the Constitution

3. Consider the following statements about Eklavya Model Residential Schools (EMRSs).

- 1) The scheme is being implemented by the Ministry of Education.
- 2) EMRSs objective is to provide quality middle and high-level education to Scheduled Tribe (ST) students in remote areas.
- 3) Non-ST students can be admitted in EMRSs.
- 4) The National Education Society for Tribal Students (NESTS) controls and manages these schools.

Which of the statements given above is/are correct?

- A. 1, 2 and 3 only
- B. 1, 3 and 4 only
- C. 2, 3 and 4 only
- D. All of the above

4. Consider the following statements about the Index of Eight Core Industries (ICI).

- 1) ICI is released by the Office of Economic Adviser, Ministry of Commerce and Industry.
- 2) ICI index is published on a quarterly basis.
- 3) The base year of the ICI is 2011-12.

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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. 1, 2 and 3 only

5. The objective of Pradhan Mantri Kisan Sampada Yojana is

- A. To provide farmers with a minimum income support.
- B. To create efficient supply chain management from farm gate to retail outlet.
- C. To promote awareness about organic farming.
- D. To promote awareness about efficient water management.

Solutions:

1. Answer: A

Explanation

- **Chimeric antigen receptor (CAR) T-cell therapies** represent a quantum leap in the sophistication of cancer treatment. Unlike chemotherapy or immunotherapy, which **require mass-produced injectable or oral medication**, CAR T-cell therapies **use a patient's own cells**. Hence, **statement 1 is correct**.
 - They are **modified in the laboratory to activate T-cells**, a **component of immune cells**, to attack tumors. These modified cells are then **infused back into the patient's bloodstream** after conditioning them to multiply more effectively.
 - The cells are even more specific than targeted agents and directly activate the patient's immune system against cancer, making the treatment **more clinically effective**. This is why they're called **'living drugs'**.

Where is it used?

- As of today, CAR T-cell therapy has been approved for **leukaemias** (cancers arising from the cells that produce white blood cells) and **lymphomas** (arising from the lymphatic system). Hence, **statement 2 is incorrect**.
 - These cancers occur through **unregulated reproduction of a single clone of cells**: following the cancerous transformation of a single type of cell, it produces millions of identical copies. As a result, the **target for CAR T-cells is consistent and reliable**.
 - CAR T-cell therapy is also presently used among patients with cancers that have returned after an initial successful treatment or which haven't responded to previous combinations

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of chemotherapy or immunotherapy.

- Its **response rate is variable**. In certain kinds of leukaemias and lymphomas, the efficacy is as high as 90%, whereas in other types of cancers it is significantly lower.
- The **potential side-effects are also significant**, associated with **cytokine release syndrome** (a widespread activation of the immune system and collateral damage to the body's normal cells) and **neurological symptoms** (severe confusion, seizures, and speech impairment).

2. Answer: C

Explanation

- Phone-tapping is the activity of **listening secretly to someone's phone conversations** using special electronic equipment.
- The term "**phone tapping,**" or **interception** of phone communications, originated in the United States in the 1890s following the invention of the telephone recorder.
- **According to Section 5(2) of the Indian Telegraph Act, 1885**, phone tapping can be authorized by the **Centre or states** in cases of public emergencies or in the interest of public safety.
- **Such orders can be issued if authorities are satisfied that it is necessary for public safety**, the sovereignty and integrity of India, national security, friendly relations with foreign states, maintenance of public order, or prevention of incitement to commit an offense.
- **Authorization for phone tapping is granted by an order issued by the Secretary to the Government of India in the Ministry of Home Affairs.** In the case of State Governments, such authorization is issued by the Secretary to the State Government responsible for the Home Department.
- Tapping of phone lines or recording calls without consent is a violation of right to Privacy under **Article 21 of the Indian Constitution** guarantees that "No person shall be deprived of his life or personal liberty except according to procedure established by law." The term "personal liberty" encompasses the right to privacy, and citizens have the right to protect their personal privacy. **Hence, answer is option C.**

3. Answer: C

Explanation

- The scheme of Eklavya Model Residential Schools (EMRSs) was introduced in **1997-98** with an objective to **provide quality middle and high-level education to Scheduled Tribe (ST) students in remote areas. Hence, statement 2 is correct**
- The schools are aimed to enable ST students to access the best opportunities in education

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and to bring them at par with the general population. The schools focus not only on academic education but on the **all-round development of the students**.

- Each school has a capacity of 480 students, catering to students from Class VI to XII. Non-ST students can be admitted in EMRSs up to **10% of the total seats**. Hence, **statement 3 is correct**.

- The **National Education Society for Tribal Students (NESTS)**, an autonomous organization under the Ministry of Tribal Affairs, establishes, endows, maintains, controls and manages these schools. Hence, **statement 4 is correct**.

- The government aims to establish EMRS in **every block with more than 50% ST population and at least 20,000 tribal persons**.

- EMRS are set up in States/UTs with grants under Article 275(1) of the Constitution of India.
 - Article 275(1) **guarantees grants-in-aid from the Consolidated Fund of India** each year for promoting the welfare of Scheduled Tribes. Infrastructure development schemes like protected drinking water, road connectivity, electricity and housing are provided under this scheme.
- The scheme is being implemented by the **Ministry of Tribal Affairs**. Hence, **statement 1 is incorrect**.

4. Answer: B

Explanation

- The Index of Eight Core Industries (ICI) is a **production volume index** published on a **monthly basis**. Hence, **statement 2 is incorrect**.

- ICI measures **combined and individual performance of production of eight core industries viz. Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement and Electricity**.

- These industries are likely to impact on general economic activities as well as industrial activities.

- The Eight Core Industries comprise **40.27 per cent of the weight of items included in the Index of Industrial Production (IIP)**.

- IIP is a composite indicator that measures the **short-term changes in the volume of production** of a basket of industrial products during a given period with respect to that in a chosen base period.
- **Industry Weight (In percentage):**
 - Petroleum & Refinery production - 28.04
 - Electricity generation - 19.85
 - Steel production - 17.92
 - Coal production - 10.33

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- Crude Oil production - 8.98
- Natural Gas production - 6.88
- Cement production - 5.37
- Fertilizers production - 2.63.
- ICI is released by the **Office of Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry. Hence, statement 1 is correct.**
- The base year of the ICI is **2011-12. Hence, statement 3 is correct.**

5. Answer: B

Explanation

- The **Ministry of Food Processing Industries** has been implementing the Pradhan Mantri Kisan SAMPADA Yojana (PMKSY) since 2017.
- SAMPADA (Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters) is a comprehensive package which **aims to create modern infrastructure with efficient supply chain management from farm gate to retail outlet. Hence, option B is correct.**
- It aims to provide a big boost to the growth of the food processing sector in the country and also help in providing **better returns to farmers, reducing wastage of agricultural produce, increasing the processing level and enhancing the export of the processed foods.**
- Under PMKSY the following schemes are to be implemented.
 - i. Mega Food Parks
 - ii. Integrated Cold Chain, Value Addition and Preservation Infrastructure
 - iii. Creation/Expansion of Food Processing/Preservation Capacities
 - iv. Infrastructure for Agro Processing Clusters
 - v. Scheme for Creation of Backward and Forward Linkages
 - vi. Food Safety & Quality Assurance Infrastructure
 - vii. Human Resources and Institutions.

Objectives of PMKSY

- **Creation of modern infrastructure** for food processing mega food parks/ clusters and individual units;
- To create **effective backward and forward linkages** – linking farmers, processors and markets;
- To create **robust supply chain infrastructure for perishables.**