



Daily Current Affairs Prelims Quiz 27-09-2026

1) Consider the following statements regarding the recent X-ray study of blazars:

1. The study by ARIES used observations from NASA's NICER and NuSTAR space telescopes to analyse X-ray emissions from selected blazars.
2. The study found evidence of a direct accretion-disk contribution to X-ray emissions in Mrk 501 during its relatively low-activity state.
3. Blazars are active galactic nuclei whose relativistic jets are oriented approximately perpendicular to the line of sight from Earth.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. 1 and 3
- d. 1 and 2

Answer : d



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Explanation

- **Statement 1 is Correct.** ARIES researchers combined observations from **NICER** (soft X-rays) and **NuSTAR** (hard X-rays).
- **Statement 2 is Correct.** A low-energy component associated with the **accretion disk** was detected in Mrk 501 when jet emission weakened.
- **Statement 3 is Incorrect:** Blazars have relativistic jets oriented **approximately towards Earth**, causing strongly beamed radiation.

2) Consider the following statements regarding the Circumgalactic Medium (CGM) and black hole jets

1. The Circumgalactic Medium acts as a reservoir of gas that can fuel star formation in galaxies, while relativistic jets from supermassive black holes can heat this gas and suppress its cooling.
2. Relativistic jets heat the Circumgalactic Medium uniformly in all directions, thereby preventing the formation of localized shockwaves.

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 : a

Explanation

- **Statement 1 is Correct.** The CGM serves as a major gas reservoir for galaxies. Jets can deposit energy into it, preventing gas from cooling and thereby **suppressing star formation**.
- **Statement 2 is Incorrect.** The study indicates that relativistic jets transfer energy **directionally/focally**, producing localized shockwaves rather than heating the CGM uniformly.

3) Consider the following statements regarding Single-Atom Skeletal Editing

1. It enables chemists to modify the core molecular skeleton of an already assembled molecule without completely synthesising the molecule again.
2. The method developed by ETH Zürich involves replacing a carbon atom with a nitrogen atom in suitable organic molecular frameworks.
3. Phenylodine(III) diacetate (PIDA) acts as the nitrogen donor, while ammonium carbamate serves as the oxidising agent in the reaction.
4. Single-atom skeletal editing can facilitate late-stage diversification of drug-like molecules and the development of bio-isosteres.

Which of the above statements are correct?

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

Answer : c

Explanation

- **Statement 1 is Correct.** Skeletal editing allows direct modification of an existing molecular framework.
- **Statement 2 is Correct.** The reported method enables **carbon-to-nitrogen atom swapping**.
- **Statement 3 is Incorrect. PIDA is the oxidant**, while **ammonium carbamate is the nitrogen source**.
- **Statement 4 is Correct.** The technique supports **late-stage diversification** and access to **bio-isosteric molecular variants**, such as interconversion between indoles and benzimidazoles.

4) With reference to the “35-by-35” Global Electrification Pledge, Which one of the following is correct?

- a. It is an initiative associated with the COP31 Presidency of Turkey.
- b. It seeks to reduce the share of electricity in global final energy demand.
- c. It targets achieving 35% electricity access among the global population by 2035.
- d. It is a target exclusively focused on expanding renewable electricity generation.

Answer : a

Explanation

- **Option a is correct** - The “35-by-35” pledge seeks to raise electricity’s share in **global final energy demand from about 23% to 35% by 2035**, making electrification a tool for both **emission reduction and energy access**.

5) Consider the following statements regarding the “Enemy State” clauses in the UN Charter

1. Article 53 defines an “enemy State” with reference to states that were enemies of any signatory to the UN Charter during the Second World War.
2. The “enemy State” clauses occur in Articles 53, 77 and 107 of the UN Charter.
3. The UN General Assembly’s recognition of these clauses as obsolete automatically removes them

from the UN Charter without requiring a formal amendment.

Which of the statements given above is/are correct?

- a. 1 and 2
- b. 2 and 3
- c. 1, 2, 3
- d. 3 only

Answer : a

Explanation

- **Statement 1 is Correct.** Article 53 defines an “enemy State” as a state that was an enemy of any signatory to the Charter during World War II.
- **Statement 2 is Correct.** The clauses are contained in **Articles 53, 77 and 107**. The General Assembly recognised them as obsolete in 1995.
- **Statement 3 is Incorrect.** Recognition of obsolescence does **not itself amend the Charter**.



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