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DAILY QUIZ — SOLVED

Daily Quiz — May 20, 2026

20 May 2026



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DAILY QUIZ — SOLVED ANSWER KEY

Daily Quiz — May 20, 2026

20 May 2026 · 14 Questions · Answers & Explanations Included

Question 1

of 14

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The Bureau of Indian Standards (BIS), which recently notified the E30 petrol standard, operates under which ministry?

- A Ministry of Petroleum and Natural Gas
- B Ministry of Consumer Affairs, Food and Public Distribution ✓
- C Ministry of Science and Technology
- D Ministry of Commerce and Industry

ANSWER & ANALYSIS

EXPLANATION

FACT: BIS is governed by the Bureau of Indian Standards Act, 2016, and functions under the Ministry of Consumer Affairs, Food and Public Distribution — not the Ministry of Petroleum, which is a common mistake. **ANALYSIS:** This matters for UPSC because BIS sets standards across all product categories (fuels, gold hallmarking, electrical goods), and its parent ministry is frequently asked in Prelims.


CONCEPT NOTE

BIS replaced the erstwhile Bureau of Indian Standards Act, 1986. It is the national standards body responsible for notifying Indian Standards (IS).

The E20 fuel standard was notified as IS 17021:2022; E30 follows the same gazette notification process (Part III, Section 4). BIS also runs the hallmarking scheme for gold and silver.

The Petroleum and Explosives Safety Organisation (PESO) handles safety standards for petroleum products and operates under the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce — a distinct body often confused with BIS.

Q1  **CONCEPT KIT**

 CROSS-PAPER	GS3 (energy, biofuels), GS2 (regulatory bodies).
 MAINS KEYWORDS	BIS Act 2016, Indian Standards, gazette notification, IS 17021, E30 fuel standard.
 COMMON MISTAKE	Candidates often assign BIS to the Ministry of Industry or Petroleum — it is Consumer Affairs.
 EXAM TIP	BIS parent ministry = Consumer Affairs; FSSAI parent ministry = Health; PESO parent ministry = DPIIT.
 INTERVIEW	Should fuel quality regulation rest with BIS (standards body) or with the Ministry of Petroleum? What is the case for a dedicated petroleum regulatory authority?

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Question 2

of 14

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India's National Biofuel Policy 2018 was amended in 2022 to advance the E20 blending target. Under the amendment, the revised target year for 20% ethanol blending was set as:

A 2023

B 2025 ✓

C 2027

D 2030

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: The April 2022 amendment to the National Biofuel Policy 2018 advanced the E20 target from 2030 to 2025, reflecting the accelerated progress India had made in scaling up sugar-to-ethanol supply. **ANALYSIS:** The shift from 2030 to 2025 is a five-year acceleration that also expanded eligible feedstocks to include surplus rice from FCI stocks, maize, and damaged foodgrains — decoupling the programme from exclusive dependence on sugarcane.






📖 CONCEPT NOTE

The National Biofuel Policy 2018 was notified on June 4, 2018. Its overarching governing body is the National Biofuel Coordination Committee (NBCC), chaired by the Cabinet Secretary.

The 2022 amendment also introduced new feedstock categories (FCI surplus rice, maize, millet) and gave impetus to second-generation (2G) ethanol from lignocellulosic biomass. India's first commercial 2G ethanol plant, designed by Praj Industries, was commissioned at Bathinda, Punjab, in 2022.

The CCEA (Cabinet Committee on Economic Affairs) fixes ex-mill ethanol procurement prices annually for oil marketing companies.

Q2  **CONCEPT KIT**

 CROSS-PAPER	GS3 (energy policy, agriculture, environment).
 MAINS KEYWORDS	NBP 2018, E20 target, NBCC, feedstock expansion, food vs fuel, 2G ethanol.
 COMMON MISTAKE	Confusing the original 2030 target with the amended 2025 target — both are in circulation; post-amendment the correct figure is 2025.
 EXAM TIP	NBP 2018 notified June 4, 2018; amended April 2022; E20 target advanced from 2030 → 2025.
 INTERVIEW	Is advancing the biofuel blending timeline without proportionate 2G scale-up a risk to food security?

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Question 3

of 14

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The National Testing Agency (NTA), which conducts NEET-UG, was established in which year and under which ministry?

A 2014; Ministry of Human Resource Development

B 2017; Ministry of Education ✓

C 2019; Ministry of Health and Family Welfare

D 2017; Ministry of Science and Technology

ANSWER & ANALYSIS

✓ EXPLANATION

FACT: NTA was established in 2017 under the Ministry of Education (then called Ministry of Human Resource Development; renamed in 2020). NEET-UG was transferred to NTA from CBSE in 2019.

ANALYSIS: NTA's legal status as a registered society under the Societies Registration Act — rather than a statutory body — is at the heart of its governance deficit; it lacks the institutional independence, mandatory public accountability, and Parliamentary oversight that a statutory charter would provide.

📌 CONCEPT NOTE

NTA was modelled on the Educational Testing Service (ETS) of the United States. It conducts NEET-UG (~23–24 lakh candidates), JEE-Main (~12–13 lakh), CUET-UG (~15 lakh), UGC-NET (~11 lakh), and CMAT — totalling ~65 lakh candidates annually.

The K. Radhakrishnan Committee (former ISRO Chairman) recommended shifting NEET-UG to CBT, with biometric verification, encrypted digital question delivery, and AI-based proctoring. CBT transition for NEET-UG is announced for 2027.

JEE-Main has been in CBT mode since 2018 with no large-scale paper leak since.

Q3  **CONCEPT KIT**
 **CROSS-PAPER**

GS2 (governance, education policy, institutional design).

 **MAINS KEYWORDS**

NTA, CBT transition, K. Radhakrishnan Committee, registered society vs statutory body, examination governance.

 **COMMON MISTAKE**

Attributing NTA to the Ministry of Health (which governs NEET's outcome — medical admissions) rather than the Ministry of Education (which governs NTA).

 **EXAM TIP**

NTA established 2017, Ministry of Education; NEET-UG transferred from CBSE in 2019.

 **INTERVIEW**

Should NTA be reconstituted as a statutory body with Parliamentary accountability, similar to UPSC?

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Question 4

of 14

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The Public Examinations (Prevention of Unfair Means) Act, 2024, enacted in the wake of examination malpractice, prescribes which of the following for those running organised paper leak networks?

- A Imprisonment of 1–3 years and fine up to ₹10 lakh
- B Imprisonment of 3–5 years and fine up to ₹1 crore
- C Imprisonment of 5–10 years and fine up to ₹1 crore ✓
- D Imprisonment of 7–14 years and fine up to ₹5 crore

ANSWER & ANALYSIS
✓ EXPLANATION






FACT: The Public Examinations (Prevention of Unfair Means) Act, 2024 prescribes 5–10 years imprisonment and a fine of up to ₹1 crore for organised paper leak networks. Impersonation carries a lower punishment of 3–5 years and fine up to ₹10 lakh.

ANALYSIS: The Act designates CBI as the primary investigating agency and defines "public examination" to explicitly include NEET, JEE, CUET, and UGC-NET — making it the foundational deterrence legislation for high-stakes entrance tests.

📌 CONCEPT NOTE

The Act was passed in 2024 as a legislative response to the NEET 2024 paper leak crisis in which 48 persons were arrested by CBI. Earlier, no single central legislation specifically addressed organised examination fraud at the national level — states had individual prevention-of-copying acts. The Act fills this gap by criminalising the entire supply chain of exam malpractice: paper leakers, distributors, coaching centres that receive and sell leaked papers, and impersonators. The CBI's designation as the primary agency is significant because NEET-related fraud typically crosses state borders.

Q4  **CONCEPT KIT**

 CROSS-PAPER	GS2 (governance, legislation, social justice).
 MAINS KEYWORDS	Public Examinations Act 2024, organised paper leak, CBI, NEET reform, examination integrity.
 COMMON MISTAKE	Confusing the penalties for impersonation (3–5 years) vs organised leak networks (5–10 years) — the latter is more severe.
 EXAM TIP	Organised paper leak = 5–10 years + ₹1 crore; Impersonation = 3–5 years + ₹10 lakh. Primary investigator = CBI.
 INTERVIEW	Is punitive legislation alone sufficient, or does examination reform require structural changes in NTA's governance architecture?

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Question 5

of 14

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Under the Supreme Court's May 2026 ruling on stray dog euthanasia, which body has been designated as the authorising authority for carrying out euthanasia of a specific dangerous dog?

- A Animal Welfare Board of India (AWBI)
- B Resident Welfare Association (RWA) of the affected locality
- C **Chief Veterinary Officer / designated municipal authority ✓**
- D State Animal Husbandry Department

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: The SC held that euthanasia must be authorised by the Chief Veterinary Officer (CVO) or the designated municipal authority. AWBI must be notified and can file objections within 48 hours, but it is not the decision-making body.

RWAs have no independent legal authority to order or conduct euthanasia. **ANALYSIS:** This institutional allocation reflects a deliberate balance — the municipal body (with its veterinary expertise) is the primary decision-maker, while AWBI serves as a statutory check against abuse of the euthanasia power.

📌 CONCEPT NOTE

The Animal Welfare Board of India (AWBI) is a statutory body under the Prevention of Cruelty to Animals Act, 1960. It is an advisory and oversight body with no direct field enforcement capacity.

The ABC Rules 2023 (Animal Birth Control Rules, replacing 2001 Rules) are notified under Section 38 of the PCA Act 1960 by the Ministry of Fisheries, Animal Husbandry and Dairying. The SC ruling applies the proportionality test (from *K.S. Puttaswamy 2017*): legitimate aim + rational nexus + necessity + proportionality stricto sensu.

Blanket culling drives remain expressly prohibited.

Q5
 **CONCEPT KIT**
 **CROSS-PAPER**

GS2 (fundamental rights, Article 21, local governance), GS4 (ethics — competing duties).

 **MAINS KEYWORDS**

Article 21, PCA Act 1960, ABC Rules 2023, AWBI, proportionality test, municipal corporation, euthanasia permissibility.

 **COMMON MISTAKE**

Assuming AWBI has decision-making power in euthanasia cases — it has only a notification and objection role (48-hour window).

 **EXAM TIP**

AWBI = advisory/oversight; CVO/municipal authority = decision-maker; ABC Rules 2023 = primary management framework; euthanasia = last resort exception.

 **INTERVIEW**

Does the SC's ruling create a loophole for municipalities to use euthanasia as a shortcut rather than running ABC programmes?

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Question 6

of 14

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With reference to the WHO's Public Health Emergency of International Concern (PHEIC) mechanism, which of the following correctly states the legal basis and the number of criteria that must ALL be satisfied for a PHEIC declaration?

- A IHR 1969, Article 8 — two criteria
- B IHR 2005, Article 12 — three criteria ✓
- C IHR 2005, Article 8 — two criteria
- D UN Charter, Article 99 — three criteria

ANSWER & ANALYSIS

 **EXPLANATION**

FACT: A PHEIC is declared by the WHO Director-General under Article 12 of the International Health Regulations (IHR) 2005, on the recommendation of an Emergency Committee. All three criteria must be met simultaneously: (1) an extraordinary event; (2) public health risk to other states through international spread; (3) a coordinated international response is potentially required.

ANALYSIS: The IHR 2005 — not the 1969 version — is the binding international legal framework; India is a signatory and is obligated to strengthen surveillance and notification under its provisions.

 **CONCEPT NOTE**

Previous PHEICs: H1N1 influenza (2009), Polio (2014), Ebola West Africa (2014–2016), Zika (2016), Ebola DRC Kivu (2019), COVID-19 (January 2020), Mpox/Monkeypox clade IIb (2022), Mpox clade Ib (2024), and the 2026 Bundibugyo Ebola outbreak in DRC/Uganda — making the 2026 BVD declaration the 9th PHEIC. The Bundibugyo ebolavirus (BVD) was first isolated in 2007 in Bundibugyo district, Uganda. No licensed vaccine exists for BVD; the Ervebo (rVSV-ZEBOV) vaccine targets only the Zaire strain.

BVD CFR is ~25–40% vs Zaire's ~60–90%.

Q6  **CONCEPT KIT**
 **CROSS-PAPER**

GS2 (international organisations, global health governance), GS3 (science & technology, biosafety).

 **MAINS KEYWORDS**

PHEIC, IHR 2005, Article 12, WHO Emergency Committee, Bundibugyo ebolavirus, Ervebo, ICMR-NIV Pune.

 **COMMON MISTAKE**

Citing IHR 1969 (the older version) or misattributing the PHEIC mechanism to the UN Charter — IHR 2005 is the correct framework.

 **EXAM TIP**

PHEIC = IHR 2005, Article 12, 3 criteria; WHO DG declares; 6 Ebolavirus species; only Zaire has licensed vaccine (Ervebo).

 **INTERVIEW**

Is a legally non-binding PHEIC declaration an adequate global emergency governance tool, or does the IHR need stronger enforcement mechanisms?

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Question 7

of 14

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The Bundibugyo ebolavirus (BVD), the strain behind the 2026 DRC-Uganda outbreak declared a PHEIC, belongs to which virus family, and how many species does that family's Ebolavirus genus contain?

- A Flaviviridae; 4 species
- B Paramyxoviridae; 5 species
- C Filoviridae; 6 species ✓
- D Togaviridae; 3 species

ANSWER & ANALYSIS

✓ EXPLANATION

FACT: Ebolaviruses belong to the family Filoviridae and the genus Ebolavirus contains six recognised species: Zaire, Sudan, Bundibugyo, Taï Forest, Reston, and Bombali. ANALYSIS: This taxonomy is a frequent Prelims target; the key distinctions are that Reston does not cause disease in humans, and only the Zaire strain has a licensed vaccine (Ervebo/rVSV-ZEBOV).

BVD — the 2026 outbreak strain — has no licensed vaccine and no specific antiviral.

📌 CONCEPT NOTE

The six Ebolavirus species and their key facts: Zaire (CFR ~60–90%; licensed vaccine Ervebo; first isolated 1976, DRC), Sudan (CFR ~41–65%; no vaccine), Bundibugyo (CFR ~25–40%; no vaccine; first isolated 2007), Taï Forest (very low CFR; single human case), Reston (non-pathogenic in humans; first found in Philippines/USA), Bombali (2018, Sierra Leone; not confirmed in humans). The 2026 outbreak is the 3rd BVD event ever — after 2007 Uganda (~56 deaths) and 2012 DRC (~36 deaths).

Filoviridae also includes Marburgvirus (distinct genus; 24–88% CFR; no licensed vaccine).

Q7  **CONCEPT KIT**

 CROSS-PAPER	GS3 (science & technology, biodiversity/virology), GS2 (global health governance).
 MAINS KEYWORDS	Filoviridae, Ebolavirus, Bundibugyo, Zaire, Ervebo, One Health, CEPI 100-Days Mission, ICMR-NIV.
 COMMON MISTAKE	Placing Ebola in Flaviviridae (which includes dengue, Zika, yellow fever) rather than Filoviridae.
 EXAM TIP	Filoviridae = Ebola + Marburg; 6 Ebolavirus species; only Zaire has vaccine; ICMR-NIV Pune = India's BSL-4 reference lab.
 INTERVIEW	Given that BVD has caused 3 outbreaks but attracted almost no vaccine R&D investment, what institutional model should replace CEPI's market-incentive approach for truly neglected pathogens?

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Question 8

of 14

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The SMILE satellite — recently launched as the first jointly selected, designed, and operated ESA–China space science mission — is designed to study which layer of Earth's near-space environment as its primary science objective?

- A Troposphere, using infrared sensors to map global weather patterns
- B Ionosphere, measuring Total Electron Content disruptions from solar flares
- C Magnetosphere, imaging its response to solar wind using a soft X-ray imager ✓
- D Thermosphere, characterising drag effects on low Earth orbit satellites

ANSWER & ANALYSIS

 **EXPLANATION**

FACT: SMILE (Solar wind Magnetosphere Ionosphere Link Explorer) is designed primarily to image Earth's magnetosphere — specifically the magnetopause and bow shock region — in real time using its Soft X-ray Imager (SXI), which employs lobster-eye optics. **ANALYSIS:** Although the mission name includes "ionosphere," the primary imaging target is the magnetosphere boundary; the UVI (Ultraviolet Imager) observes auroral activity in the ionosphere as a secondary linkage instrument, which makes Option B a plausible distractor.






 **CONCEPT NOTE**

SMILE was launched on 19 May 2026 on a Vega-C rocket from Kourou, French Guiana. ESA provided the payload module (including SXI); Chinese Academy of Sciences (CAS) provided the satellite platform and three instruments (UVI, LIA, MAG).

Orbit: Highly Elliptical Orbit (HEO) — apogee ~121,182 km, perigee ~5,000 km, period ~51 hours. The SXI is the world's first wide-field soft X-ray imager dedicated to the terrestrial magnetosphere.

The Wolf Amendment (2011) prohibits NASA from bilateral cooperation with China in space, which is why SMILE is ESA–CAS only. India's Aditya-L1 is the complementary mission — it observes the solar source while SMILE observes Earth's magnetic response.

Q8  **CONCEPT KIT**

 CROSS-PAPER	GS3 (science & technology, space science).
 MAINS KEYWORDS	SMILE, magnetosphere, solar wind, magnetopause, lobster-eye optics, ESA, CAS, space weather, Aditya-L1, Wolf Amendment.
 COMMON MISTAKE	Confusing the magnetosphere with the ionosphere — the ionosphere (~60–1,000 km altitude) is part of Earth's atmosphere; the magnetosphere (~500 km to 60,000+ km) is the region dominated by Earth's magnetic field.
 EXAM TIP	SMILE = ESA + CAS; launched May 19, 2026; Vega-C, Kourou; key instrument = SXI (soft X-ray, lobster-eye); orbit = HEO.
 INTERVIEW	Given India's growing satellite fleet and NAVIC dependency on ionospheric stability, should ISRO join ESA–CAS's next joint space weather mission?

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Question 9

of 14

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India and South Korea elevated their bilateral relationship to a "Special Strategic Partnership" in which year, and during which Indian Prime Minister's visit to Seoul?

A 2010; Dr. Manmohan Singh

B 2015; Narendra Modi ✓

C 2018; Narendra Modi

D 2022; Narendra Modi

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: The bilateral relationship was elevated from "Strategic Partnership" (2010) to "Special Strategic Partnership" in 2015 during PM Narendra Modi's visit to Seoul. **ANALYSIS:** The 2015 upgrade formalised five pillars of cooperation — political and security, defence industry, economy and trade, science and technology, and people-to-people ties.

The 2026 Joint Strategic Vision 2026–2030 (agreed during South Korean President Lee Jae-myung's April 2026 visit to India) represents the current highest-level framework.

📌 CONCEPT NOTE

India–South Korea diplomatic relations were established in 1973. The CEPA (Comprehensive Economic Partnership Agreement) was signed in 2010.

The K9 Vajra-T (155 mm / 52-calibre self-propelled howitzer) is the flagship defence co-production programme — manufactured by Hanwha Aerospace (Korea) and Larsen & Toubro (India, at Hazira, Gujarat). Total order: 200 guns.

India is the world's largest troop-contributing country to UN peacekeeping missions. The India–Korea Defence Accelerator (KIND-X) is modelled on India–US INDUS-X. The Defence Cyber MoU was signed during Rajnath Singh's Seoul visit on May 20, 2026.

Q9  **CONCEPT KIT**
 **CROSS-PAPER**

GS2 (international relations, India's bilateral partnerships).

 **MAINS KEYWORDS**

Special Strategic Partnership, K9 Vajra-T, KIND-X, INDUS-X, Act East Policy, DAPA, Hanwha Aerospace, L&T Hazira.

 **COMMON MISTAKE**

Placing the "Special Strategic" upgrade in 2010 (when the broader "Strategic Partnership" was established) rather than 2015.

 **EXAM TIP**

Strategic Partnership = 2010; Special Strategic Partnership = 2015 (Modi visit to Seoul).
K9 Vajra-T OEM = Hanwha Aerospace; Indian partner = L&T, Hazira.

 **INTERVIEW**

As India weans off Russian platforms, is South Korea an adequate technology-transfer partner for complex systems, or does it lack the depth of the US/Israel/France ecosystems?

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Question 10

of 14

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The K9 Vajra-T artillery system deployed by the Indian Army is jointly produced by which pair of entities?

- A DRDO and Hyundai Rotem (South Korea)
- B Ordnance Factory Board and Korea Aerospace Industries (KAI)
- C **Larsen & Toubro (India) and Hanwha Aerospace (South Korea) ✓**
- D Bharat Forge and LIG Nex1 (South Korea)

ANSWER & ANALYSIS

EXPLANATION

FACT: The K9 Vajra-T is jointly produced by Larsen & Toubro (L&T) at its Hazira plant in Gujarat and Hanwha Aerospace (formerly Hanwha Defense) of South Korea. The total order is for 200 guns in two batches of 100 each.





ANALYSIS: The K9 Vajra-T programme is the most concrete example of India–South Korea defence industrial co-production and is often cited as the template for future joint development of air defence systems under the KIND-X framework.

CONCEPT NOTE

K9 Vajra-T key specs: 155 mm / 52-calibre; range up to 30 km (standard rounds), up to 41.6 km (extended-range); burst rate 3 rounds in 15 seconds; combat weight ~47 tonnes. Domestic content in Batch 2: ~60%.

The system is deployed along India's western border (Pakistan) and is being assessed for high-altitude LAC deployment. "Vajra" (Sanskrit for thunderbolt) aligns with the Artillery Corps' naming tradition and mirrors the K9 Thunder designation. Hyundai Rotem makes the K2 Black Panther MBT — a separate platform assessed under India's FMBT programme but not the K9 production partner.

Q10  **CONCEPT KIT**

 CROSS-PAPER	GS2 (India–South Korea relations), GS3 (Aatmanirbhar Bharat, defence production).
 MAINS KEYWORDS	K9 Vajra-T, Hanwha Aerospace, L&T Hazira, Aatmanirbhar Bharat, defence co-production, KIND-X, INDUS-X.
 COMMON MISTAKE	Attributing the K9 programme to Hyundai Rotem (which makes the K2 MBT) rather than Hanwha Aerospace.
 EXAM TIP	K9 Vajra-T = Hanwha Aerospace + L&T (Hazira, Gujarat); 200 guns total; 155 mm / 52-calibre.
 INTERVIEW	India's domestic content target of 60% in Batch 2 — is this sufficient for genuine technology absorption, or does the dependency on Korean-supplied critical sub-systems remain a strategic vulnerability?

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Question 11

of 14

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The Atomic Energy Act, 1962 vests exclusive authority over nuclear power generation in the Central Government, effectively prohibiting private sector ownership of nuclear plants. Which provision of the Civil Liability for Nuclear Damage Act, 2010 has been the most significant legal barrier to attracting foreign nuclear reactor suppliers?

- A Section 6 — strict liability of the operator for nuclear damage
- B Section 7 — cap of ₹1,500 crore on operator liability
- C **Section 17(b) — right of recourse against the supplier for patent or latent defects in materials/services ✓**
- D Section 46 — preservation of rights under other laws

ANSWER & ANALYSIS

 **EXPLANATION**

FACT: Section 17(b) of the CLND Act 2010 gives the operator (NPCIL) a right of recourse against a supplier for patent or latent defects in materials, equipment, or sub-standard services — and this right exists independent of contract (i.e., even without a contractual clause). This diverges from global norms: the CSC (which India ratified in 2016) channels all liability exclusively to the operator, not the supplier.

ANALYSIS: This creates open-ended financial exposure for foreign suppliers like EDF/Framatome (Jaitapur), Westinghouse, and GE-Hitachi, whose commercial insurers refuse to cover liability that extends beyond operator-channelling conventions.

 **CONCEPT NOTE**

Key CLND provisions: Section 6 — operator (NPCIL) is strictly liable; Section 7 — operator liability capped at ₹1,500 crore; Section 8 — Government covers damages beyond this cap; Section 17(a) — recourse for wilful act/gross negligence by supplier; Section 17(b) — recourse for patent/latent defect in materials or sub-standard services, independent of contract; Section 46 — preserves other civil/criminal liability. The Jaitapur delay is partly attributable to the Section 17(b) impasse with EDF/Framatome.

India ratified the Convention on Supplementary Compensation for Nuclear Damage (CSC) in 2016 but has not amended the domestic CLND wording. IAEA has noted the divergence from international norms.

Q11  **CONCEPT KIT**

 CROSS-PAPER	GS3 (energy policy, nuclear, economy), GS2 (governance, legislation).
 MAINS KEYWORDS	CLND Act 2010, Section 17(b), supplier liability, CSC, Jaitapur, NPCIL, Atomic Energy Act 1962, AERB.
 COMMON MISTAKE	Confusing Section 17(a) (recourse for wilful fault/gross negligence) with Section 17(b) (recourse for defective materials/services, independent of contract) — Section 17(b) is the internationally controversial provision because it operates without requiring a contractual clause.
 EXAM TIP	CLND 2010, Section 17(b) = supplier liability for patent/latent defects, independent of contract = key barrier for foreign suppliers at Jaitapur.
 INTERVIEW	Should India amend the CLND Act to align with international CSC norms to attract foreign suppliers, and what are the sovereignty and safety trade-offs?

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Question 12

of 14

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India's Three-Stage Nuclear Programme, conceived by Dr. Homi J. Bhabha, is designed around India's large reserves of which element that serves as fuel in the final stage?

- A Uranium
- B Plutonium
- C Thorium ✓
- D Zirconium

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: India holds approximately 25% of global thorium reserves, which is the strategic rationale for the Three-Stage Programme. Stage 3 uses an Advanced Heavy Water Reactor (AHWR) fuelled by U-233/thorium derived from the breeding process in Stage 2 Fast Breeder Reactors.

ANALYSIS: The programme is designed to achieve fuel self-sufficiency by progressively converting its abundant thorium into fissile U-233, bypassing dependence on imported uranium enrichment in the long run.






📌 CONCEPT NOTE

Three-Stage breakdown: Stage 1 = PHWRs using natural uranium fuel, producing plutonium as byproduct (all current NPCIL reactors). Stage 2 = Fast Breeder Reactors (FBRs) using plutonium + thorium to breed U-233 (PFBR at Kalpakkam, operated by BHAVINI, achieved first criticality September 2024).

Stage 3 = Advanced Heavy Water Reactor using U-233/thorium (still in R&D). NPCIL operates all Stage 1 plants; BHAVINI (Bharatiya Nabhikiya Vidyut Nigam Limited) operates the PFBR. India's Vision 2047 nuclear target is 100 GW from ~7,480 MW currently — a ~13-fold expansion.

The PFBR marks India's entry into Stage 2.

Q12  **CONCEPT KIT**

 CROSS-PAPER	GS3 (energy, science & technology).
 MAINS KEYWORDS	Three-Stage Programme, thorium, PHWR, FBR, AHWR, PFBR, BHAVINI, NPCIL, Vision 2047, 100 GW nuclear target.
 COMMON MISTAKE	Stating that Stage 2 uses uranium as primary fuel — Stage 2 FBRs use plutonium (produced in Stage 1) plus thorium as the breeding blanket.
 EXAM TIP	India = ~25% global thorium reserves; Stage 1 = PHWR; Stage 2 = FBR (PFBR, Kalpakkam, BHAVINI); Stage 3 = AHWR; PFBR first criticality = September 2024.
 INTERVIEW	Given the decades-long delay in the Three-Stage Programme, should India fast-track imports of Gen III+ reactors (like EPR) or double down on indigenous thorium technology development?

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Question 13

of 14

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ASHVINI (Anushakti Vidhyut Nigam Ltd.), the NPCIL–NTPC Joint Venture approved by the Government in September 2024 for building and operating nuclear power plants, has NPCIL and NTPC holding what proportion of equity respectively?

- A NPCIL 74%; NTPC 26%
- B NPCIL 51%; NTPC 49% ✓
- C NPCIL 50%; NTPC 50%
- D NPCIL 60%; NTPC 40%

ANSWER & ANALYSIS

 **EXPLANATION**

FACT: ASHVINI (Anushakti Vidhyut Nigam Ltd.) is structured with NPCIL holding 51% and NTPC holding 49%, making NPCIL the majority partner — consistent with the Atomic Energy Act 1962's requirement that the Central Government (through NPCIL) retains control over nuclear facilities. The Government accorded formal approval on September 11, 2024.

ANALYSIS: This JV model expands nuclear power generation beyond NPCIL alone while staying within the Act's prohibition on private sector ownership; full private-sector participation would still require a Parliamentary amendment to the AEA 1962.

 **CONCEPT NOTE**

The Atomic Energy Act 1962 vests exclusive authority in the Central Government — effectively a statutory monopoly for NPCIL. The 2022–2023 rule amendment allowed JVs between NPCIL and other Central Public Sector Enterprises (CPSEs), but private sector companies (Adani, Tata, Reliance) cannot hold equity ownership stakes without amending the Act itself. ASHVINI's first project is the Mahi Banswara Rajasthan Atomic Power Project (MBRAPP) — 4×700 MWe PHWRs.

The distinction between NPCIL (Stage 1 and ASHVINI ventures) and BHAVINI (Stage 2 FBR operator) is a common Prelims confusion point.

Q13  **CONCEPT KIT**
 **CROSS-PAPER**

GS3 (energy policy, nuclear), GS2 (governance, PSU structure).

 **MAINS KEYWORDS**

ASHVINI, Anushakti Vidhyut Nigam Ltd., NPCIL, NTPC, Atomic Energy Act 1962, PSU JV, private sector nuclear participation, CLND, BHAVINI.

 **COMMON MISTAKE**

Assuming ASHVINI is a 50:50 JV; the actual split is NPCIL 51% + NTPC 49% — NPCIL retains majority control as required by the AEA.

 **EXAM TIP**

ASHVINI = Anushakti Vidhyut Nigam Ltd. = NPCIL 51% + NTPC 49%; approved September 2024; first project = MBRAPP (Rajasthan); private sector ownership still prohibited under AEA 1962.

 **INTERVIEW**

Should the Atomic Energy Act be amended to allow private sector equity in nuclear plants, and what safeguards would be needed?

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Question 14

of 14

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The Animal Birth Control (ABC) Rules, 2023, governing stray dog population management in India, are notified under which parent legislation and by which ministry?

- A Wildlife Protection Act, 1972; Ministry of Environment, Forest and Climate Change
- B Prevention of Cruelty to Animals Act, 1960; Ministry of Fisheries, Animal Husbandry and Dairying ✓**
- C Prevention of Cruelty to Animals Act, 1960; Ministry of Agriculture and Farmers' Welfare
- D Environment Protection Act, 1986; Ministry of Environment, Forest and Climate Change

ANSWER & ANALYSIS
✓ EXPLANATION

FACT: The ABC Rules 2023 are notified under Section 38 of the Prevention of Cruelty to Animals Act, 1960, by the Ministry of Fisheries, Animal Husbandry and Dairying. They replaced the earlier ABC (Dogs) Rules, 2001.






ANALYSIS: The nodal ministry is frequently confused in Prelims — it is Fisheries, Animal Husbandry and Dairying (not Environment or Agriculture). The PCA Act 1960 is the foundational animal welfare legislation under which AWBI is also constituted.

📌 CONCEPT NOTE

ABC Rules 2023 mandate sterilisation (spay/neuter) + anti-rabies vaccination + return to territory of origin as the primary population management tool. Culling is not the default; Rule 9 of the ABC Rules explicitly permits euthanasia only for terminally ill, mortally wounded, or irremediably vicious dogs with veterinary certification.

India's stray dog population: ~35 million; annual dog bites: ~17–18 lakh; annual rabies deaths in India: ~20,000 (~36% of global total of ~59,000). WHO target for herd immunity against rabies in stray populations = 70% vaccination coverage; India's current estimated coverage is ~10–15%.

Q14  **CONCEPT KIT**

 CROSS-PAPER	GS2 (governance, polity, fundamental rights), GS3 (environment, animal welfare).
 MAINS KEYWORDS	ABC Rules 2023, PCA Act 1960, AWBI, Section 38, Ministry of Fisheries Animal Husbandry and Dairying, rabies, Article 51A(g), Article 48A.
 COMMON MISTAKE	Attributing ABC Rules to the Ministry of Environment (which handles wildlife) or Ministry of Agriculture — the correct nodal ministry is Fisheries, Animal Husbandry and Dairying.
 EXAM TIP	ABC Rules 2023 (replaced 2001 Rules) = PCA Act 1960 (S.38) = Ministry of Fisheries, Animal Husbandry and Dairying. AWBI = statutory body under PCA Act 1960.
 INTERVIEW	Should India replace the PCA Act 1960 with a comprehensive Animal Welfare Act that explicitly addresses urban human–animal conflict?

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