Environment & Ecology · GS - III

The electrification of public bus transport is an important strategy for sustainable urban development. Discuss its potential benefits and challenges in the context of Indian cities. Suggest measures to improve the effectiveness of electric bus programmes. (150 words, 10 marks)

EXAM YEAR	PAPER	SUBJECT
Daily Practice 10/10/2026	GS - III	Environment & Ecology

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Discuss cleaner urban air, lower operational emissions and reduced oil dependence; address costs, charging infrastructure, electricity sources, battery disposal and reliable public transport planning.

Model Answer

The expansion of electric buses in Delhi under the Seva Sankalp Abhiyaan reflects the growing importance of sustainable public transport in addressing urban pollution and climate change.

Benefits: Electric buses produce no tailpipe emissions, reducing urban air pollution and exposure to harmful pollutants. They can lower dependence on imported fossil fuels, reduce noise pollution and offer operational cost advantages over time. An expanded bus fleet can also improve public transport accessibility and encourage a shift away from private vehicles.

Challenges: High initial procurement costs, inadequate charging infrastructure, battery degradation, electricity demand and the environmental impact of battery disposal may constrain adoption. The overall climate benefits also depend on the electricity mix.

Way Forward: Governments should develop reliable charging networks, strengthen domestic battery recycling, promote cleaner electricity and adopt transparent lifecycle-cost assessments. Integrated transport planning, adequate service frequency and affordable fares are essential to increase ridership.

Conclusion: Electric buses can support cleaner and more inclusive cities when vehicle electrification is combined with efficient public transport planning and sustainable energy management.

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