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E85 Fuel, Flex-Fuel Vehicles, Government Securities and Earthquakes

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Important concepts including E85 fuel, Flex-Fuel Vehicles (FFVs), Government Securities (G-Secs), and Earthquakes gained prominence due to recent policy discussions on clean fuels, government borrowing mechanisms, and disaster preparedness.?

Why in News?

Clean Fuels ? E85 Fuel and Flex-Fuel Vehicles are in focus because India is promoting ethanol blending and alternative fuels to reduce crude oil imports, lower pollution, and achieve energy security.

Government Borrowing Mechanisms ? Government Securities (G-Secs) are important because the Government of India raises funds through these instruments to finance expenditure and manage the fiscal deficit.

Disaster Preparedness ? Earthquakes are in focus due to recent seismic activities in different parts of the world and India, highlighting the need for disaster risk reduction, earthquake-resistant infrastructure, and preparedness measures.

E85 Fuel

E85 is a fuel blend containing 85% ethanol and 15% petrol (gasoline).

It is primarily designed for use in Flex-Fuel Vehicles (FFVs).

E85 helps reduce dependence on imported crude oil.

Higher ethanol blending contributes to lower greenhouse gas emissions.

India is promoting ethanol blending under the National Policy on Biofuels.

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Flex-Fuel Vehicles (FFVs)

Flex-Fuel Vehicles can operate on more than one type of fuel.

FFVs can run on petrol, ethanol blends, or a combination of both.

These vehicles use specially designed engines and fuel systems.

FFVs support India's goal of reducing fossil fuel consumption and carbon emissions.

Major countries using FFVs include Brazil and the United States.

Government Securities (G-Secs)

Government Securities (G-Secs) are debt instruments issued by the Government of India.

They are used to finance the fiscal deficit and government expenditure.

G-Secs are considered among the safest investment instruments because they carry sovereign guarantee.

The Reserve Bank of India (RBI) manages the issuance and auction of G-Secs on behalf of the Government of India.

Types of G-Secs include Treasury Bills (T-Bills) and Government Bonds.

Earthquakes

Earthquakes occur due to the sudden release of energy within the Earth's crust.

The point inside the Earth where an earthquake originates is called the Focus (Hypocentre).

The point directly above the focus on the Earth's surface is called the Epicentre.

Earthquake magnitude is measured using the Moment Magnitude Scale (Mw).

India is divided into four seismic zones: Zone II, Zone III, Zone IV and Zone V.

Zone V is the highest earthquake-risk zone in India.

About Ethanol Blending Programme (EBP)

Implemented by the Ministry of Petroleum and Natural Gas.

Aims to blend ethanol with petrol to reduce crude oil imports and emissions.

India achieved 20% ethanol blending ahead of the original target year.

Ethanol is mainly produced from sugarcane, molasses and food grains.

About National Policy on Biofuels

Launched in 2018.

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Ministry: Ministry of Petroleum and Natural Gas.

Promotes the use of biofuels such as ethanol, biodiesel and compressed biogas.

Supports India's energy security and environmental sustainability goals.

About Government Securities

Issued by the Central Government and State Governments.

State Government securities are known as State Development Loans (SDLs).

Treasury Bills are short-term securities with maturities of 91, 182 and 364 days.

Government Bonds are long-term securities with maturities generally ranging from 5 to 40 years.

About Earthquake-Prone Regions in India

Zone V includes parts of Jamm& Kashmir, Himachal Pradesh, Uttarakhand, North-East India, Bihar and the Andaman & Nicobar Islands.

National Centre for Seismology (NCS) is the nodal agency for monitoring earthquakes in India.

NCS functions under the Ministry of Earth Sciences.

Exam Focus Points (Quick Revision Notes):

E85 Fuel Composition ? 85% Ethanol + 15% Petrol

Vehicle Type Using E85 ? Flex-Fuel Vehicle (FFV)

Flex-Fuel Vehicle ? Can run on petrol and ethanol blends

National Policy on Biofuels ? 2018

Implementing Ministry for Ethanol Blending ? Ministry of Petroleum and Natural Gas

Objective of Ethanol Blending ? Reduce crude oil imports and emissions

Government Securities (G-Secs) ? Debt instruments issued by Government

Issuer of G-Secs ? Government of India

G-Sec Auctions Managed By ? Reserve Bank of India (RBI)

Short-Term G-Secs ? Treasury Bills (T-Bills)

State Government Securities ? State Development Loans (SDLs)

Earthquake Origin Point ? Focus (Hypocentre)

Point Directly Above Focus ? Epicentre

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Highest Seismic Risk Zone in India ? Zone V

Earthquake Monitoring Agency ? National Centre for Seismology (NCS)

NCS Functions Under ? Ministry of Earth Sciences

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