International Relations · GS - II

Examine the role of India's petroleum refining industry in economic growth and energy security. How can India–US energy cooperation strengthen the sector while supporting India's strategic autonomy?

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 20/10/2026	GS - II	International Relations

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Refining capacity, value addition, petroleum exports, crude import dependence, foreign investment, technology transfer, energy diplomacy, environmental sustainability, strategic autonomy.

Model Answer

Introduction

India's petroleum refining industry is an important component of its industrial economy. The Jamnagar refinery complex in Gujarat illustrates the role of large-scale refining infrastructure in domestic fuel supply and international petroleum trade.

Economic Significance

- **Value addition:** Refineries convert crude oil into fuels and other valuable petroleum products.
- **Exports and employment:** Refining supports export earnings, industrial activity and associated employment.
- **Industrial linkages:** The sector supports petrochemicals, transport, logistics and manufacturing.

Energy Security Challenges

Despite substantial refining capacity, India remains dependent on imported crude oil. Global price fluctuations, geopolitical tensions and shipping disruptions can affect domestic fuel costs and the current account balance. Refining operations also face environmental and decarbonisation challenges.

Role of India–US Cooperation

1. Diversify energy suppliers and improve supply-chain resilience.
2. Encourage investment, technology exchange and cooperation in cleaner energy.
3. Expand mutually beneficial trade while maintaining commercially sound procurement decisions.
4. Balance petroleum-sector development with renewable energy and energy efficiency.

Conclusion

India–US energy cooperation can support industrial growth and supply diversification. However, India's long-term energy security requires strategic autonomy, competitive markets, environmental safeguards and a gradual transition towards cleaner energy sources.

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