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TODAY'S IMPORTANT CURRENT AFFAIRS

UPSC PRELIMS

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TODAY'S DROPS OF NEWS:

<u>SUBJECT</u>	<u>IN NEWS</u>
POLITY	---
ECONOMY	---
GEOGRAPHY	---
HISTORY AND ART & CULTURE	---
ENVIRONMENT	Green crackers and Air pollution.
SCIENCE & TECH	---
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ENVIRONMENT

In news: Green crackers and Air pollution.

Green Crackers: Designed to reduce air pollution by modifying traditional formulations. They achieve this through smaller shell sizes, elimination of ash, reduced raw material use, and addition of dust suppressants.

These crackers were first designed by the National Environmental and Engineering Research Institute (NEERI), under the aegis of the Council for Scientific and Industrial Research (CSIR) in 2018.

- Green crackers use alternative chemicals such as potassium nitrate and aluminium instead of magnesium and barium as well as carbon instead of arsenic and other harmful pollutants.
- ✓ They ensure at least 30% reduction in particulate matter (PM) or 20% PM reduction plus 10% reduction in gaseous emissions (SO₂ and NO₂) compared to conventional crackers.

Types:

- **Improved Fireworks:** Modified existing crackers with cleaner compositions.
- **New Formulation Fireworks:** Developed with new materials and compositions to further cut emissions.
 - ✓ **SWAS - Safe Water Releaser:** These crackers do not use sulphur or potassium nitrate, and thus release water vapour instead of certain key pollutants. It also deploys the use of diluents, and thus is able to control particulate matter (PM) emissions by upto 30%.
 - ✓ **STAR – Safe Thermite Cracker:** Just like SWAS, STAR also does not contain sulphur and potassium nitrate, and besides controlling particulate dust emissions, it also has lower sound intensity.
 - ✓ **SAFAL – Safe Minimal Aluminium:** It replaces aluminium content with magnesium and thus produces reduced levels of pollutants.
- All three brands of green crackers can currently only be produced by licensed manufacturers, approved by the CSIR. Additionally, the Petroleum and Explosives Safety Organisation (PESO) is tasked with certifying that the crackers are made without arsenic, mercury, and barium, and are not loud beyond a certain threshold.
- Furthermore, green crackers can be differentiated from conventional crackers in retail stores by a green logo printed on their boxes, along with a Quick Response (QR) coding system.

Air Quality Index (AQI):

- Launched by the central government in 2014 as part of the Swachh Bharat campaign, the AQI was to help simplify the common understanding of pollution.

AQI Category	Index Values	What it means
Good	0 - 50	Air quality is good and poses little or no risk.
Moderate	51 - 100	Air quality is acceptable; however, there may be some health concerns for a small number of unusually sensitive people.
Unhealthy For Sensitive Groups	101 - 150	When air quality is in this range, people who are in sensitive groups may experience health effects when engaged in outdoor activities.
Unhealthy	151 - 200	When air quality is in this range, everyone who is active outdoors may experience effects. Members of sensitive groups are likely to experience more serious effects.
Very Unhealthy	201 - 300	When air quality is in this range, it is expected that there will be widespread effects among the general population and more serious effects in members of sensitive groups.
Hazardous	301 - 400	Air quality in this range triggers health warnings of emergency conditions by media outlets. The entire population is more likely to be affected by serious health effects.
	401 - 500	

- The AQI transforms complex air quality data of various pollutants into a single number (index value), nomenclature and colour. The pollutants measured include PM 10, PM 2.5, Nitrogen Dioxide, Ozone, Carbon, etc.
- The colour-coded AQI index helps the public and the government understand the condition of the air and what subsequent measures are to be taken to combat the situation, based on its severity.

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