



KAMARAJ IAS ACADEMY
Only IAS Academy by Grandson of "Perunthalaivar Kamarajar"

RAILWAY ACCIDENT AND KAVACH SYSTEM:

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Eight killed as passenger and goods train collide near Bilaspur, Chhattisgarh.

Reason behind Railway Accident in India:

- **Derailment:** CAG report 2022 noted that 7 in 10 railway accidents between 2018 to 2021 came due to derailments.
- **Signalling Failures:** can fail due to technical glitches, power outages, or human errors.
- **Infrastructure Defects:** The railway infrastructure, which includes tracks, bridges, overhead wires, and rolling stock, is often defective due to poor maintenance, ageing, vandalism, sabotage, or natural disasters.
- **Unmanned level crossings (UMLCs):** All unmanned ones on broad gauge routes have been removed, yet accidents still pose risks at manned level crossings (MLCs).
- **Human Errors:** The railway staff, who are responsible for operating, maintaining, and managing the trains and tracks, are prone to human errors due to fatigue, negligence, corruption, or disregard for safety rules and procedures.

About KAVACH System:

KAVACH is an indigenously developed Automatic Train Protection (ATP) system.

Developed by the Research Design and Standards Organisation (RDSO) in collaboration with the Indian industry.

It is a state-of-the-art electronic system with Safety Integrity Level-4 (SIL-4) standards.

Provide protection by preventing trains to pass the signal at Red (which marks danger) and avoid collision.

It activates the train's braking system automatically if the driver fails to control the train as per speed restrictions.

In addition, it prevents the collision between two locomotives equipped with functional Kavach systems.

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