IAS ACADEMY RUN BY FORMER CIVIL SERVANTS

Daily MCQs: 26-01-2024

1. With reference to the Pradhan Mantri Matsya Sampada Yojana, consider the following statements.

1. It aims to bring about the Blue Revolution through sustainable and responsible development of the fisheries sector in India.
2. It is implemented by the Ministry of Agriculture and Farmers' Welfare.

Which of the statements given above is/are incorrect?

A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

2. With reference to the latest edition of the Ministry of Education's AISHE Survey, consider the following statements.

1. Gross Enrolment Ratio in higher education has crossed the National Education Policy's target of 50 per cent.
2. Gender Parity Index in higher education continues to be above 1.

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

3. Which of the following are considered as causes of land degradation?

1. Excessive pressure on land beyond its carrying capacity
2. Wind and water erosion
3. Imbalanced use of chemical fertilisers
4. Indiscriminate tillage

Select the correct answer using the codes given below

A. 1, 2 and 3 only
B. 1, 2 and 4 only
C. 2, 3 and 4 only
D. 1, 2, 3 and 4

4. The Dudhwa Tiger Reserve, which comprises the Dudhwa National Park, Kishanpur Wildlife Sanctuary and Katarniaghat Wildlife Sanctuary, is located in the state of?

A. Uttarakhand
B. Uttar Pradesh

C. Odisha
D. Chhattisgarh

5. Consider the following statements about neutrinos.

1. They lack electrical charge and hardly interact with other forms of matter.
2. They cannot be produced through artificial processes.
3. Studying neutrinos can help us understand the interior of the sun.

Which of the statements given above is/are correct?

A. 1 and 2 only
B. 2 and 3 only
C. 3 only
D. 1 and 3 only

Solutions:

1. Answer: **B**

Explanation:

- **Statement 1 is correct:** The central government launched the Pradhan Mantri Matsya Sampada Yojana (PMMSY) in 2020 to bring about the **Blue Revolution** through sustainable and responsible development of the fisheries sector in India.
- **Statement 2 is incorrect:** It is implemented by the **Department of Fisheries, Ministry of Fisheries, Animal Husbandry and Dairying.**

Objectives

- It is a flagship scheme for **integrated, sustainable, inclusive development of marine and inland fisheries sector** in the country with an estimated investment of Rs. 20,000 crores for its implementation during a period of 5 years from FY 2020-21 to FY 2024-25 in all States/Union Territories.
- It aims at enhancing **fish production by an additional 70 lakh tonne** by 2024-25, **increasing fisheries export earnings to Rs.1,00,000 crore** by 2024-25, **doubling of incomes** of fishers and fish farmers, **reducing post-harvest losses** from 20-25% to about **10%.**
- It is designed to address critical gaps in fish production and productivity, quality, technology, post-harvest infrastructure and management, modernization and strengthening of value chain, traceability and establishing a robust fisheries management framework and fishers' welfare.
- It primarily focuses on adopting **'Cluster or Area based approaches'** and creation of **Fisheries clusters** through backward and forward linkages.
- The scheme also aims at generating additional **55 lakhs direct and indirect gainful employment opportunities** in the fisheries sector and allied activities.

Sub components covered under PMMSY

- Enhancement of Production and Productivity
- Infrastructure and Post-Harvest Management

- Fisheries Management and Regulatory Framework.

2. Answer: **B**

Explanation:

- The **Ministry of Education** has released the **All India Survey on Higher Education (AISHE) 2021-2022**.

About AISHE

- The Ministry has been conducting AISHE since 2011, **covering all Higher Educational Institutions (HEIs)** in the country collecting detailed information on different parameters such as student enrollment, teachers, infrastructural information, etc.

Following are the key highlights of the survey:
Student Enrolment:

- The total enrolment in higher education has increased to nearly **4.33 crore** in 2021-22 from 4.14 crore in 2020-21. There has been an increase of around 91 lakh in the enrolment from 3.42 crore (26.5%) in 2014-15.
- The **Female enrolment** has increased to 2.07 crore in 2021-22 from 2.01 crore in 2020-21. There has been an increase of around 50 lakh in the female enrolment from 1.57 crore (32%) in 2014-15.
- The total Student Enrolment in **North East States** is 12.02 lakh in 2021-22 as compared to 9.36 lakh in 2014-15.
- **Statement 1 is incorrect: Gross Enrollment Ratio (GER)** has increased to **28.4** in 2021-22 from 23.7 in 2014-15 [as per 2011 population projections for 18-23 years age group]. **Female GER** has increased to **28.5** in 2021-22 from 22.9 in 2014-15.
- **Statement 2 is correct: Gender Parity Index (GPI),** the ratio of female GER to male GER is 1.01 in 2021-22. GPI has continued to be above 1 since 2017-18 i.e., **female GER continues to be more than male GER for the fifth consecutive year.**
- As per response in AISHE 2021-22, about 78.9% of the total students are enrolled in undergraduate level courses and 12.1% are enrolled in postgraduate level courses.
- Among Disciplines at undergraduate level in AISHE 2021-22, enrolment is highest in Arts (34.2%), followed by science (14.8%), Commerce (13.3%) and Engineering & Technology (11.8%).
- Among streams at postgraduate level in AISHE 2021-22, maximum students are enrolled in Social Science (21.1%) followed by science (14.7%).
- **Government Universities** constituting 58.6% of total Universities, contribute 73.7% of total enrolment, Private Universities account for 26.3% of total enrolment.
- Availability of different infrastructural facilities in university in 2021-22:
    - Libraries (99%)
    - Laboratories (88%)
    - Computer centers (93%)
    - Skill Development Centre (71%)
    - Play Ground (91%)

Number of Institutions

- The total number of Universities / University level institutions registered is 1,168, Colleges 45,473 and Standalone Institutions 12,002.
- In all, 341 Universities/University level institutions have been established since 2014-15.
- 17 Universities (of which 14 are State Public Universities) and 4,470 Colleges are exclusively for women.

Faculty

- The total number of faculty/teachers in 2021-22 are 15.98 lakh, of which about 56.6% are male and 43.4% are female.
- Female faculty/teachers have increased to 6.94 lakh in 2021-22 from 5.69 lakh in 2014-15 (an increase of 22% since 2014-15)
- There is a marginal betterment of female per 100 male faculty from 75 in 2020-21 to 77 in 2021-22.

3. Answer: **D**

Explanation:

Present State of Land Degradation in India

- **Almost all states** have reported an **expansion in degraded areas** during the past couple of decades, with the most **rapid deterioration** in land quality being in the **biodiversity-rich but ecologically sensitive north-eastern region.**
- The **National Rainfed Area Authority of India** notes that **121 million hectares (mha)** of land in the country has been affected by degradation which amounts to **36.8 per cent of the land mass** i.e. **nearly one-third of the country's land has become substandard.**
- **Rajasthan** is the most land degradation-prone state due to its soil and climatic conditions followed by **Maharashtra** and **Gujarat.**
- In India, the **economic loss** due to land degradation and changes in land use pattern was estimated in 2014-15 at **Rs 3.17 trillion equivalent to 2.5 percent of that year's gross domestic product.**

Causes of Land Degradation

- The major causes of the land degradation are
    - **deforestation**
    - **wind and water erosion**
    - **imprudent alteration of land use**
    - **excessive pressure on land beyond its carrying capacity**
    - **flawed farm practices**
    - **imbalanced use of chemical fertilisers**
    - **inadequate application of organic manures**
    - **indiscriminate tillage.**

4. Answer: **B**

Explanation:
Location

- The Dudhwa Tiger Reserve is a protected area in **Uttar Pradesh.** It shares the north-eastern **boundary with Nepal,** which is defined to a large extent by the **Mohana River.**
- It comprises the **Dudhwa National Park, Kishanpur Wildlife Sanctuary and Katarniaghat Wildlife Sanctuary.** The three Protected Areas, being the last viable home of the **Royal Bengal Tiger** in the state, have been jointly constituted into Dudhwa Tiger Reserve under Project Tiger.

Vegetation

- **Moist Deciduous** type, containing some of the finest examples of Sal forests in India, as well the most extensive tracts of **moist grasslands** that remain in this region.

Rivers flowing through

- The **Sharda River** flows by the Kishanpur Wildlife Sanctuary, the **Geruwa River** flows through the Katarniaghat Wildlife Sanctuary and the **Suheli and Mohana** streams flow in the Dudhwa National Park, all of which are tributaries of the mighty **Ghagra River.**

Wildlife

- Tiger, Rhinoceros, Elephant, Swamp deer, Sambar, Cheetal, Hog deer, Kakar, Wild pig, Blue bull, Rhesus monkey, Langur, Sloth bear, Porcupine, Otter, Monitor lizard, Turtles, Python, Mugger, Gharial, etc.
- Of the nearly 1300 birds found in the Indian subcontinent, over 450 species can be seen in the Reserve. These include Hornbill, Red Jungle Fowl, Peafowl, Bengal Florican, Fishing eagle, Serpent eagle, Osprey, Woodpeckers, Shama, Indian Pitta, Paradise flycatcher, Orioles, Emerald dove etc.

5. Answer: **D**

Explanation:

- A neutrino is a **fundamental elementary particle**, and atmospheric neutrinos can be **studied when solar radiation hits the earth's atmosphere.**
- **Statement 1 is correct:** They are very **hard to detect as they hardly interact with other forms of matter due to their lack of electrical charge.**
- **Statement 2 is incorrect:** They are **produced in high-energy processes such as within stars and in supernovae.** On earth, they are produced by **particle accelerators and nuclear power plants.**
- Neutrino detectors are often built underground to isolate them from cosmic rays from space and any other sources of background radiation. Because neutrinos are so small, they barely interact with matter, passing through most atoms, and thus most matter, without interaction.
- So far, neutrino physics has been mostly limited to outer space sources, observing neutrinos from farther-away stars and galaxies. There are about 20 or so neutrino detectors, telescopes, and experiments around the world.

Significance

Properties of the sun

- **Statement 3 is correct:** The visible light that reaches us from the sun is emitted from the surface of the sun. The neutrinos which also take close to this time to reach us from the sun, known as **solar neutrinos,** were produced in the core of the sun. Therefore they give us

information about the interior of the sun. Studying these neutrinos can help us **understand what goes on in the interior of the sun.**

Probing Early Universe

- Neutrinos interact very little with the matter around them, so they **travel long distances uninterrupted.** Since they take time to cross these distances, they are in effect uninterrupted for very long times. The extragalactic neutrinos we observe may be coming from the distant past. These inviolate messengers can give us a **clue about the origin of the universe and the early stages of the infant universe, soon after the Big Bang.**

Medical Imaging

- Apart from direct future uses of neutrinos, there are **technological applications** of the detectors that will be used to study them. For instance, X-ray machines, PET scans, MRI scans, etc., all came out of research into particle detectors. Hence the INO detectors may have applications in **medical imaging.**