

05/04/2026 Daily Current affairs

1. *BioNEST:*

Context: Union Minister for Science and Technology Dr. Jitendra Singh inaugurated the BIRAC-BioNEST Incubation Centre at "Central Food Technology & Research Institute" (CFTRI).

About BioNEST:

- ❖ BioNEST Incubation Centre is a state-of-the-art facility with dedicated incubation suites and shared infrastructure.
- ❖ Aims to boost food startups and support advanced research in food bioprocessing and biotechnology.
- ❖ Facilitates scale-up validation and regulatory support for startups.
- ❖ Focuses on converting scientific ideas into market-ready products.
- ❖ As of March 2026, it has supported 26 startups (physical, hybrid, and graduated).

2. *Ad Valorem Tax:*

Context: The US announced a 100% ad valorem duty on the import of patented pharmaceuticals and associated ingredients but this will not include generic drugs “at this time,” having a limited impact on India.

About Ad Valorem Tax:

- ❖ An **ad valorem tariff** is a customs duty levied as a percentage of the value of imported goods, unlike fixed tariffs based on quantity or weight.
- ❖ It is used to regulate trade, protect domestic industries, and generate government revenue, with the duty varying according to product value.

3. *Western disturbances:*

Context: Western disturbances to impact northwest India this week, rain likely to occur: Met department

What are Western disturbances?

- ❖ Western Disturbances originate over the Mediterranean due to interaction of contrasting air masses.
- ❖ They move eastward under the influence of the Subtropical Westerly Jet (SWJ).
- ❖ Occur mainly in winter (December–March), affecting north-west India, the Himalayas, Pakistan, and the Tibetan Plateau.
- ❖ Play a crucial role in supporting Rabi crops like wheat and mustard and replenishing Himalayan glaciers.
- ❖ Associated with hazards such as snowfall, hailstorms, fog, avalanches, frost, and cold waves.

4. *Bharat Stage (BS) Emission Standards:*

Context: Under Delhi Air Pollution Mitigation Action Plan, 2026, entry of non-BS-VI, non-CNG and non-electric goods vehicles will be restricted from November 1 to curb vehicular pollution.

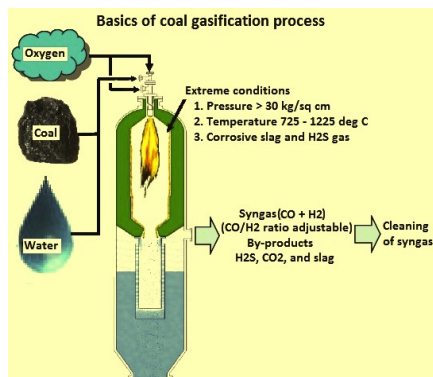
About Bharat Stage (BS) Emission Standards:

- ❖ Definition → Bharat Stage emission norms regulate vehicular pollution by limiting emissions from motor vehicles.
- ❖ Regulatory Framework → Framed by the Ministry of Environment, Forest and Climate Change and implemented by the Central Pollution Control Board.
- ❖ Global Alignment → Based on European (Euro) emission standards.
- ❖ Pollutants Covered → Controls CO, HC, NO_x, and particulate matter (PM).
- ❖ Technological Push → Requires cleaner fuels, improved engines, and advanced exhaust-treatment systems.
- ❖ Mashelkar Committee (2002) → Recommended phased nationwide adoption of Euro-equivalent norms.
- ❖ Judicial Mandate (1999) → Supreme Court of India mandated BS I (India 2000) standards.
- ❖ Evolution Path → Progressed from BS I (2000) to BS IV (2017), then directly to BS VI (2020), skipping BS V.
- ❖ BS VI Phase-II (2023) → Introduced Real Driving Emissions (RDE) testing for real-world compliance.
- ❖ Future Norms → BS VII likely to be implemented by 2026–27.
- ❖ Delhi's Early Adoption → Delhi adopted stricter norms earlier due to severe air pollution.
- ❖ The main difference is in the amount of sulphur in the fuel, which is reduced from 50 ppm in BS IV fuel to 10 ppm in BS VI fuel for both gasoline and diesel. Hence, BSVI engines produce less harmful emissions and pollutants

5. *Coal Gasification:*

Context: Union Minister unveils India's roadmap to reduce dependency on imported petroleum, ammonia, and fertilizers, highlighting the coal gasification incentive scheme.

What is Coal Gasification?



- ❖ It is a process to convert underground coal into valuable gasses like methane, hydrogen, carbon monoxide (CO), and carbon dioxide (CO₂).
- ❖ In this process, coal is partially oxidised by air, oxygen, steam, or CO₂ under controlled conditions to produce a liquid fuel known as syngas.
- ❖ Syngas (synthesis gas) can be used for power generation, making methanol etc.
- ❖ Syngas is a mixture of CO and hydrogen and produces gaseous fuels like Methane etc.
- ❖ It offers a cleaner alternative to directly burning coal for energy generation.
- ❖ Syngas can be used to produce cleaner-burning fuels like hydrogen and compressed natural gas (CNG).
- ❖ Large-scale coal gasification projects can stimulate the development of associated industries like manufacturing of gasification plants and production of chemicals from syngas.

National Coal Gasification Mission:

- ❖ It was launched by the Ministry of coal with the aim of promoting the utilization of coal through gasification.
- ❖ It also aims to achieve large-scale production of synthetic gas (syngas) from coal by 2030.
- ❖ The mission aims to gasify 100 Million Tonnes (MT) of coal per year by 2030.

About Coal Gasification Incentive Scheme:

- ❖ Approval → Coal Gasification Incentive Scheme approved in 2024 with ₹8,500 crore outlay.
- ❖ Objective → Reduce import dependence on petroleum, ammonia, and fertilisers through coal-based syngas production.
- ❖ Focus Area → Promote coal and lignite gasification in both public and private sectors.
 - Category I → PSU-led coal gasification projects.
 - Category II → Joint participation of private sector and PSUs.
 - Category III → Support for demonstration and small-scale projects.
- ❖ End Goal → Boost domestic energy security and value-added chemical production from coal.

Quick Bites:

- ☐ Atal Innovation Mission (AIM), NITI Aayog, launched the ATL Sarthi and Mentor India Academy in Telangana, reinforcing its commitment to nurturing innovation from the school level. The initiative will extend structured mentorship and institutional support to 379 Atal Tinkering Labs (ATLs), enabling young innovators to translate ideas into solutions that contribute to India's development journey and position Telangana as a key node in India's expanding grassroots innovation ecosystem.
- ☐ The FAO Food Price Index, published by the Food and Agriculture Organization, rose to 128.5 points in March 2026 due to rising energy costs amid Middle East tensions, and serves as a measure of monthly changes in international prices of a basket of food commodities (base year 2014–16), covering five major groups—cereals, vegetable oils, dairy, meat, and sugar.

- ☐ Iraq closed the Shalamchah border crossing with Iran after air strikes on the Iranian side killed an Iraqi citizen.
- ☐ Israel's military renewed its strikes on the southern Lebanese city of Tyre.

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