

UPSC CURRENT AFFAIRS MCQS 17-04-2024

Q1:

Consider the following statements in respect of In Vitro Fertilization (IVF):

1. It is a procedure used to treat infertility and prevent genetic disorders in offspring.
2. During IVF, mature eggs are retrieved from the ovaries and fertilized with sperm in a lab dish.
3. IVF is the least effective form of Assisted Reproductive Technology (ART).
4. IVF success rates are high and not impacted by a woman's age.

How many of the statements given above are correct?

- A: Only one
B: Only two
C: Only three
D: All four

Answer: B

Explanation:

Alabama Supreme Court's ruling on February 16 equating frozen embryos to children has stirred controversy in the ongoing political debate over reproductive rights in the US, particularly concerning IVF. In vitro fertilization (IVF), is a complex series of procedures aimed at achieving pregnancy. It is primarily used as a treatment for infertility, defined as the inability to conceive after at least a year of trying for most couples. Additionally, IVF can be employed to prevent the transmission of genetic disorders to offspring. **Hence, statement 1 is correct.**

During IVF, mature eggs are retrieved from the ovaries and fertilised with sperm in a laboratory setting. Fertilised eggs, known as embryos, are then transferred to the uterus for implantation. A full cycle of IVF typically spans 2 to 3 weeks, although it may extend longer depending on specific circumstances. **Hence, statement 2 is correct.**



In vitro fertilization is the most effective form of assisted reproductive technology, involving manipulation of eggs, embryos and sperm. It can utilise a couple's own eggs and sperm or involve reproductive material from donors. **Hence, statement 3 is incorrect.**

In some cases, a gestational carrier may carry the embryo to term. Success rates of IVF vary based on factors such as age and underlying infertility causes. In vitro fertilization procedures can be time-consuming, expensive and invasive. Multiple pregnancies may occur if more than one embryo is implanted. **Hence, statement 4 is incorrect.**

Q2:

With reference to the Low Earth Orbit (LEO), consider the following statements:

- 1. Due to high air drag, debris in Low Earth Orbit (LEO) clears quickly, posing minimal collision risk.**
- 2. The dense population of satellites in LEO, including polar orbits, increases the chance of collisions between objects.**
- 3. The Kessler syndrome is a concern for Geostationary orbits (GEO) orbits more than LEO due to the lower debris density in GEO.**

How many of the statements given above are correct?

- A: Only one**
- B: Only two**
- C: All three**
- D: None**

Answer: A

Explanation:

ISRO Chairman S. Somanath declared India's aim for debris-free space missions by 2030. As of January 2019, over 128 million debris pieces smaller than 1 cm and approximately 900,000 pieces between 1 and 10 cm were estimated. Low Earth Orbit (LEO), below 2,000 km orbital altitude,



traditionally had few universal orbits, but this is changing with the deployment of satellite internet constellations. Low Earth Orbit is densely populated with satellites, including Sun-synchronous and polar orbits, resulting in frequent approaches between objects. Gravitational perturbations and collisions pose risks, with impact speeds averaging 10 km/s and potential for collisions from any direction. **Hence, statement 1 is incorrect while 2 is correct.**

The Kessler syndrome, a cascade effect of collisions, could render certain low Earth orbits unusable due to increased debris density. Crewed missions operate mostly below 400 km altitude, where air drag helps clear fragments, though the upper atmosphere's density varies. **Hence, statement 3 is incorrect.**

Q3:

Consider the following statements about INS Talwar, recently seen in news:

- 1. It is a nuclear-powered submarine of the Indian Navy.**
- 2. It is the lead ship of the Talwar-class frigates, commissioned in 2005.**
- 3. It has participated in exercises with both the United States Navy and the French Navy.**

How many of the statements given above are incorrect?

- A:** Only one
B: Only two
C: All three
D: None

Answer: B

Explanation:

Recently, Indian Naval frigate INS Talwar on deployment in the Western Arabian Sea for maritime security operations under the ambit of the Bahrain-based Combined Maritime Forces (CMF) apprehended a suspicious dhow (a type of traditional sailing ship) recently and recovered 940 kg of narcotics. The INS Talwar is a guided missile frigate and the first ship in the Talwar-class of the Indian Navy. It was commissioned into the Indian Navy on June 18, 2003 and is affiliated with the 16th Cavalry of the Indian Army. **Hence, statements 1 and 2 are incorrect.**



It is 124.8 meters long, has a speed of 56 kilometers per hour and a range of 7,810 kilometers. It is equipped with anti-air operations, anti-ship/land-attack missiles and anti-submarine warfare. It has been deployed around the Indian Ocean and has participated in several exercises, including Malabar 2008 with the United States Navy and Cutlass Express 2021 with the French Navy. **Hence, statement 3 is correct.**

Q4:

Consider the following statements about the Jhelum River:

Statement I:

It is a tributary of the Brahmaputra River that flows through India and Pakistan.

Statement II:

This river joins the Chenab River near Trimmu, Pakistan.

Which of the following is correct in respect of the above statements?

A: Both Statement-I and Statement-II are correct and Statement –II is the correct explanation of Statement-I

B: Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I

C: Statement-I is correct but Statement-II is incorrect

D: Statement-I is incorrect but Statement-II is correct

Answer: D

Explanation:

Recently, amidst torrential rains in the Kashmir Valley, a tragic boat capsized occurred in the Jhelum river, resulting in the loss of six lives, including minors. The Jhelum River is a tributary of the Indus River that flows through India and Pakistan. It is the largest and westernmost of the five rivers of the Punjab region, which merge with the Indus River in eastern Pakistan. **Hence, statement I is incorrect.**



It originates from a deep spring in Verinag at Anantnag, which is in the Indian-administered Kashmir region. It flows through Srinagar and Wular Lake before entering Pakistan-administered Kashmir. This river joins the Chenab River near Trimmu in Pakistan. **Hence, statement II is correct.**

Q5:

With reference to the NITI Aayog, consider the following statements:

- 1. It is a policy think tank that replaced the Planning Commission of India.**
- 2. The Chief Ministers of all Indian states are part of NITI Aayog's Governing Council.**

Which of the statements given above is/are correct?

A: 1 Only

B: 2 Only

C: Both 1 and 2

D: Neither 1 nor 2

Answer: C

Explanation:

Recently, NITI Aayog Member Ramesh Chand forecasted that the agriculture and allied sectors are poised to achieve over 6% growth in the fiscal year 2024-25. The National Institution for Transforming India (NITI Aayog) is a policy think tank and government organization that advises the Indian government on policies and programs. It was established in 2015 to replace the Planning Commission. **Hence, statement 1 is correct.**

It is based on the 7 pillars of effective governance-Pro-People, Pro-Activity, Participation, Empowering, Inclusion of all, Equality and Transparency. The composition of NITI Aayog includes the Prime Minister as Chairperson, the Vice-Chairperson appointed by the Prime Minister, a Governing Council comprising Chief Ministers of all states and Lt. Governors of Union Territories. Additionally, it consists of a Regional Council addressing specific regional issues chaired by the Prime Minister or his nominee, ad hoc membership from



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leading research institutions, ex-officio membership of up to four members from the Union council of ministers nominated by the Prime Minister, a Chief Executive Officer appointed by the Prime Minister, and special invitees nominated by the Prime Minister, consisting of experts and specialists with domain knowledge. **Hence, statement 2 is correct.**